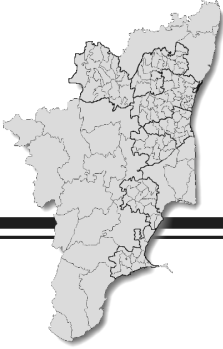




जिला प्राथमिक शिक्षा कार्यक्रम
DISTRICT PRIMARY EDUCATION PROGRAMME



Regaining Lost Opportunity

The Malaise of School Inefficiency

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DPEP was initiated as a centrally sponsored scheme in 1994 in 42 districts spread over seven states. The focus of DPEP is to promote access especially in unserved habitations and to initiate quality improvement programs at primary stage. Due to last six years' efforts, considerable progress has been made in achieving the goals of access, retention and achievement. Notwithstanding the progress made through DPEP and other innovative strategies, the school efficiency remains a matter of concern. The efficiency is normally measured in terms of promotion rate, dropout and repetition rate. While, there are many studies based on aggregated data, few efforts were made to examine the school specific situation based on the actual flow of students. Following the conventional methods, it is difficult to estimate the proportion of children who complete primary education in 5 years. How many more may eventually complete the primary education by taking a few more years?

In order to answer some of these questions, a pilot survey was conducted in the state of Tamil Nadu covering nine blocks in three DPEP districts namely Dharmapuri, Pudukkottai and Perambalur. Encouraged by the findings of the pilot survey, the State Project Office decided to undertake a similar study in all the schools covered under DPEP. The present study covers about 10,000 schools and more than 260,000 pupils who were studying in Grade I in 1994-95. A comparative study for four DPEP I districts was also conducted for 1996-97 cohort. This is perhaps one of the largest student flow analysis ever undertaken in the Indian context. Such a gigantic effort could not have been possible without the involvement of state officials.

Thiru P. Sounderarajan, State Project Director, readily agreed to our request to organize this large-scale study. His contribution at various stages of the study is gratefully acknowledged. But for him, the study would not have been possible. Thanks are also due to the Joint Director, Thiru R. Palaniyandi who coordinated the activities with the field officers and ensured timely availability of data. Thanks

are also due to school Principals/ Head Masters who provided the needed data for their respective schools. Valuable feedback was also received from District Programme Coordinators and other staff engaged in DPEP activities. The contribution of each of them is duly recognized.

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Abbreviations

ACM	Apparent Cohort Method
BC	Backward Classes
CRF	Completion Rate (Grade 5 in 5 years)
CRT	Completion Rate (Grade 3 in 3 years)
CSO	Central Statistical Organization
DISE	District Information System for Education
DPEP	District Primary Education Program
ECR	Ever Completion Rate
ER	Ever Repeater
EMIS	Educational Management Information System
GAR	Gross Attendance Rate (NSSO)
GER	Gross Enrolment Rate
GOI	Government of India
JRM	Joint Review Mission
MBC	Most Backward Classes
MHRD	Ministry of Human Resource Development
MLL	Minimum Levels of Learning
NAR	Net Attendance Rate (NSSO)
NCERT	National Council of Educational Research and Training
NGO	Non Government Organization
NIEPA	National Institute of Educational Planning and Administration
NSSO	National Sample Survey Organization
OBC	Other Backward Classes
PCI	Per Capita Income
RCM	Reconstructed Cohort Method
SC	Scheduled Castes
SSA	Sarva Shiksha Abhiyan
ST	Scheduled Tribe
TCM	True Cohort Method
UEE	Universal Elementary Education
UIS	UNESCO Institute of Statistics
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPE	Universal Primary Education
VEC	Village Education Committee

Executive Summary

Policy framework for UEE: For the last five decades, the country is striving to achieve an elusive goal of UEE through various innovative strategies. The national policies on education and the subsequent programs of action do not identify measurable indicator(s) for monitoring the progress towards the target of UPE/UEE. Therefore, as a first step, a set of *necessary and sufficient* indicators for attaining UPE/UEE should be defined and simultaneously a framework for their monitoring should be evolved. Internationally, even ten years after the Jomtien, there is no consensus about the indicators to be used for measuring and monitoring of EFA goals. The Dakar framework of action has also highlighted this concern.

Issues and indicators: The perusal of key issues in Indian education brings to fore the inefficient nature of primary education in terms of internal and external efficiency which remains a major impediment for achieving UPE. The present study addresses the need for measurable indicators and examines the spatio-temporal trends in indicators of internal efficiency. The study proposes a simple and appropriate indicator, namely the completion rate of primary education in five years (CRF). The CRF would also assist the educational administrators in ranking schools based on their internal efficiency. A empirical 'true cohort' study in all seven DPEP districts was undertaken covering a total of 9,825 schools and more than 263,000 students belonging to the 1994-95 cohort and 6,616 schools and 190,000 learners were covered through truncated cohort based on 1996-97 Grade I enrolment in Phase I districts.

Students' profile: Due to the prevalence of small schools, multigrade teaching or combining classes in various forms is practiced in more than 85 percent of schools in the DPEP districts. About 13 percent of DPEP schools had at most one teacher. Gender disparities are nearly absent in Tamil Nadu schools. Most of children enroll in Grade I at the age of five but few older children were also found in Grade I.

Students flow characteristics: Three indicators were used for the analysis of cohort data. First, the holding capacity of the primary schools in DPEP districts in Tamil Nadu is very high. Overall, 82.4 percent of Grade 1 students in 1994-95 cohort were retained for five years. Second, of all children staying in the school for five years, as many as 28.5 percent could not reach Grade 5. Of all the repeaters, 35.1 percent repeated in Grade 1, 18.8 percent in Grade 2, 20.7 percent in Grade 3, and 25.4 percent in Grade 4. Why so many children should repeat for so many years? Finally, Not all children reaching Grade 5 pass the final examination successfully. Only 91.7 percent children reaching Grade 5 passed the final examination.

CRF and its correlates: The overall CRF was 55 percent with large inter-district and intra-district variations. The CRF is also associated with different types of school characteristics. Significant differences in CRF were observed due to gender, caste, school management, distance from the block headquarters, age at entry, number of teachers in the school, rural-urban nature of schools, school category and availability of facilities like boundary walls, toilets for girls etc., The persistence of low levels of CRF is not conducive for achieving UPE. Therefore, serious efforts are required to improve the internal efficiency of schools. The study identified 1,583 schools (16.1% of all schools) for which the CRF was 30 percent or less than that. On the other hand, the CRF was more than 75 percent for 1,624 schools. The state DPEP office has already initiated action program to improve the efficiency of low performing schools by focusing on their specific needs. The study identified the blocks having high repetition (28 out of 112 blocks) and blocks with high dropout rates (11 out of 112 blocks).

Dropouts and its correlates: The lowest and highest dropouts were observed in Cuddalore (13.5 percent) and Dharmapuri district (21.9 percent) respectively. The analysis of dropout data showed that : a) phase II districts had higher dropouts as compared to Phase I; b) dropout among girls was lower than that of boys; c) schools with girls toilet showed lower dropout rates as compared to those without; d) the number of teachers in schools were inversely associated with dropout rate. Thus single teacher schools had the highest dropout rate; e) schools located in interior areas and at far off distance from the block

headquarter showed higher dropout rates as compared to schools located in the neighbourhood of the block headquarter; f) although the share of ST in total school population is about 2 percent, they had the highest dropout as compared to other communities; g) the government schools had much higher dropout rate than the schools under private management; h) the primary schools had higher dropout rate than the middle and secondary schools; i) the spatial patterns of dropout rate show clusters of blocks having similar behavior; j) the analysis further showed that a large segment of dropouts leave the school after completing the end term examination. Of the two groups, i.e. those who dropouts leaving schools after passing a Grade and those failing in the examination and leaving the schools, less than half dropouts were due to failure in the examination.

Ever repeaters (ER) and its correlates: During the five year period under review, about 26 percent children had repeated at least once. Thus, one out of every four children admitted to grade I is likely to repeat at least once even if they stay in the school for five years. What a tragedy and agony for the learner who has to undergo this experience in the early years of his/her childhood! The repetition was higher among boys as compared to girls. The repetition was higher among SC students, whereas the dropout was highest among ST students. Similarly, the government schools had much higher ER as compared to privately managed schools. Schools with facilities like girls toilets, boundary walls showed much lower ER as compared to schools without these facilities.

Trends in completion rates up to Grade 3 (CRT): The holding capacity up to Grade 3 of the educational system increased from 86.6 percent to 89.5 percent. There was a steep reduction in dropout from an average of 13.2 percent to 10.5 percent and similarly the proportion of ever repeaters declined from 11.3 percent to 8.4 percent. Because of these trends, the CRT improved from 66 percent in 1994-95 cohort to 71.4 percent for 1996-97 cohort. Despite considerable improvement, the low levels of completion rates persisted in single teacher schools. Notwithstanding the overall improvement in CRT, the school level analysis presented a mixed bag of outcomes. Some schools improved on their CRT value whereas others showed significant decline.

Implications for planning and management of primary education: The next few years would be crucial for educational reforms in Tamil Nadu. Declining population base, coupled with improved internal efficiency particularly because of reduction in grade repetition may result in sharp decline in the number of school going children. The study identifies the following implications for the planning and management of primary education not only in Tamil Nadu but for the country as a whole.

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. *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 into various groups. *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. *Fourth*, repetition is essentially a school related phenomenon. The teachers should be able to identify the potential repeaters and undertake remedial teaching. *Fifth*, the studies have indicated low levels of achievement in mathematics. Some degree of repetition may be the result of poor performance in mathematics. Improving the quality of teaching in mathematics should be considered as a specific strategy. *Sixth*, what constitutes a school in the Indian context? Without going in to the merits and demerits of this question, it can be argued that whatever be the selection criteria, many existing schools will not be able to cross the threshold. The present study has clearly demonstrated the positive association between the availability of school infrastructure facilities and indicators of internal efficiency. Therefore, improving the quality of infrastructure is necessary for improving internal efficiency.

Seventh, the academic support to schools is provided through new structures like BRC and CRC created under DPEP. How effective is this support to help individual schools to improve their efficiency and effectiveness is yet to be established through research. *Eighth*, Tamil Nadu does not follow no-detention policy. Similar is the situation with the enrolment of underage children. The state policies in these regards

need to be widely disseminated so that the reporting of enrolment statistics is free from individual biases. *Ninth*, various types of structures have been established at the grassroots to encourage the participation of village community in the school affairs. 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. *Tenth*, a thorough review of teacher training 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 a periodic status report on elementary education in the district. These profiles would facilitate the decision making processes and at the same time help the educators to fine tune the delivery of teacher training strategies to the district specific needs. *Twelfth*, the concept of enrolment audit should be introduced in all schools and the distribution of incentives should be rationalized. *Thirteenth*, there is a need for improving the transparency of norm based decision-making processes at the state and the district level. *Fourteenth*, a set of simple indicators should be developed for measuring progress towards UPE/UEE. The study suggests three key indicators. First, out-of-school children; second, completion rate (CRF) and finally, the achievement score. These indicators should be appropriately defined for various levels of aggregation and for different social and economic groups.

Chapter 1

Introduction and Background to the Study

1.1 The context

India, ever since the attainment of independence in 1947, is striving hard to achieve the goal of universal adult literacy and elementary education for all children up to the age of 14 years. These goals are enshrined in the constitution and the strategies for their fulfillment are included in the education policies of 1968, 1986 and 1992. The five-year plans initiated since the early fifties rightly recognized the need for quantitative expansion, qualitative improvement and making basic education relevant for socio-economic transformation of the Indian economy. The first few plans entirely focused on expansion of educational facilities whereas the concerns for qualitative improvements were relegated to back benches. While a primary school was theoretically accessible to 93 percent of rural population either within the habitation or at a maximum distance of 1 km. in 1993, the relatively larger neglect of qualitative aspects is reflected in perpetuation of high dropout rates and poor levels of learning among the school graduates (NCERT, 1999)¹. The perpetuation of large interstate and intrastate variations in literacy rates and levels of educational attainment confirm the limitations of the programs and strategies adopted by the central and state governments for educational development and also in reducing inequities among various groups of population. Studies have also shown that many poor developing countries in the South East Asian region had outperformed India in achieving the goals of basic education and universal literacy. The latest trends indicate that the states like Kerala and Goa have attained near universal literacy and primary education decades ago and Maharashtra,

¹ The aggregate data could be misleading as India has reached a stage when the smaller habitations having population of less than 300 persons remain to be fully served by primary education facilities. The efforts of DPEP to expand access through alternative schools are commendable but the concerns for effectiveness of teaching-learning and the quality of education are yet to be dispelled.

Tamil Nadu and Himachal Pradesh are within the realm of achieving this target in the coming years. Some other states like Uttar Pradesh, Madhya Pradesh, Rajasthan and Bihar are lagging far behind and might take a few more decades to achieve the status of educational development of the present day developed states.

The Indian states, on an average, are spending about 20 percent of their budgets on educational development. Nearly half of the education budget is allocated for the development of elementary education. Both the central and state governments are also seeking the monetary and non-monetary inputs from the community and NGOs for achieving UEE. The need for such a strategy is also evident after the 1992 amendments to the constitution, following which the management of primary education in both rural as well as in urban areas becomes the responsibility of the elected local bodies (73rd and 74th constitutional amendments). Subsequently many states have legislated and notified the provisions for administrative and financial powers to Panchayats. Such a strategy is yet to be fully implemented in Tamil Nadu. Decentralization of planning and management of primary education is thus a positive step in localizing the school administration. States have also undertaken effective measures for meeting the educational needs of the out-of-school, working and marginalized children through alternative and innovative modes of education which are best suited to local conditions.

In the recent years, the central government has considerably increased budgetary allocations for elementary education. The Government of India also initiated DPEP as a Centrally Sponsored Scheme in 1994 in selected educationally backward districts with a focus on universalisation of primary education. The focus of the project is not only on expanding access but also in improving retention and learning achievement among primary school children. The project, which began with 42 districts, now covers about 248 districts spread in 18 states. DPEP is considered as a quality improvement program, although some allocations are also earmarked for improving access through innovative and alternative models, particularly for those habitations, where a formal primary school may not be feasible. Realizing the immensity of the unfinished task in non-DPEP districts, the central government has launched another major initiative in 2000

called *Sarva Shiksha Abhiyan (SSA)* with the objective of achieving UEE in the country by 2010. The program is built on the strengths of the DPEP and other innovative experiments and recognizes each habitation as a unit of planning, management and monitoring.

The DPEP would be over in Phase I districts by the end of 2002. Despite many reforms brought about by the DPEP, issues about the access, retention and quality of primary education have continued to persist even in the DPEP districts. While the overall access and participation in primary education is increasing, the dropout and repetition rates continue to be unacceptably high leading to a waste and in-optimal utilization of scarce financial and manpower resources. Considerable number of school places will be vacated by controlling grade repetition thus paving the way for additional enrolment without corresponding expansion in teaching and other resource inputs. Recent estimates indicate a dropout rate of 15 percent for 1998-99 at primary stage in Tamil Nadu, which is much lower than the national average of about 40 percent². Can we conclude from the evidence that primary education in Tamil Nadu has high rate of internal efficiency? Perhaps not. Besides controlling for dropout rates, there are other forms of inefficiencies in the educational systems and that pertains to grade repetition. Considerable research and studies are available on the causes of dropout, but little is known about repetition and its effect on the internal efficiency of the educational system. Therefore, in order to fully understand the situation with respect to the universalisation of primary education, the following four conditions must be fully met and appropriate indicators should be developed to reflect these aspects:

- 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.

² Ministry of Human Resource Development (1999). *Selected Educational Statistics, 1998-99*, Planning, Monitoring and Statistics Division, MHRD, New Delhi.

- Comparable and satisfactory level of achievement by all students at the end of primary classes whether through formal or alternative mode of education.

Generally, the internal flow of students in an educational system is measured through indicators of internal efficiency. Internal efficiency of the primary education system is inversely related to the dropout and repetition rates. The analysis of internal efficiency in the Indian context is important as a large number of children do not complete the final grade either at all or complete it after spending more than the required number of years³. Many states are following no-detention policy at primary/upper primary stage. Thus, no child is expected to repeat a grade unless detained on ground of poor attendance. One can debate on the number of children who would be detained on account of poor attendance but the proportion of children detained on this ground should be small. The educational statistics of the state and central ministry do not report adequately on the repeaters thus distorting the very basic premise of educational planning for UPE/ UEE. How does one examine the internal efficiency in the absence of complete data on repeaters? The EMIS implemented under DPEP (DISE data collection system) collects data on repeaters by grade and gender. The analysis of DISE data shows that the extent of repetition in Grade I in some states is to the tune of 30-40 percent. The sixth All India Educational Survey conducted by NCERT in 1993 reported repetition rate in the range of 5-7 percent in each grade.

While cohort data on students flow is generally not available in the country, the analysis of time series aggregate data suggests that many students dropout before reaching penultimate grade of primary education. The most commonly used method of finding survival rate simply compares the enrolment in the highest class with the enrolment at the beginning class of the same cohort of students. Many times, adjustments for the repeaters are also not made due to non-availability of data. It is also assumed that repetition rate is zero, which is not a valid assumption.

³ The eligibility conditions and the age of entry to primary education varies from state to state. Officially, the children could be admitted to grade I after completing five or six years. Similarly, the primary education cycle is either of 4 or 5 years duration. The national system of education as recommended in 1968 policy and reasserted in 1986 policy is yet to be accepted/implemented by all states.

Interpreted in this context, the Tamil Nadu data shows that the share of class V enrolment in year 1997 was about 85 percent of enrolment in class I in 1993 as compared to the corresponding value of 50 percent for the state of Uttar Pradesh and 61 percent for the country as a whole⁴. However, it does not mean that in Tamil Nadu, all the 85 children who were in Grade 5 in 1997 would pass the final examination at the end of Grade V or all of them have reached Grade V without grade repetition. Since all the data pertains to recognized schools only, further adjustments for the lateral entry and movement of children from government recognized sector to unrecognized and vice-versa would have to be made to get a real assessment of the dropout and retention. The statistics of survival rate are thus not only crude but at the same time do not provide the exact information on many important aspects of internal efficiency - the proportion of children completing primary education in five years. Dropout and promotion rates calculated from such aggregated data are also crude and far from reality due to some inherent assumptions, which do not hold well in real life situations. It is only by using such crude analysis that one comes across situations when the dropout rate tends to be negative, which is not possible theoretically⁵. The traditional analysis cannot answer the question as to how many children actually complete the primary education in the prescribed five-year period.

The present study examines some of these questions in detail. The analysis builds on a pilot study undertaken in nine blocks of Tamil Nadu in 1999⁶. The pilot study not only validated the methodology but also revealed interesting aspects of the school effectiveness, which have been further elaborated in the present study. Estimation of dropout, repetition and promotion rates based on individual students' progress through the educational system was undertaken at the school and the block level. A classification of schools based on efficiency

⁴ In the absence of detailed students flow analysis, the aggregated time series data is used to estimate survival rates. However, as shall be seen later such measures suffer from serious limitations and could be quite misleading in the absence of standard students flow data.

⁵ Government of India (2000). *Annual Report 1999-2000*, Ministry of Human Resource Development, New Delhi page177.

⁶ Aggarwal, Yash (2000). How Many Pupils Complete Primary Education in Five Years: Evidence From Selected DPEP Districts of Tamil Nadu, NIEPA, New Delhi (mimeo.).

indicators was also attempted. The analysis was also carried out for gender and various caste groups. This was important to examine issues related to equity in educational access and participation. Data on some school characteristics was also obtained from the DISE database and correlated with the students flow data. The implication of the analysis for planning and management of education were also examined.

1.2 Objectives of the study

There can be a considerable debate on the choice of indicators to measure school effectiveness and the impact of DPEP interventions. Since the cohort under study coincides with the implementation of DPEP, it would be interesting to examine year-to-year progress of students. Stated in the simplest form, all children admitted in grade I in 1994-95 should have benefited from the DPEP interventions in one or the other form. It is in this context that we selected the completion rate as the most critical indicator of school effectiveness. More specifically, the objectives of the present study are:

- a) To estimate the proportion of children of a cohort who are able to complete primary education in five years period and to examine the class to class promotion rates;
- b) To examine the differentials in completion rates by gender, caste and other related characteristics;
- c) To classify schools according to the efficiency level so that remedial measures and other interventions for improving school efficiency can be designed; and
- d) To examine spatio-temporal changes in completion rates up to Grade three using the truncated cohort method.

The study does not attempt to ascertain the learning outcome of those pupils who are able to successfully complete the primary education cycle in five years. Various studies conducted under DPEP have shown that the levels of achievement among primary school pupils are low and only a few of them are able to achieve mastery level competencies as identified in Minimum Levels of Learning (MLL). DPEP, Tamil Nadu conducted an evaluation test for all students of Grade V in 2000 and the same was repeated in 2001. The results of these studies are being examined separately to determine the

implications for quality improvement programs. An assessment of the levels of learning of those pupils who complete primary education without any grade repetition would be an interesting research area for further investigation and would throw considerable additional light on learning ladders.

The method of truncated cohort analysis was followed to generate data on completion rate for Grade 3 in three years time. The data collection was undertaken simultaneously for both the methods. The data for truncated cohort was collected in Phase I districts alone.

1.3 Measuring internal efficiency: some methodological issues?

Theoretically, the concept of efficiency refers to the relationship between input and output of a production system. Stated simply, 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 input and output are of different types, the efficiency of a production system is usually measured in terms of the output and input values. Notwithstanding the limitations of the approach, the concept of efficiency has also been applied to social sector programs. 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 output of the social sectors are not homogenous in terms of their quality across space and time. The problems are more serious with inputs in terms of unit costs. Two teachers with same compensation package may perform differently in the same school or in different schools. Similarly, it is very difficult to assess the full impact of the educational processes on the child's cognitive and non-cognitive domains. In view of this, a basic concern for efficiency analysis in education remains as to how we define the inputs and output of the educational system so that the assumptions of homogeneity are not violated. Most of the formal educational systems rely on the ladder type learning hierarchies. All children must spend one year in each grade irrespective of the fact that whether they are slow or fast track learners. Moreover, detention is possible but not jumping the grades. A student, even in the best school, has little option to learn at its own pace. What is the impact of these issues on measures of internal efficiency? Easy answers are not available to many of these questions.

Depending upon the policy objectives and the expectations within the given socio-political context, the objectives of education may differ from one level to another and from one state to another, and so would be the case with the measurement of inputs and outputs. 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 those who complete (graduates) the cycle respectively. This is a restricted definition of input and output as it is based on unrealistic assumptions of homogeneity. This definition also implies that not all types of dropouts or school leavers acquire any skills and reading and writing competencies. Let us assume that a child leaves the school after completing Grade 4. Such a child would be treated as a dropout and not having acquired competencies that (s)he would have acquired after staying for another one year in the school. In terms of school efficiency parameters, the former would be classified as '0' and the latter as '1' as far as internal efficiency is concerned. Practically, this assumption does not hold good especially as one moves beyond the first two or three grades of primary stage. The assumption regarding the homogeneity of output is also violated in education. Measurement problems arise if the achievement levels of the graduates are considered. The large variations in achievement scores of pupils illustrate the limitations of the above assumptions.

Similarly, many assumptions involved in measuring the inputs are not tenable in real life situations. The inputs into the educational system are teachers, instructional materials, buildings and other support services, which can be aggregated financially in terms of 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 in the framework of 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. Enormous differences are encountered in tracing the education profile of pupils with high

mobility from one place to another. Notwithstanding the above factors, the application of the concept of internal efficiency in education has some advantages also, 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 must be recognized.

The school enrolment is influenced by two factors, namely, the behavior of demographic indicators and the flow of students from one grade to another within the education system. The former is measured by the intake rate and the latter refers to the internal efficiency of the educational system. It is a well-known fact that a large number of children do not enter the school at the officially prescribed age (Aggarwal, 1987)⁷. Moreover, those admitted to Grade I of primary education do not complete that cycle within the prescribed period. Some of them dropout before the end of the cycle and some repeat one or more grade before either dropping out or completing the primary education successfully. Therefore, the actual number of student years required to produce a graduate tend to be more than five in the case of a five-year primary education cycle. The pupils may graduate at the age of 10 or even more. The relationship between the actual years required for producing a graduate and the prescribed duration of the primary cycle is called the efficiency index. Therefore, the educational wastage is defined as the total number of pupil years spent in excess of the years required to complete primary education cycle. The actual years taken to complete the primary education cycle by a student in a primary school is very difficult to compute.

Finally, the issues related to cost-effectiveness and efficiency of resource inputs are important in the internal efficiency analysis. A related issue is the impact of factors outside the school environment where the students acquire skills and competencies required to become responsive citizens. How to account for such factors in the efficiency analysis. The standard methodologies do not provide any clues to these issues. These factors become major determining factors for success in schools. Do the parents have a choice for the education of their children? For most children, the choices are limited and linked to the

⁷ For example, in Tamil Nadu, officially all children aged 5 are to be admitted to Grade I. However, the analysis of age-grade data for 1998-99 shows that about 20 percent of children were enrolled at the age of six years in the DPEP districts.

socio-economic status of their parents. The field experience shows that the dual system of education is perpetuating and being strengthened over the years⁸. In Haryana, the low socio-economic status of rural poor forces them to send their children to government schools. Those who can invest, send their children to private fee charging schools even if their quality is poor. In the matter of internal efficiency, the latter are much better than the former. How does one take into account the value addition by the private schools? The present methodologies do not answer any of these questions. Perhaps, further research is required in the economics of internal and external efficiency of education.

1.4 Review of student flow methods

The current data on Indian education primarily focuses on quantity, addressing the need for aggregated information on the number of institutions, students and teachers by gender and caste. This type of data, though necessary, is not sufficient for an understanding of the broader issues relating to the internal efficiency and analysis of related characteristics of the educational system. Therefore, lack of students flow data is one of the major limitation of the research on internal efficiency of the educational system in India. In any given school, the students flow linearly from one level to another, from one grade to the next and flows in and out of the school system. Due to the lack of student tracking system, most of the analysis is based on incomplete information for which a number of crude methods have been developed⁹.

There are two methods available for undertaking students flow analysis. The first method traces the individual student or a group of students over a period of time. The second method deals with aggregated data where the annual aggregates of enrolment and repeaters for various years are analyzed. The analysis of aggregated data is based on untenable assumptions, as detailed information on

⁸ Aggarwal Yash and M.M. Jha (2000). *Community Perception in Rural Haryana: A Study of Primary Schools*, NIEPA, New Delhi.

⁹ For a comprehensive review of the educational statistics in India, see Aggarwal Yash (1998). *Educational Statistics in India, Scope, coverage and issues*, NIEPA, New Delhi.

many aspects of students flow is not available. The following variables enter the students flow analysis.

- Students enrolled in each class.
- Students seeking transfer to other schools (transfer certificate).
- Students coming from other schools to this class (new admissions).
- Repeaters in the same class from the previous year.
- Dropout from the class during the academic session.
- Failures leaving the school/repeating in the same class.
- Children promoted to the next class after successful completion of curricular activities.

However, data on all the above aspects is not available. Measurement of efficiency of a school system can be undertaken in many different ways. The measurement of internal efficiency and wastage in education uses techniques similar to those from cohort analysis in demography. A cohort is defined as a group of students who jointly experience a series of specific events over a period of time (UNESCO, 1999). In the case of primary education, a school cohort will consist of all those students who join the first Grade of primary education in the same school year, and subsequently experience the event of promotion, repetition, dropout, transfer or completion of the final Grade in his/her own way. Depending upon the nature of available data, there are five important students flow methods to measure the internal efficiency of education:

- a) True cohort method.
- b) Apparent cohort method.
- c) Artificial cohort method or reconstructed cohort method.
- d) Stationery population method of measuring wastage; and
- e) Other primitive methods.

1.4.1 True cohort method

True cohort method (TCM) is the ideal way of assessing the internal efficiency and wastage in an educational system. The TCM measures the school career of a cohort of students over the school cycle. TCM examines the flow patterns of students and its output sequence by means of a tracking system where each student has a reference

number and is followed for academic career for a particular number of years. In this way it is possible to determine that of a certain number of entrants, a certain proportion will dropout before the beginning of the second school year. Similar events will happen between the beginning of the third, fourth and final year and at the end of five years some students will graduate. Since, there are many students who continue to repeat over the years, the traction may be required for more than five years to completely trace the students and determine the real dropout, repetition and completion rates. Usually, it is assumed that a lag of not more than three years is permitted for the students to complete the primary education cycle. Following this method, it is also possible to calculate the average years taken to produce a successful primary school graduate. Similarly, the dropout and repetition rates can be calculated for the given cohort.

It is thus possible to evolve a model with inputs in the form of years studied and output in the form of graduates and dropouts. The TCM studies can be based on the longitudinal data by monitoring the flow of a cohort of students through the education cycle. Alternatively, retrospective study of school records is undertaken to retrace the flow of students through various grades in the past five to eight years depending upon the availability of data. The former is time consuming but may yield more reliable results than the latter method. The TCM following the retrospective analysis of data assumes that reliable school records are maintained for individual students and the information about each student shall be available for the construction of the students flow model.

1.4.2 Apparent cohort method (ACM)

The apparent cohort method compares the aggregate enrolment in Grade I in a particular year with enrolment in successive grades in subsequent years. The method assumes that no student repeats a particular grade over the school cycle¹⁰. Thus, the decrease from each grade to the next corresponds to the wastage. In theory, the *no detention*

¹⁰ In the Indian context, studies have shown a high repetition rate in all primary classes. In the DPEP districts for which adequate data on repeaters is available, the repetition rates have found to be varying between 5-40 percent for primary classes. For details see: Aggarwal, Yash (1998). *Access and Retention: The Impact of DPEP, A National Overview*, MHRD, New Delhi.

policy is operative in most parts of the country for first few years of schooling but in practice, repeaters constitute a significant share of enrolment in all grades of primary education. The high repetition rates would thus invalidate the results of this method. One should restrict the use of such methods only to cases when other methods cannot be used. The method can provide possibly some indication of the general trend of development with respect to the efficiency of the school system. The ACM cannot be used to determine the completion rate at primary stage. At best, it gives the survival rate until the child reaches penultimate class. In an open-ended system, with multiple channels of education, the results of such an analysis may not be valid for the whole system.

The ACM can only be used with the aggregated data and is most inappropriate for the analysis of data at the school level as the transfer and repeaters are significantly high for most of the schools. Educators would often like to classify schools with varying efficiency levels. However, such an analysis is not possible using ACM. The review of literature shows that ACM does not find much acceptance among the development planners and educators.

1.4.3 Reconstructed cohort method (RCM)

The reconstructed cohort method is widely used to calculate various indicators of internal efficiency including dropout and repetition rates. The reconstructed or artificial cohort method (RCM) can briefly be described as follows.

The analysis begins by considering an artificial group of students, usually 1000 persons. The true promotion, repetition and dropout rates are calculated from the two-year Grade level enrolment. These ratios are then applied to the cohort of students under study, assuming that these rates are independent of the previous history of students, of their age and so on. It is also assumed that these ratios will remain the same for five to seven years. In this way, an artificial flow chart, allowing the computation of the number of dropouts in each grade per 1000 entrants, the number of graduates after various number of years of schooling, the total number of years studied, and so on are calculated. The method may be useful to analyze the implications of keeping a given set of promotion and repetition rates constant over a

period but has little relevance in real life situation. The method is useful to build alternative scenario to study the effect of changing dropout and repetition rates on the promotion rate. The derived indicators will be reliable and valid depending upon the validity of the assumptions outlined above. It may also be used to study the implications of prescribed or observed year-to-year changes in these ratios. Information concerning the number of times a pupil may repeat a given grade may also be taken into account when applying this method.

The RCM is a better tool for measuring internal efficiency in situations where there is a relative stability in transition rates over the years. However, in developing countries, the changes in enrolment structure and promotion rate are far too quick to invalidate the basic assumption of RCM. When specific reforms are implemented to improve the internal flow of students, then the assumption of the model runs counter to the spirit of educational reforms and the gains thereof. Thus, the basic assumption that the repetition rates are the same for those who repeat and those who are promoted in the first attempt is not a practical reality. The aggregated nature of analysis fails to identify schools whose performance (efficiency ratio) may be below the desired threshold. Moreover, the major purpose of educational reforms is to improve the retention. Therefore, RCM will not be able to capture the true gains of educational reforms particularly of the systems in transition.

1.4.4 Stationery population

The method of stationery population for wastage assumes that the promotion and repetition rates remain constant over time and that exactly the same numbers of students enter the system each year. This method is not useful in countries which are experiencing high population growth rates and where the educational systems are under transition.

1.5 Sampling design and framework of analysis

The review of above methods suggests that the best method for measuring school efficiency is the students' flow method. However, within the limitations of data, the other methods have also been used

by the researchers. Therefore, it is not the question of superiority of one method over the other, but it is important to select a method, which best answers the question under review subject to the availability of data.

In view of the above discussion, it is necessary to examine the actual flow of students at least over a period of five years so that reliable and accurate estimates of the indicators of internal efficiency are generated. The present study, uses a variant of the true cohort method. It examines the flow of students for a cohort beginning their primary schooling in 1994-95 and each student is traced to determine whether that student completes primary education in five years or not. The children admitted after September, 1994 to Grade I were not included in the study. The analysis presented in this study is based on the assumption that no child is given double promotion in a year. Efforts were also made to determine the grade at which the dropout and repetition took place. Once, a repeater is identified, he/she is followed up subsequently but for a maximum period of five years. This was necessary to keep the data collection within manageable limits. Moreover, a repeater will require at least six years to complete primary education, whereas our focus is to find out the number of children who complete primary education in five years. In the subsequent analysis, if it assumed that the repeaters also have the same promotion rate as that of the non-repeaters, then it is possible to find out the proportion of children completing the primary education in six and more years.

Based on the above data, the number of children completing primary education in five years was determined. The transfer cases were excluded from the database for calculation of completion rate for the school as a whole and for different groups of students was calculated. The CRF is defined as follows:

$$\text{CRF} = 100 * \frac{\text{Children of a cohort completing primary education in five years}}{\text{Total children at the beginning of the cohort}}$$

Ideally speaking, all children should be able to complete primary education in a five-year period. Therefore, the ideal value of CRF would be 100. However, in actual practice, the number of children

who complete the primary education in five years period will be much smaller than at the beginning of the cohort.

The proportion of children who actually complete the primary education cycle in five years has been defined as Completion Rate in five years (CRF). The proportion of children completing primary education in more than five years, due to repetition, has also been calculated and is defined as Ever Completion Rate (ECR). The focus of the present study continues to be the estimation of CRF. The schools have to endeavor to achieve ideal value of CRF and not of the ECR. The hypothetical students flow model is presented in Figure 1.

Hypothetical Students Flow Model Students Completing Primary Education in Five Years

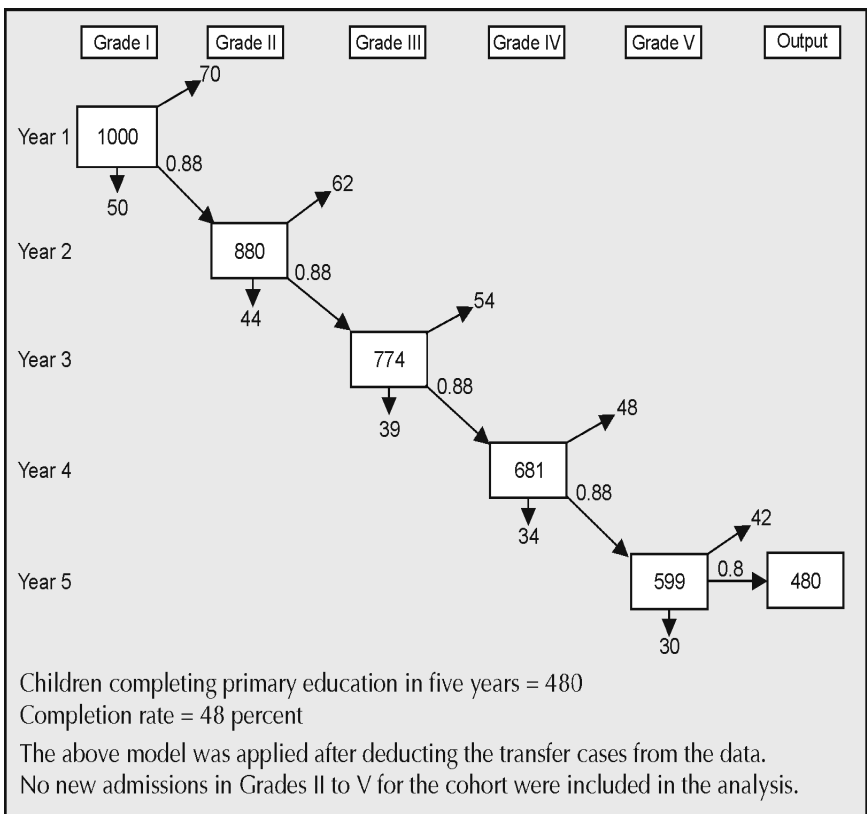


Figure 1

The hypothetical students flow model for students ever completing primary education is given in Figure 2.

Hypothetical Students Flow Model Ever Completing Primary Education

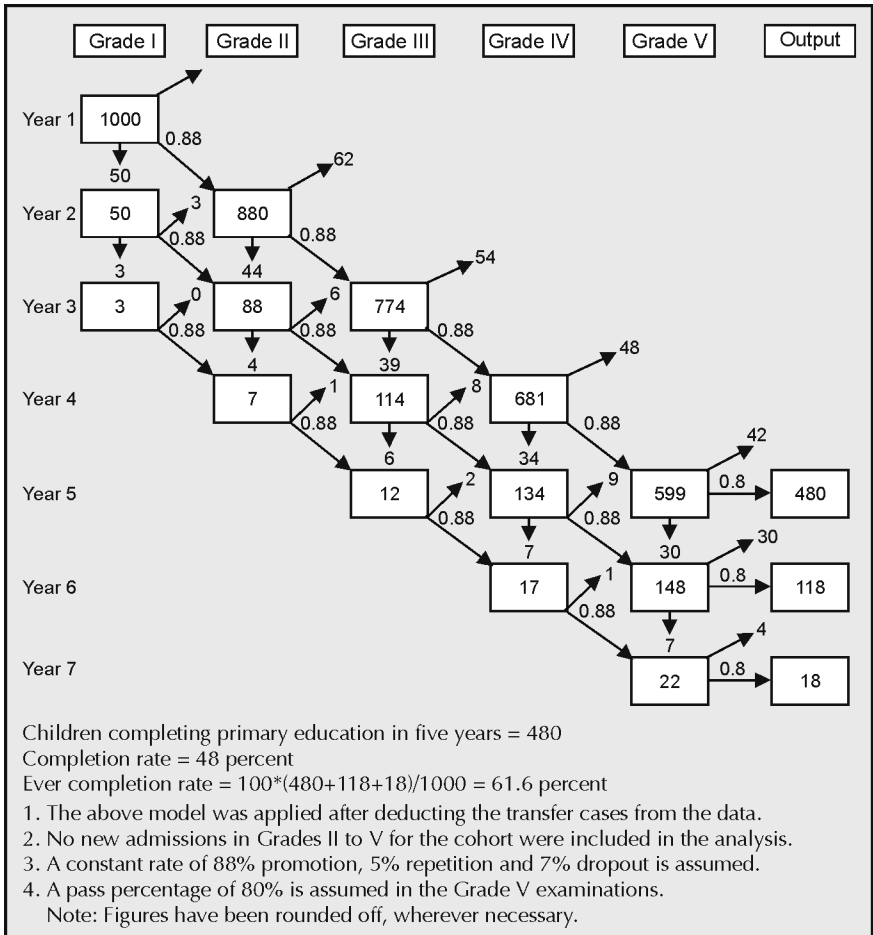


Figure 2

The present study used the true cohort method of tracking the students in the same school. The children who migrated to other schools could not be traced and hence were excluded from the analysis. Further, the terms dropout and repetition rate are subject to multiple interpretation. In this study, both the terms are used but exclusively in the context of the cohort analysis which traces the students for five years only. If the cohort is traced till all the students entering Grade I either complete primary education or dropout might

lead to different values of these two indicators of internal efficiency. In the present study, both dropout rate and repetition rate relate to the five year period. These conceptual differences should be kept in mind when using the indicators of dropout and repetition rate. To distinguish between the commonly understood meaning and their use in the present study, ever repeaters have been used instead of repeaters.

The data collection for the study was undertaken by following the steps listed below:

- a) A block level list of schools was obtained from the DISE database available with the EMIS centres in each district. The schools established after 1994 were excluded from the list. This constituted the master list of schools and was used for data collection.
- b) It was decided to use the DISE school code in the data capture formats for the cohort study. No data on schools location and other related aspects were collected in the cohort study. However, such data was retrieved from the DISE database.
- c) At the state level, a Resource Group was constituted. The main function of the Resource Group was to train the headmasters in providing the relevant information in the DCF, coordinate the field management activities and data flows from the school to the district level. At the district level, The District Program Coordinators were responsible for the training of teachers with the assistance of Block Resource Coordinators/Cluster Coordinators. Each district evolved its training strategy. Mock data collection exercises were conducted to explain the methodology of data collection and to identify the school records which need to be consulted.
- d) The completed data capture formats were verified for obvious inconsistencies at the block and the district level. The computerisation of the data was undertaken by using software, which was designed, at the state level. The data entry operators and other staff were given adequate training in computerisation of cohort data. Consistency checks were built into the software to detect errors and omissions at the data collection stage.
- e) The preliminary findings of the study were discussed at the district level and all the BRCs were also involved in such

discussions. Further analysis was also undertaken at the state level to identify key issues, which require the attention of educational administrators at the highest decision making level. The findings were also shared through state level workshops with development planners and educational administrators.

- f) The field administrative staff was also briefed on the methodology of analysis. This evoked considerable interest among the field staff and they have now started collection of data on repeaters and students flow. The larger survey would be repeated after a gap of 2/3 years.

Following the above procedure, a common database was also generated at the state level for all the schools with proper identification and other codes required for the purpose of analysis presented in this study. The study covered all seven districts for the 1994-95 cohort and four Phase I districts for the 1996-97 cohort. The 1996-97 cohort covered the data for first three years of primary education. The results of 1994-95 and 1996-97 cohort were compared to examine the spatio-temporal changes in completion rates.

The data collection was undertaken during July-September, 1999 when the schools reopened after the summer vacation. In all, data from 9,825 schools in 112 blocks/urban areas of seven districts was obtained for all students admitted to Grade I in 1994-95. In all, 263,140 pupils (excluding transfer cases) on rolls in Grade I in 1994-95 were traced. All the repeaters in Grade I in the same school were also followed for five years. A child who dropped out in a particular year was not followed subsequently. Children who obtained transfer certificate were excluded from the study as their progress in subsequent grades was not easily traceable. It is quite possible that some children shown as transfer case may have actually stopped studies or the students leaving without transfer certificate may have been studying in other schools. However, there was no mechanism to trace such students. Therefore, the present study is confined to those Grade I students who either continue to remain in the same school for five years or leave the school during this period either as dropout or as transfer cases. The present study is unique in a way that it is based on very large number of students flow data and perhaps may be the first of its kind in India.

1.6 Development of elementary education in the state

The state of Tamil Nadu is divided into 30 administrative districts. The overall situation in the state is relatively better in respect of social development indicators as compared to its economic performance. Tamil Nadu with a population of about 62.1 million in 2001 is one of the socially and economically progressive states of India¹¹. The provisional census data indicates that the increase in population during nineties was 11.2 percent as compared to the corresponding increase of about 21.3 percent during the eighties. The PCI of the state was Rs. 11,708 as compared to the average of Rs. 9,660 for the country as whole¹². About 40 percent of the state budget is spent on social sector programs. About half of the social sector expenditure is on education (20 percent of the overall budget). The state has achieved considerable progress in demographic transition. In Tamil Nadu, the infant mortality rate and crude birth rate are among the lowest in the country. The Sample Registration Survey showed a birth rate of 19 as compared to 27 per thousand for the country as a whole. The infant mortality rate was 53 as against an average of 71 for the country as a whole. Consequently, the overall population increase during the nineties was only next to that of Kerala. The age specific population (6-10) has also registered some decline as compared to the previous years. It is estimated that the number of children in 6-10 years age group was about 6.3 million accounting for about 10.2 percent of the total population. The analysis of EMIS data has shown that in some parts of the state, the enrolments in various grades of primary education have also tended to show an absolute decline in the last few years.

The government manages about 80 percent of the recognized schools. The second largest category is that of government aided schools, which accounts for 18-20 percent of schools. The sixth All India Educational Survey shows that 98.9 percent rural population was served by a primary school/section within the habitation or at a maximum distance of 0.5 km. However, only 78.5 percent of rural population had access to upper primary up to a distance of two kms. In addition to recognized schools, there were a large number of

¹¹ Based on provisional population estimates of Registrar General of India, 2001.

¹² Government of India (1999). *Economic Survey: 1998-99*, Government of India, New Delhi.

unrecognized schools in various parts of the state. The enrolment in the unrecognized schools is not known. Under DPEP, many new schools/alternative centres were opened to improve access to educational facilities in unserved and underserved areas. Recently household surveys were conducted in some DPEP districts, the analysis of which indicated that the proportion of out-of-school children constituted a very small proportion of the total children in 6-14 age group. The school teachers maintain a complete record of children in 0-14 age group in their jurisdiction and these records are updated every year. The village education plans developed for the DPEP interventions are based on these records. The data also provides the estimates of future intake in Grade 1.

The NAR/GAR as shown by the NSSO for the state of Tamil Nadu are far lower than the corresponding GER estimates of the education department. The recent official estimates show the GER as 108 and 93.6 percent for the primary and upper primary classes¹³. The 52nd NSSO estimates show the NAR of 84 and 61 percent respectively (Table 1). Three states, namely, Maharashtra, Himachal Pradesh and Tamil Nadu are at the same threshold as far as participation in primary education is concerned. However, among these three states, the position of Tamil Nadu is far better as far as upper primary education is concerned. Thus Tamil Nadu is likely to achieve UEE ahead of other advanced states like Maharashtra and Himachal Pradesh. The NAR as estimated by NSSO was 84 percent for primary and 61 percent for upper primary.

The state has also achieved considerable progress in the spread of mass education which is reflected in overall improvement in 2001 population literacy rates. The recent estimates of literacy (NSS, 53rd round) show that the average literacy rate in Tamil Nadu was well above the national average. The overall literacy rate in 2001 was 73.4 percent as compared to 62.7 percent in 1991¹⁴. The average literacy for the urban areas in 1991 was 84 percent compared to 62 percent for the rural areas. The ratio of male to female literacy rate was 1.28, which is much lower as compared to other progressive states. Despite the significant gains in educationally backward districts, the state has

¹³ MHRD (1998). *Selected Educational Statistics*, MHRD, New Delhi.

¹⁴ Provisional estimates based on 2001 population data.

Table 1
Net attendance rates, Indian States, 1995-96

State/UT	NAR I-V	NAR VI-VIII	Rank (I-V)	Rank (VI-VIII)
Daman & Diu	100	57	1	9
Lakshadweep	95	69	2	5
Goa 94	62	3	6	
A & N Islands	92	73	4	3
Kerala	91	76	5	2
Himachal Pradesh	85	54	6	12
Maharashtra	85	55	7	11
Tamil Nadu	84	61	8	7
Chandigarh	83	45	9	17
Punjab	81	59	10	8
Tripura	80	40	11	23
Delhi	79	70	12	4
Haryana	78	52	13	14
Gujarat	78	52	14	15
Pondicherry	77	84	15	1
Sikkim	77	33	16	28
Dadra Nagar Haveli	76	55	17	10
Karnataka	73	50	18	16
Assam	72	43	19	19
Andhra Pradesh	70	41	20	21
Nagaland	70	40	21	22
Mizoram	69	39	22	24
Jammu & Kashmir	67	53	23	13
Meghalaya	67	25	24	32
West Bengal	66	33	25	27
All-India Average	66	43		
Madhya Pradesh	63	35	26	25
Orissa	61	45	27	18
Manipur	60	43	28	20
Arunachal Pradesh	60	29	29	31
Uttar Pradesh	59	33	30	29
Rajasthan	55	35	31	26
Bihar	41	33	33	30

Source: NSSO 52nd Round

to make concerted efforts to increase literacy rate for the rural females (Table 2). More than half of whom are still illiterate (49 percent

Table 2
Literacy rate (7 plus age group): India and States, 1996-97

State/UT	RURAL			URBAN			COMBINED		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Lakshadweep	98	94	96	98	90	94	98	93	96
Mizoram	95	91	93	97	98	98	96	95	95
Kerala	96	90	93	96	90	93	96	90	93
Pondicherry	94	84	89	93	87	90	94	86	90
Goa	95	75	86	91	82	86	93	79	86
A & N Islands	94	74	85	100	95	97	100	94	97
Meghalaya	77	72	75	97	89	93	79	74	77
Nagaland	90	72	81	93	87	90	71	77	84
Daman & Diu	93	72	86	99	74	87	95	73	86
Sikkim	84	70	77	92	80	86	86	72	79
Himachal Pradesh	86	69	76	95	85	90	87	70	77
Tripura	76	64	70	96	85	91	79	67	73
Assam	81	63	73	92	85	89	82	66	75
Manipur	82	62	72	95	77	88	86	66	76
Delhi	100	61	83	90	78	85	91	76	85
West Bengal	78	58	69	90	76	83	81	63	72
Punjab	65	57	61	86	75	81	72	62	67
Maharashtra	79	54	66	93	79	86	84	63	74
Tamil Nadu	73	49	62	91	78	84	80	60	70
Gujarat	74	47	61	91	74	82	80	57	68
Arunachal Pradesh	67	45	58	86	73	81	69	48	60
Haryana	71	45	59	88	69	79	76	52	65
Karnataka	60	43	52	83	70	77	66	50	58
Jammu & Kashmir	65	42	53	93	75	85	71	48	59
Chandigarh	68	42	59	94	77	86	90	74	83
Andhra Pradesh	57	35	46	84	69	77	64	43	54
Uttar Pradesh	66	35	51	80	62	71	69	41	56
Orissa	60	33	46	87	67	78	64	38	51
Madhya Pradesh	64	32	49	87	68	78	70	41	56
Bihar	59	30	45	84	64	75	62	34	49
Rajasthan	69	27	49	90	63	77	73	35	55
D & N Haveli	63	25	45	100	85	93	66	30	49
India	68	43	56	88	72	80	73	50	62

Source: NSSO, 53rd Round. The states/UTs are arranged in descending order of rural female literacy.

literacy). While some educationally backward districts have already been covered under total literacy programs, many pockets of illiteracy and out-of-school children persist even in some of the educationally advanced districts. The rural urban literacy rates as shown by NSSO are presented in Table 2.

The provisional data on literacy for 2001 shows significant gains in literacy rates among DPEP districts (Table 3). Except Dharmapuri district, the female literacy in all other districts has crossed the national

Table 3
Literacy in DPEP districts

Districts	1991 Literacy rates				2001 Literacy rate (provisional)			
	All	Male	Female	Male/female ratio	All	Male	Female	Male/female ratio
Dharmapuri	46.02	57.21	34.23	1.67	59.23	68.82	49.1	1.40
Thiruvannamalai	53.07	66.71	39.25	1.70	68.22	80.14	56.31	1.42
Villupuram	48.36	60.92	35.38	1.72	64.68	76.02	53.16	1.43
Cuddalore	58.59	71.53	45.21	1.58	71.85	82.76	60.86	1.36
Perambalur	51.81	64.74	38.57	1.68	65.88	77.68	54.26	1.43
Pudukkottai	57.63	71.78	43.62	1.65	71.96	83.22	60.94	1.37
Ramanathapuram	61.65	74.73	48.84	1.53	73.05	82.96	63.55	1.31

Source: Census of India, 2001 (Provisional data)

average of 52 percent. The male/female literacy ratio has declined significantly in all districts. Despite this, the male-female literacy ratio for all DPEP districts is higher than the state average of 1.28. Therefore, the gender disparities in DPEP districts continue to be higher than the non-DPEP districts. Further efforts are required to raise the literacy level of population in the DPEP districts.

The recent efforts under DPEP in the low literacy districts are also leading to a positive improvement in educational status of the girls and other backward communities. In the coming years, the newly launched program of SSA would be implemented in the remaining districts of the state. Plans for universalisation of elementary education

in the state as a whole are under preparation, which would be supported under SSA and DPEP.

The district primary education profiles as developed in DISE are presented in the Annex Table I to Annex Table VII. These tables provide cross-sectional and time series data on more than hundred variables at the district level. The Census is yet to provide estimates of the rural and urban literacy rates for 2001. The progress made by various educationally backward states is quite evident from Table 3, which would be fully reflected in 2001 census results.

Tamil Nadu Trends in Enrolment

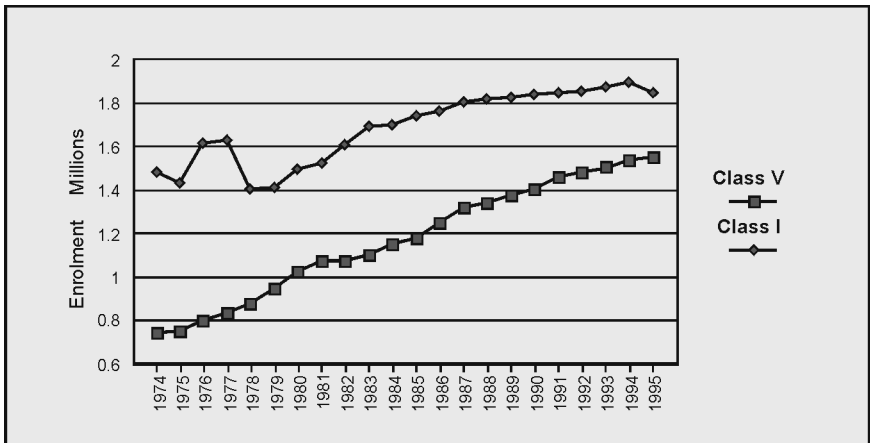


Figure 3

The data on Grade enrolment for Tamil Nadu was analyzed from 1973 to the latest year for which such data was available, i.e. 1995. Figure 3 presents the trend of growth of enrolment for Grade I and Grade V. There seems to be some data related problem for 1993 which showed a dip in enrolment for both Grade I and V. Figure 3 clearly shows that the enrolment at Grade V has increased faster than the enrolment at Grade I, thus showing a considerable improvement in the retention indicators.

In absolute terms, the primary Grades enrolment increased at a rate of 1.95 percent per annum during the 1973-74 to 1992-93 period. The corresponding growth rate for the upper primary was 4.3

percent per annum. In 1973-74, the Gross Enrolment Ratio (GER) was 120.3 and 91.6 percent for boys and girls respectively which increased to 146.6 and 132.7 percent in 1992-93. The share of girls increased from 43.4 to 46.2 percent during the same period.

Using the conventional method, the ratio of class V enrolment at time (t+4) to class I enrolment at time 't' was calculated. This ratio tells us the proportion of children who reach Grade V in the prescribed period (Figure 4). It does not make any adjustment for repeaters in various grades due to non-availability of time series data on repeaters.

Tamil Nadu
% Children in Grade V to Grade I

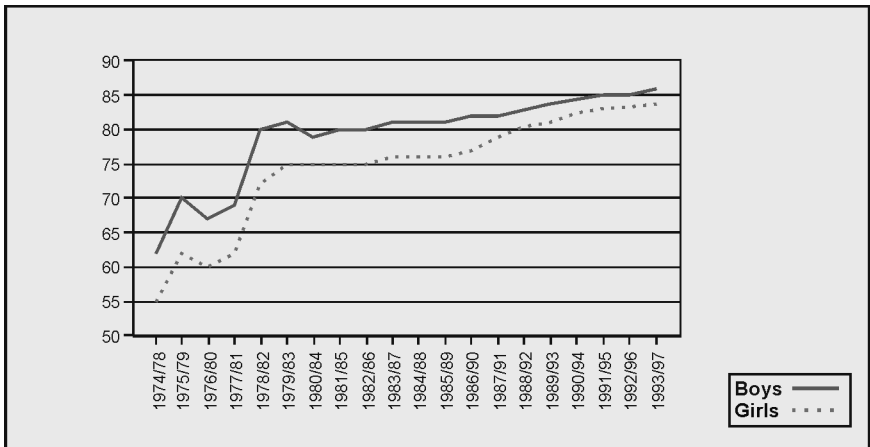


Figure 4

Two types of trends are clearly visible from figure 4. There has been a gradual improvement in the retention of children in primary classes. The proportion of boys and girls reaching Grade V (survival rate) has increased from 62 and 55 percent respectively for the cohort beginning in 1974-75 to about 86 and 84 respectively for boys and girls for the recent most cohort. Moreover, the gap between boys and girls survival rates has also decreased. In the seventies, there was a sharp increase in the proportion of children reaching Grade V and so is the case with recent years. During eighties, there was not much improvement in the survival rate. Thus, the rapid increase in retention rate during nineties shows a further consolidation of the system causing a significant improvement in the internal efficiency

of schooling at primary stage especially those of girls. The losses in enrolment between Grade 1 and Grade 5 are due to emigration, dropout and high repetition rates. The long-term trend is quite positive.

The foregoing analysis highlights major achievements in areas of access and retention in the state. Besides rapid increase in enrolment, the evidence from the Census 2001 data and NSSO surveys shows significant improvements in the area of elementary education.

Chapter 2

School and Pupils Profile

The second chapter describes the profile of Grade I learners in terms of age, caste and school characteristics. Schools established after 1994-95 as a part of the DPEP or otherwise were excluded, as the full cohort from such schools was not complete at the time of the survey.

2.1 Grade I enrolment profile

Grade I enrolment in a school is a function of the settlement structure and population density in its catchment area. A school in a large village/habitation will have large number of children in Grade I as compared to a small isolated village. In Tamil Nadu, catchment areas of all primary schools has been demarcated and each school maintains a register of all children in 0-14 years age group. These records are used for enrolment drives every year and are updated annually. These records are used for determining the intake at Grade I level. The sixth All India Educational Survey shows that practically whole of rural population was served by a primary school/section within a distance of 0.5 kms. It is therefore, considered that school access is not a major policy issue in DPEP districts in Tamil Nadu. However, the adequacy and quality of facilities remains a matter of concern. DISE is the only information management system which captures data on school facilities and condition of classrooms on yearly basis. Table 4 shows the distribution of schools based on Grade I enrolment (September 1994).

Majority of the schools in DPEP districts had 20 or less than 20 students in Grade I at the beginning of the cohort. One-fourth schools had 12 or fewer students in Grade I in 1994-95. The districtwise situation varies a little with Villupuram district having the largest mean enrolment and Pudukkottai having the lowest mean for Grade I enrolment. Due to small intake in most schools, the school size remains small. About 19 percent schools in 1999-2000 had less than 50 students

Table 4
Distribution of schools by number of Grade I students, 1994-95

Number of Grade I students	Cuddalore	Dharmapuri	Pudukkottai	Ramanathapuram	Villupuram	Thiruvannamalai	Perambalur	Total
0-10	14.3	14.7	27.0	30.0	12.4	17.5	17.2	18.2
11-20	32.5	33.1	36.9	35.8	29.1	30.1	30.8	32.4
21-30	22.4	23.0	18.2	14.5	24.0	20.5	20.4	20.9
31-40	13.0	12.2	6.0	6.8	12.8	12.7	11.3	11.0
41-50	8.2	6.4	3.9	3.4	8.3	7.4	8.2	6.7
51-60	2.9	3.8	2.9	2.0	5.0	4.4	4.3	3.7
>60	6.7	6.7	5.0	7.5	8.4	7.4	7.7	7.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median	22.0	21.0	16.0	15.0	23.5	21.0	21.5	20.0
1st quartile	14.0	13.0	10.0	10.0	15.0	13.0	13.0	12.0
Mean	27.7	27.5	21.7	23.6	29.6	27.7	27.6	26.8

in primary grades. The corresponding value was higher in Pudukkottai and Ramanathapuram districts (Table 5). This has significant implications not only for the organization of teaching learning in the classrooms but also for the provision and maintenance of other facilities. The issues related to school effectiveness of small schools

Table 5
Distribution of government primary schools by number of students, 1999-00

District	Distribution of schools by number of students							Total
	1-25	26-50	51-75	76-125	126-175	176-250	Above 250	
Cuddalore	0.6	11.1	20.3	30.2	17.6	12.3	7.9	100
Dharmapuri	1.2	13.6	22.4	30.1	15.2	9.4	8.0	100
Pudukkottai	3.7	24.8	26.8	27.5	8.7	3.6	4.8	100
Ramanathapuram	4.1	31.8	28.6	20.4	6.6	4.1	4.4	100
Villupuram	1.0	11.1	16.9	28.2	17.9	15.2	9.6	100
Thiruvannamalai	2.6	17.6	20.6	27.7	15.8	8.8	6.9	100
Perambalur	1.3	16.8	17.8	29.7	13.4	9.1	11.9	100
Total	1.9	17.0	21.7	28.1	14.2	9.4	7.7	100

Source: DISE data, DPEP, Tamil Nadu, 1999-00.

have not been examined in detail. A study of small schools for the state of Assam had highlighted various issues facing the small schools¹.

A primary school with small student strength will hardly be able to sustain and attract the resources it requires to compete with large size high quality primary schools. Teachers in small schools will be able to function effectively only if they are trained in latest techniques for handling small and diversified group of children and have the skills to handle multi-grade classes².

The distribution of government primary schools shows that 13 percent of schools in DPEP were single teacher and another 40.5 percent had two teachers (Table 6). In rural areas, the teachers handle a large number of first generation learners as compared to urban schools.

The job of teaching is far more complex in remotely located schools due to heterogeneity of learners, inadequate and poor quality of school facilities, lack of interaction with peer group, inability to seek assistance from the educational administrators and isolation due

Table 6
Distribution of government primary schools by
number of teachers, 1999-00

District	Number of Teachers						Total
	1 or no teacher	2	3	4-7	8-10	>10	
Cuddalore	8.0	35.2	24.3	27.9	2.6	2.0	100
Dharmapuri	19.8	35.5	27.3	13.8	1.9	1.6	100
Pudukkottai	18.7	51.0	19.8	8.2	1.7	0.5	100
Ramanathapuram	20.3	51.2	13.6	11.7	1.8	1.5	100
Villupuram	6.4	37.3	26.4	26.6	2.0	1.3	100
Thiruvannamalai	9.4	40.4	24.1	21.8	3.2	1.1	100
Perambalur	2.7	40.8	21.9	25.7	7.4	1.6	100
All districts	13.0	40.5	23.6	19.0	2.6	1.4	100

¹ Aggarwal Yash (1997). *Small Schools: Issues in Policy and Planning, NIEPA Occasional Paper No. 22*, NIEPA, New Delhi.

² Aggarwal, Yash (1997). *Small Schools: Issues in Policy and Planning, Occasional paper No. 23*, NIEPA, New Delhi.

to poor connectivity. The rural areas do not get good quality teachers as the more experienced teachers are either shifted to urban areas or they seek transfers to urban and semi-urban areas. State policies also encourage the deployment of freshly appointed teachers into rural and more difficult areas. To what extent such a policy has served the objectives of improving the quality of rural schools? Is this policy justified in the light of poor performance by the rural and isolated schools? Should more experienced teachers not teach those students many of whom happen to be slow learners and children with special needs? In view of these considerations, the policy on deployment of newly recruited teachers needs a review.

Using the DISE database for 1999-00, 164 government primary schools with 25 or fewer children were identified. One fourth of these schools (41) were in Pudukkottai district. None of these schools had girls toilet, three had general toilets and only seven had boundary wall. Many of these schools were found to be without teachers or awaiting the arrival of a new teacher. This type of situation calls for a special approach to quality improvement efforts in small schools. These schools need the dedicated and committed teachers more than any other category of school. It also needs to be seen as to what extent the DPEP benefits like civil works, teacher training and pedagogical reforms have affected the quality of infrastructure in small rural schools. The CRF by school size would be examined separately to highlight the need for special reforms in the small schools.

2.2 Transfer cases

The school is an open-ended entity and students often migrate from one school to another, from public to private and from private to public school system for various reasons. Students are also admitted to various grades directly based on affidavit provided by their parents and after fulfilling some other preconditions specified by the department from time to time. Transfer certificate is sought by students who leave the school and wish to either join some other school or discontinue the studies. Although, the enrolment stabilizes by the end of the first quarter of an academic session, the schools continue to admit the students during the whole academic session. In the present circumstances, it is difficult to determine whether the students

after obtaining transfer certificate actually joins some other school or not. The child may be migrating to a far off place and hence is difficult to track. Therefore, the transfer cases were excluded from the present analysis.

2.3 Gender distribution of Grade I learners

It is generally believed that the participation and retention rates are lower for the girls as compared to boys and dropout rates are higher among the girls as compared to boys. These differences emerge due to various social and economic reasons. The distance at which the school is located also affects the participation rate of girls especially in upper primary grades. It was therefore decided to examine the share of girls to total enrolment at the school entry stage and then the progress of boys and girls from one Grade to another was compared.

While the share of girls to total enrolment in Grade I varies from one block to another, the overall share of girls in the DPEP districts was 48.3 percent (Table 7). The overall share of females in the population was 49.3 percent. This shows the near absence of gender inequities in the participation rate at the beginning of primary education cycle.

However, there were some blocks for which the share of girls was significantly lower than boys (Figure 5). Overall, adjustment may be required due to variations in sex ratio among the children in school going age group. Coastal areas have better participation of girls than many of the interior blocks.

Table 7
Share of girls in Grade I enrolment, 1994-95

District	% Girls in Grade I
Cuddalore	49.9
Dharmapuri	47.0
Pudukkottai	48.7
Ramanathapuram	48.4
Villupuram	48.0
Thiruvannamalai	48.6
Perambalur	48.0
Total	48.3

Tamil Nadu : DPEP Districts Percentage girls to total grade I enrolment

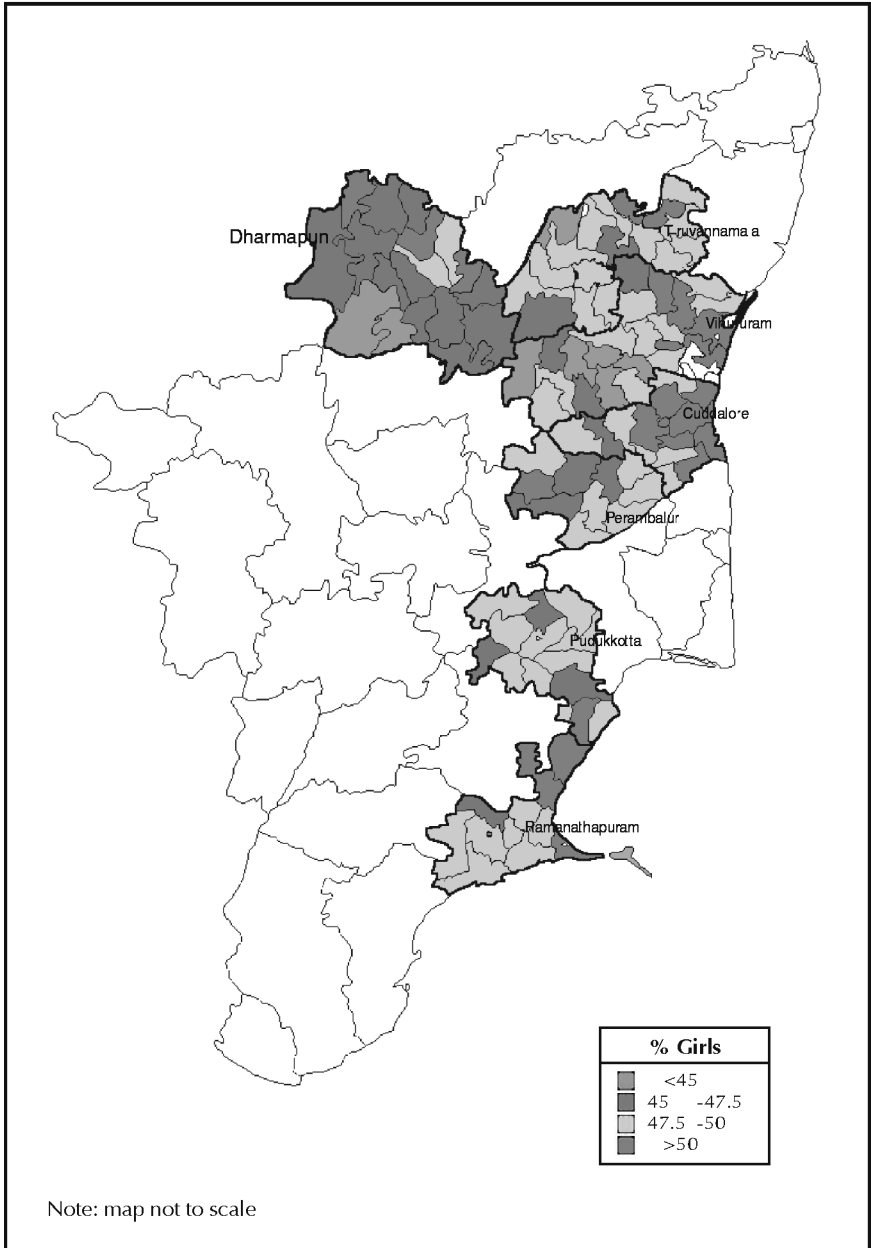


Figure 5

Table 7 show only the share of girls among the children in school and it does not mean that all eligible children of the respective age groups are enrolled. Intake rate is used to measure the extent of participation. As a part of the DPEP strategy, along with the identification of out-of-school children, steps are being taken to provide easy access to working and out-of-school children by opening alternative schools and special schools for the working children. Some children are also attending private unaided schools (called nursery schools). However, no reliable database on the number of children attending nursery schools has yet been established at the state or the district level. A comparative analysis of household data and enrolment in recognized schools shows that a substantial number of children are attending private schools. The situation varies from district to district.

2.4 Distribution of Grade I learners by social groups

In Tamil Nadu, besides the SC and ST classification of population groups, the population is also classified into Backward Classes (BCs) and Most Backward Classes (MBCs). The MBCs are considered socially and economically more backward than all other caste groups. The residual population is classified into 'General' category, which forms a small proportion of the total population. Table 8 provides the distribution of Grade I students by community group.

Overall, 27.9 percent of Grade I pupils belonged to SC, 28.1 percent to OBC and 40.8 percent to MBCs. The share of ST population

Table 8
Distribution of Grade I students by community group

District	SC	ST	OBC	MBC	General	Total
Cuddalore	37.5	0.9	16.8	43.6	1.2	100
Dharmapuri	18.4	3.1	26.4	50.2	1.9	100
Pudukkottai	21.0	0.1	43.7	34.4	0.6	100
Ramanathapuram	22.2	0.1	51.8	25.5	0.4	100
Villupuram	36.1	2.4	19.1	41.6	0.7	100
Thiruvannamalai	27.8	4.5	26.4	39.9	1.4	100
Perambalur	29.8	1.2	28.8	39.4	0.8	100
Total	27.9	2.1	28.1	40.8	1.1	100

Table 9
Index of social equity for SC students

District	% SC in population in 1991	% SC in Grade I enrolment in 1994-95	ISE (Index of Social Equity) ³
Cuddalore	36.4	37.5	103.0
Dharmapuri	15.1	18.4	121.9
Pudukkottai	16.8	21.0	125.0
Ramanathapuram	18.1	22.2	122.6
Villupuram	NA	36.1	@
Thiruvannamalai	27.1	27.8	102.6
Perambalur	NA	29.8	@

@ Not computed due to non-availability of data.

and those belonging to 'General' category was very low. Generally, the share of SC children in the sample was more than their corresponding share in the total population of the district (Table 9). The share of MBCs was highest (76.5 percent) in Nallampali block of Dharmapuri district and practically nil in Jawadhu Hills. The Human Development Index was found to be the lowest for the Dharmapuri district⁴. Similarly, the share of SC children was highest (49.2 percent) in Nallur block of Cuddalore district and lowest (4 percent) in Kalrayan Hills of Pudukkottai district.

2.5 Age distribution of Grade I learners

While the prescribed age of entry to Grade 1 is 5 years, the age distribution of learners shows large variations from district to district (Table 10). Overall, 86.6 percent of pupils in Grade I were of five year old and another 11.6 percent were six year old. There were very few pupils of 7 years and above age group. The share of five-year old children varied from 92.6 percent in Dharmapuri to 76.8 percent in Ramanathapuram district. Some block level deviations were also observed. However, it is apparent that the proportion of overage children in Grade I ranges from 7.4 to 23.2 percent.

³ See, Aggarwal, Yash (2000). DPEP 2000 : *An Assessment of Trends in Access and Retention*, NIEPA, New Delhi

⁴ The Planning Board of the state has computed the HDI for all the districts of the state.

Table 10
Distribution of Grade I learners by age at entry

Age at entry	Cuddalore	Dharmapuri	Pudukkottai	Ramana-thapuram	Villupuram	Thiruvannamalai	Perambalur	Total (Rows)
5	85.4	92.6	84.6	76.8	82.7	91.7	87.4	86.6
6	12.3	6.2	13.3	21.3	14.1	7.3	11.6	11.6
7	1.7	0.9	1.5	1.5	2.0	0.7	0.9	1.3
8	0.3	0.2	0.3	0.3	0.5	0.2	0.1	0.3
9	0.1	0.1	0.1	0.0	0.2	0.1	0.0	0.1
10	0.1	0.0	0.1	0.0	0.2	0.0	0.0	0.1
11	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
>=13	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Summing up the learner's profile, it was observed that most of the children enter school at the age of five and there are large spatial variations in the community composition of Grade I learners. Most of the schools in the study area were small and hence many schools were single teacher schools. The average enrolment per school was 26.8 in Grade I. The corresponding median value was 20 students thus indicating that 50 percent schools had 20 or fewer students in Grade 1. The share of girls to total enrolment in Grade I indicates the near absence of gender disparities but there are certain pockets where the participation rates of girls are lower as compared to that of boys.

Chapter 3

Completion Rates

Theoretically, CRF can attain a maximum value of 100. However, in reality the value is far less due to grade repetition and dropouts. Figure 6 presents a hypothetical example to explain the relationship between promotion rate and CRF. For example, if a promotion rate of 90 percent is assumed for each class as well as for the final examination at the end of Grade 5, the value of CRF would be 59.05 percent. This implies that even at a 90% promotion rate in each class, only 59.05 percent children will be able to complete primary education in five years period. Similarly, the CRF drops to merely 32.77 percent if the promotion rate of 80 percent is assumed for each primary class, including the final examination.

The above example does not capture the effect of those children who might complete the primary education in more than five years. This will depend upon the number of repeaters and the promotion rate among the repeaters. If no repetition is assumed in any grade, then there will be no effect on the value of the CRF.

Hypothetical relationship between CRF and promotion rate

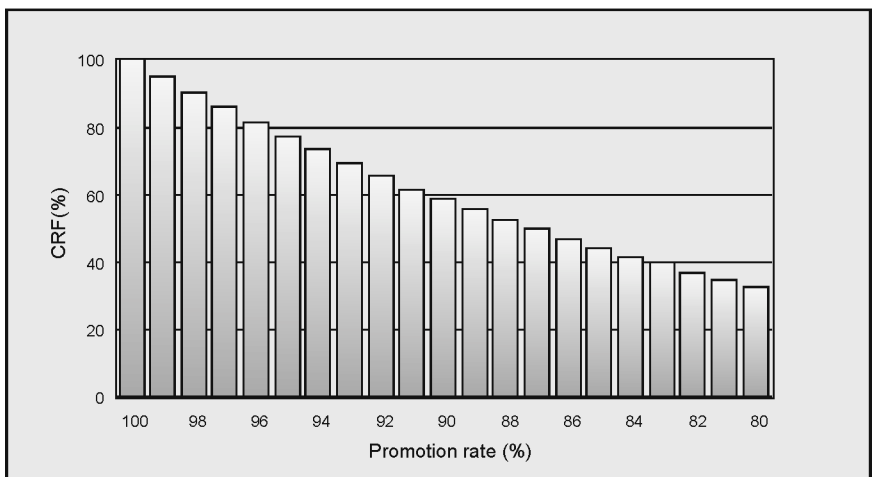


Figure 6

3.1 Overall performance levels

The data shows that the chances that a child admitted in Grade I would remain in the school for five years are very high. This has been defined as the holding power of the educational system. *The holding power of the educational system was about 82.4 percent in DPEP schools.* 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 11). While there is still a scope for reduction in dropout rates in some districts, the retention of children in the educational system is not a major issue even in some of the educationally backward districts of Tamil Nadu. The efficiency of the system can be further improved by identifying schools where the retention is poor or the dropout rate is high.

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. Tracking the cohort, it was observed that those retained for five years were in different Grades (Table 12). Of all the children retained in the school system for five years, as many as 28.5 percent could not reach Grade 5. A large share of the children (an average of 23.5 percent) repeated once in their educational career of five years and could reach only Grade 4 instead of Grade 5. Surprisingly 4.1 percent children could reach only Grade 3 in five-year period. Which

Table 11
Percentage children retained for five years

District	Number started in Grade I	% Retained for five years	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

Table 12
Distribution of children retained for five years in
different grades

District	Studying in Grade I	Studying in Grade II	Studying in Grade III	Stuyding in Grade IV	Stuyding in Grade V	Students retained for five yr.
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

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 mount remedial measures to ensure that their progress is not jeopardized due to poor teaching learning conditions in the school or due to the neglect of studies at home. Overcoming these constraints would result in considerable improvement in CRF. In four out of a total of seven DPEP districts, at least one out of four students has stagnated for one year. All the Phase II districts fall in this category.

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.

The third aspect related to the examination results of all children who remained in the system for five years. Many children in the fifth year of study were not in Grade 5 but could reach only Grade 4 or even lower. How did these children perform in the end term annual examination (Table 13)?

Table 13
Examination results (Pass percentage) of children after
five years of study

District	Examination result in Grade				
	I	II	III	IV	V
Cuddalore	6.8	19.8	59.6	66.5	93.9
Dharmapuri	34.5	48.1	73.9	77.7	93.2
Pudukkottai	0.0	37.6	47.1	67.1	92.6
Ramanathapuram	100.0	68.6	81.1	84.0	92.2
Villupuram	87.9	67.3	70.6	76.7	94.2
Thiruvannamalai	41.7	55.1	60.6	62.7	94.1
Perambalur	23.1	50.9	66.4	75.1	91.7

Note: These results pertain to grades in which students studied during five years of stay in the same school.

The examination results of repeaters were poorer than non-repeaters. Table 13 shows that the chances of a repeater passing an examination are inversely related to the years of repetition. Thus higher the repetition, the lower are the chances of passing in the examination. On the basis of this evidence, it may be hypothesized that repetition is essentially related to poor learning. For example, 91.7 percent of all children who reached Grade 5 in five years were able to pass the final examination as compared to the corresponding figure of 75.1 percent for those children who were able to reach grade 4 in the fifth year of their study. It is important to highlight that repeaters had remained on the school rolls despite poor performance or because of their inability to attend school regularly. One of the reasons could be the lack of interest in studies and indifferent attitude of the teachers to provide guidance, counseling and remedial coaching to such students. Some students may also be irregular in attending school but their names are not struck off the school record. Both the factors need remedial action on the part of school heads. The NSSO data on children attending schools highlights 'not interested in studies' as a major factor responsible for school dropout. Is it also true of the repeaters?

One of the inefficiency identified in the above analysis 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. Due to data constraints, it is not possible to further isolate the repeaters into long-term absentees and failures. It is necessary that each school should examine its situation with respect to these parameters.

The state government has also to take some decisions, especially with respect to enrolment audit. There is no point in showing long-term absentees as enrolled. The schools should maintain a special register for those students. The names of children who remain continuously absent for more than prescribed number of days should be removed from the enrolment register. The cut-off date should be 31st August of each year so that when the data is recorded on 30th September, such students are excluded from the number of enrolled children. The enrolment status of long absentees should be activated only after the child returns to school within the same academic session and attend school regularly till the end of the academic session. The state has also to evaluate the implications of enrolment audit on the off-take and distribution of incentives. Since many incentives are related to enrolment/attendance, the enrolment audit would also help in controlling the malpractices associated with the distribution of incentives to students who are irregular in studies. Evidence from various states suggests that teachers are forced to report higher attendance to gain access to incentives like attendance scholarships and mid-day meals.

Following the above analysis, the CRF was calculated for all districts (Figure 7).

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.

Tamil Nadu : CRF by DPEP districts

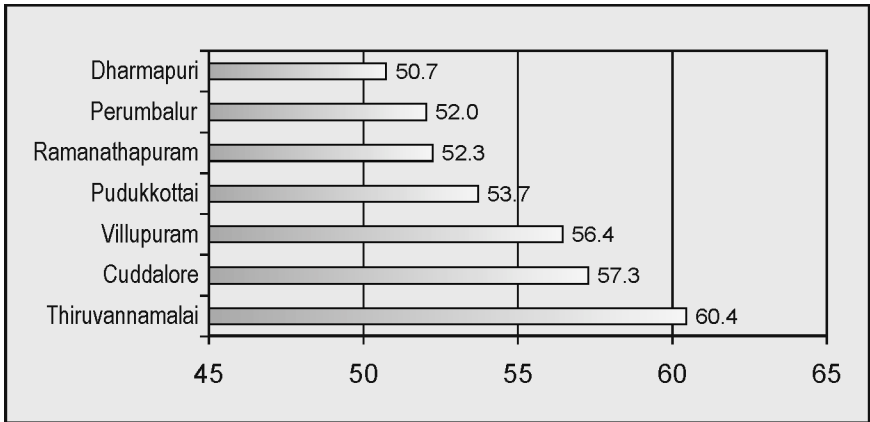


Figure 7

3.2 Differentials in Completion Rate (CRF)

The value of CRF varies considerably from one situation to another. The CRF was calculated for the following situations:

- a) CRF for Phase I and II districts
- b) Gender differential in CRF
- c) Community level differentials in CRF
- d) Differentials in CRF due to school management
- e) Differentials in CRF due to age of the learners at the time of entry
- f) Differentials in CRF due to the type of school in terms of the number of teachers (single teacher and multiple teacher schools)
- g) CRF for rural and urban schools
- h) CRF by school category
- i) CRF for schools with and without preprimary section in the school
- j) CRF for schools having facilities like boundary wall, toilets etc as compared to schools without such facilities.

Figure 8 shows these differentials graphically. The data on CRF corresponding to above variables is presented in Annex Table VIII. Some important results are discussed below:

The starting point in the disaggregated analysis was the differentials in CRF in DPEP II districts and I. Phase I districts had

Completion Rates : DPEP Tamil Nadu

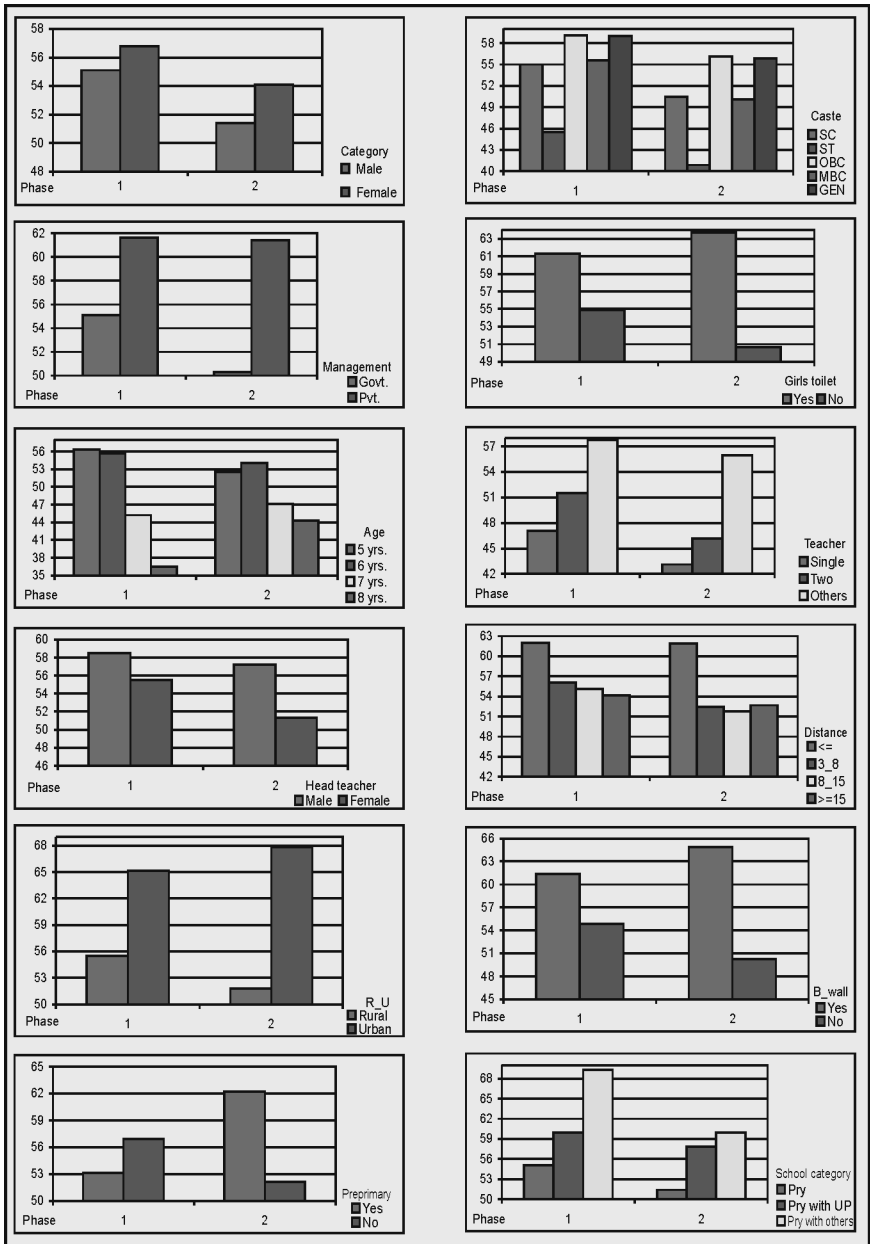


Figure 8

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 Phase I districts. Despite

higher literacy rates, the low completion rates in both the districts were a matter of concern.

The *gender differences* in CRF were also pronounced, 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 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 completing primary education is significantly and negatively associated with age. 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

¹ Aggarwal Yash (2000). *Ibid.*

or six years. This phenomenon has also implications for the organization of teaching and 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. More important would be to develop some bridge courses before such children are integrated with the regular classes. Special instructional materials may be required to address the pedagogical needs of such learners.

The *number of teachers* in a school were 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 is 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 teachers 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 upgradation 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 was 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 underserved 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 reform packages. 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 but not a sufficient condition for improving retention and hence the internal efficiency of the 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 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. Another 18.6 percent in upper primary schools and the remaining 0.4 percent in primary sections of high and higher secondary schools. 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 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.

3.3 School level CRF

While it is difficult to define a primary school, it is generally viewed as an organized meeting place for the learners and teachers on regular basis. A primary school is also the lowest level of formal institutional

structure that the education department manages. Schools have been classified in terms of various characteristics. For example, schools are classified in terms of rural-urban, number of teachers, with or without a particular type of facility, with or without adequate teaching learning materials, with or without adequate number of teachers and schools under different types of management. All these factors are associated with school effectiveness. Most of the educational inputs provided by the government relate to the school as the unit of distribution/management. Ideally no discrimination should be exercised in the provision of these facilities but the reality is different. The logic is that the resources are scarce and have to be distributed judiciously. The counter argument is that denial of certain facilities to rural and small size schools is discriminatory in nature, especially when such discrimination is perpetuated in more than one way. Therefore, improving the school characteristics in terms of efficiency (internal and external) should be an important aspect of educational reforms process with a focus on rural schools. Many states have developed various indicators for classification/ranking of schools. Commonly used indicators like PTR, SCR, availability of facilities and examination results. All these indicators relate to provision of inputs. While such classifications have yielded some preliminary indications of school effectiveness, but have failed to link efficiency indicators with accountability and reward system. The present study presents another important characteristics for ranking of schools, i.e. the completion rate.

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 14). These are extremely poor performing schools and can be put under special watch scheme to provide

Table 14
Distribution of schools by CRF

District	CRF category					Total	Number of Schools
	0-30	30-45	45-60	60-75	75-100		
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	

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 were studying in these schools. These schools can be classified as high performing schools. A suggestive classification of schools based on CRF is indicated in Table 15.

Table 15
Classification of schools by efficiency criterion based on CRF

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

It may be important to find the factors associated with low performance of schools, especially those falling in D and E category. Of the total schools, 16.1 percent got classified into E category and another 20.5 percent in D category. The total number of schools falling under category D and E was 3,593 (36.6 percent). Is it because of teachers' non-availability, vacant posts, inaccessibility to educational administrators or the poor performance of pupils and due to some special characteristics of the school. 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 16 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 should be identified as resource teachers and

Table 16
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	2,540	25.9
D	60-75	2,056	21.0
E	>75	1,624	16.5
	Total schools	9,825	100.0

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.

3.4 Spatial patterns of CRF

The preceding sections described the patterns of CRF at the district and the school level. Since most of the educational programs are implemented at the district/block level, the block acquires a unique significance. With the emphasis on decentralization, the focus should gradually shift to district and block level planning using bottom up approach. It is expected that the administrative emphasis on block level planning would continue in the years to come. It is therefore necessary to understand the spatial patterns of CRF by educational blocks. As mentioned above, there were 112 educational blocks in the DPEP districts, which included the urban areas as well. Each urban area/municipality was considered as a separate unit. The CRF was calculated at the block level for the following components:

- a) CRF for boys
- b) CRF for girls
- c) CRF for SC students
- d) CRF for MBC students
- e) Ratio of Girls/Boys CRF

The spatial distribution of block level CRF for the above components of population are presented in Figure 9-13. The general conclusions emerging from the spatial analysis are discussed below.

There are very few blocks where the CRF was more than 60 percent. These are quite dispersed along the Phase I districts. Many blocks in Phase II districts have lower completion rate for all segments of population. Similar trends emerge from the spatial dispersion of CRF for the SC and MBC communities.

There are many other factors which directly and indirectly influence the performance of the children. The reasons for high dropout and repetition are generally known to school teachers. Notwithstanding

Tamil Nadu : DPEP Districts
Completion rate : Boys

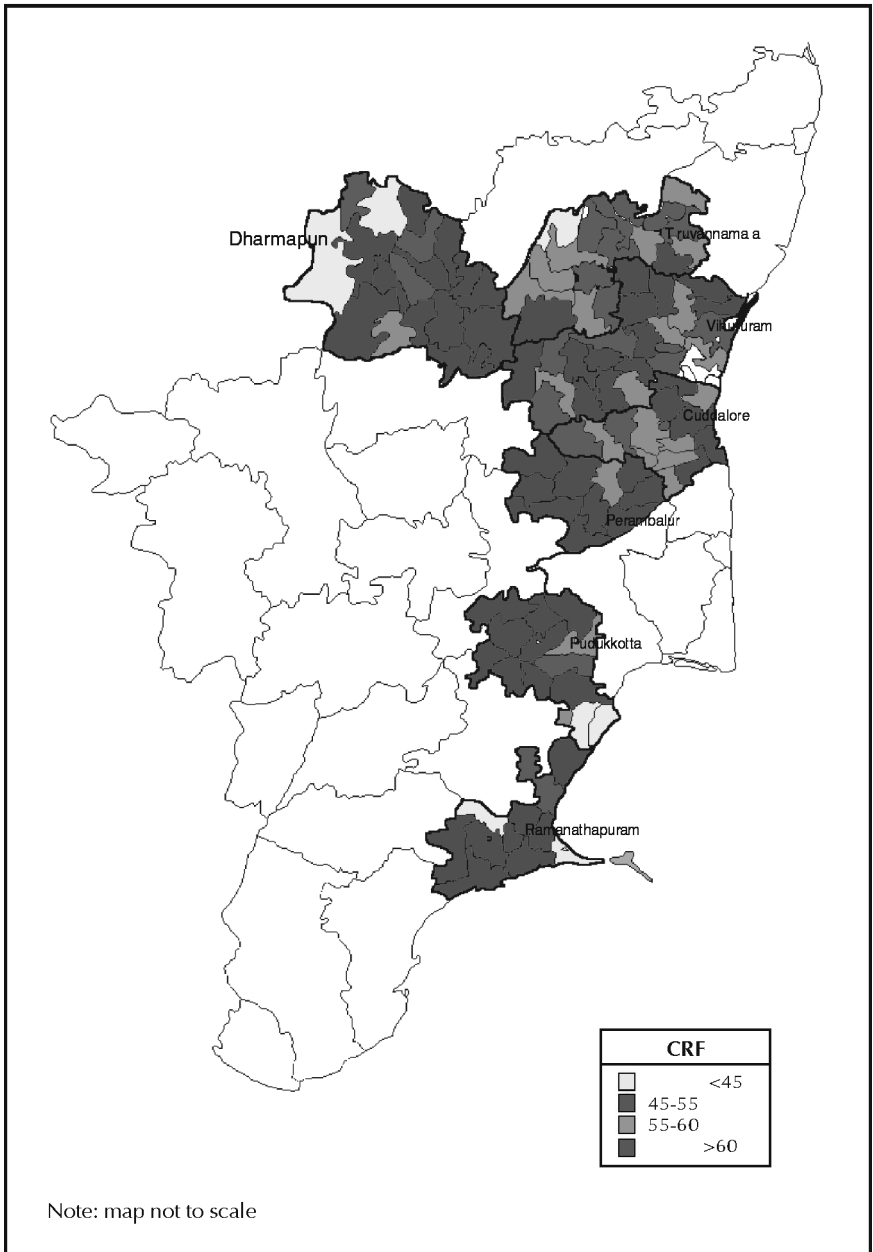


Figure 9

Tamil Nadu : DPEP Districts
Completion rate : Girls

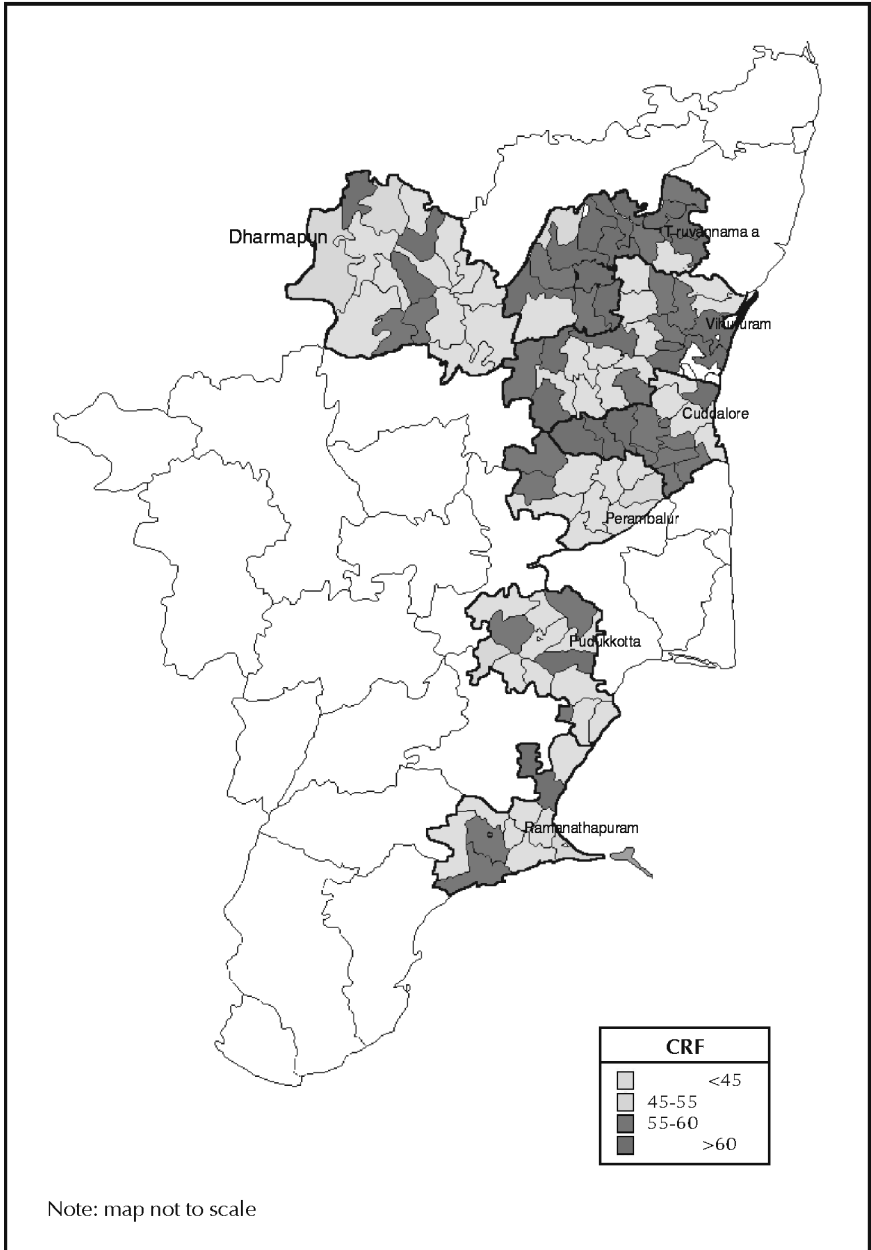


Figure 10

Tamil Nadu : DPEP Districts
Completion rate : SC students

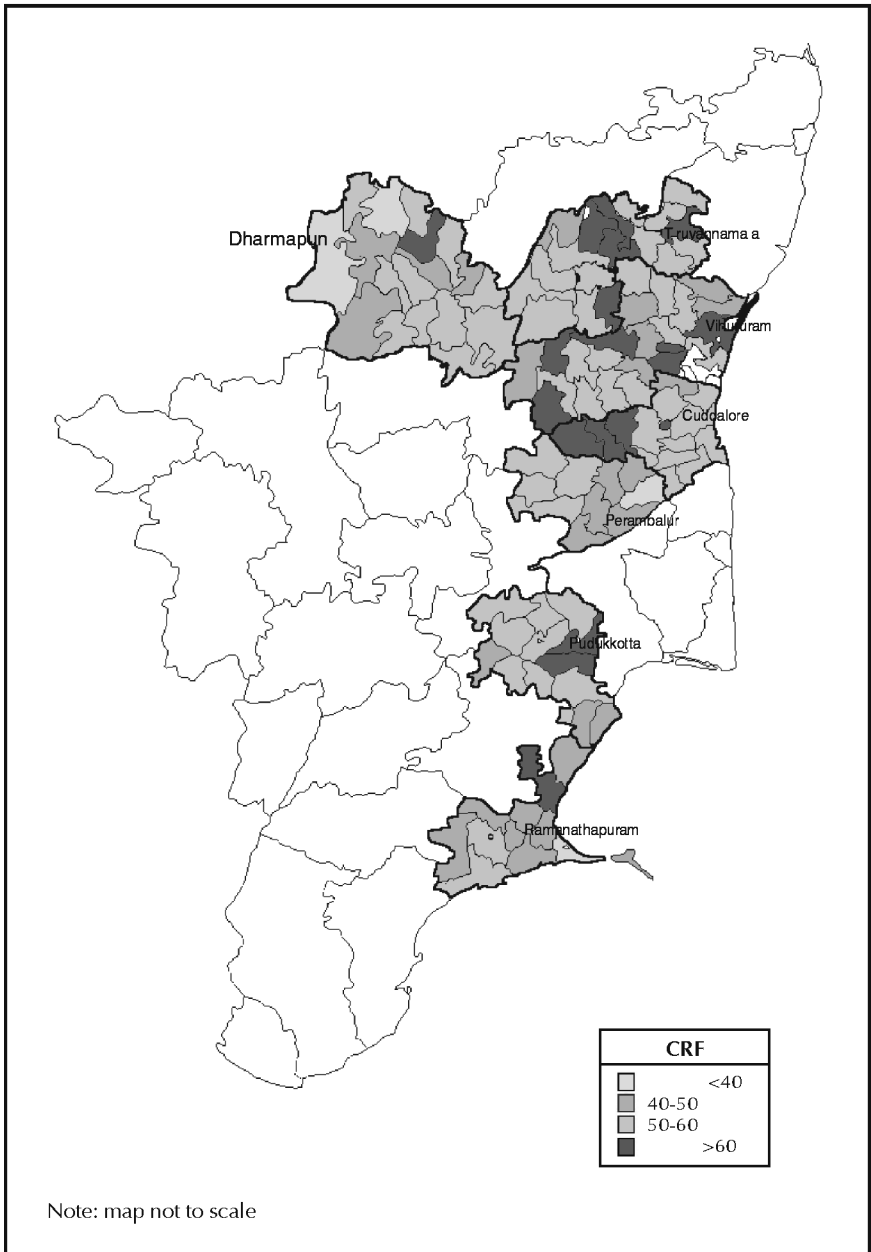


Figure 11

Tamil Nadu : DPEP Districts
Completion rate : MBC students

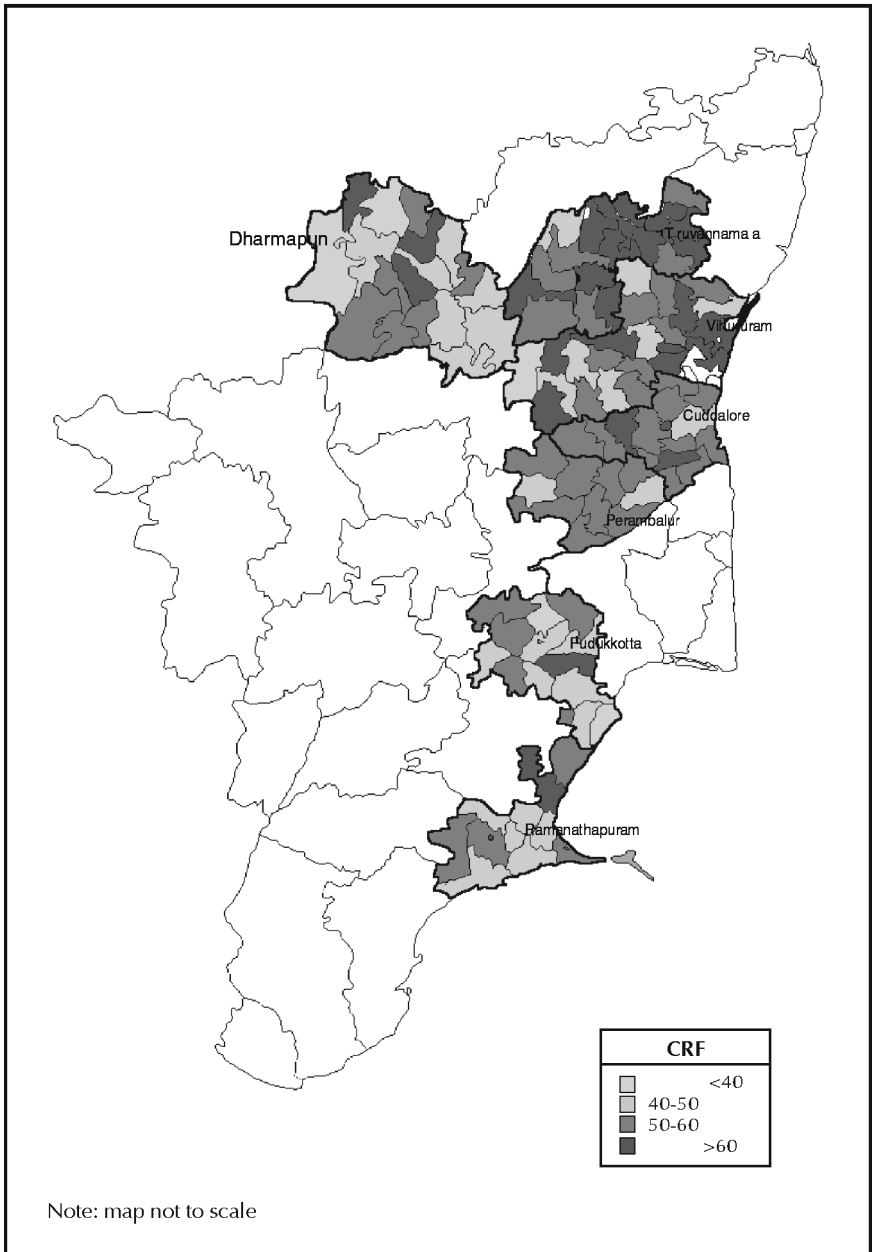


Figure 12

Tamil Nadu : DPEP Districts
Completion rate : Gender parity ratio

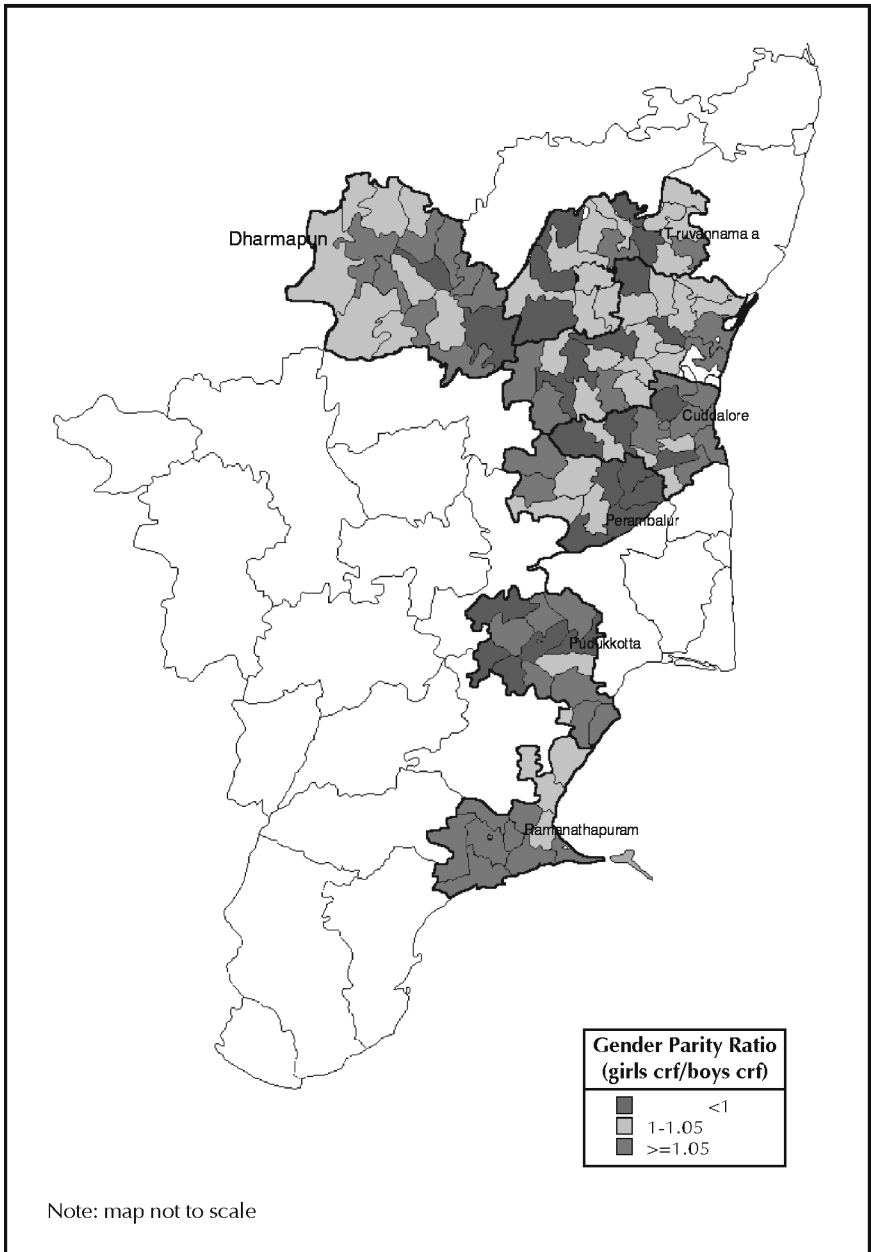


Figure 13

these factors, the school is primarily responsible for the education of children when they attend school on day to day basis.

While the overall educational scene in the district/block may have some correlation with CRF, it is essentially related to the school. Therefore, the focus of educational reforms should shift from the spatial aggregates like cluster, block and district to that of each school. The analysis has also shown that the girls had better CRF as compared to the boys in the study area. Thus, the girls not only enter the school at the appropriate ages but also show higher completion rate as compared to boys in most of the educational blocks. The gender disparities and discrimination for the girls education is not an area of concern in Tamil Nadu.

Chapter 4

Cohort Dropouts and Repeaters

4.1 The malaise of grade repetition and dropout

The children who do not successfully complete the primary education cycle in five years would have either left the school system (dropout) or may be repeating in one or the other Grade. In the case of dropouts, it is important to trace their educational profile in terms of the Grade at which they left the school. A child, who leaves the school after completing Grade III/IV is likely to retain some literacy and numeracy skills as compared to a child who drops during the first or second year of schooling. In order to ensure that no child is left out of the mainstream education, many programs have been implemented in different states. Some programs are also supported by the central government in the form of centrally sponsored schemes¹. Alternative schools under DPEP and NFE centres in many parts of the country have been established to provide flexible educational facilities for the out of school and dropout children in 6-14 age group. Therefore, some dropouts may even return to the mainstream schools through alternative modes of education but the chances of this happening are low in the present circumstances, and even if they do, the data is hardly available from the state and the central government's department of education.

The repeaters, if they remain in the system, will spend more than the required number of years to complete the primary education. Some repeaters might complete the primary education in six or seven years instead of five. Some may even take longer. Some repeaters might leave school (dropout) without completing primary education after spending a few extra years in the school. How much time various types of repeaters take to complete primary education, or leave the system without completing it, is not known. The reconstructed cohort

¹ The state governments receive a package for implementation in critical areas of human resource and infrastructure development. The package may either be 100 percent assistance to the states or on sharing basis between the central and the state governments.

and other similar models assume that the promotion rate for repeaters is the same as for the general students. While theoretically this may sound plausible but in practice it is not true. Repeaters, by its very nature, are likely to have higher dropout rates than others. The students-flow analysis presented in the study indicates that the chances of failure of a repeater are higher than the non-repeaters. This evidence strikes at the roots of the basic assumption in Reconstructed Cohort Method. Therefore, in reality, the calculation of average years required to complete the primary education using reconstructed cohort method does not hold good. Similarly, the efficiency or the input-output ratio derived from reconstructed cohort method may be misleading.

Since the present study traces all the students of a cohort for five years, it would be possible to determine the progress of repeaters within the five-year time frame. What is actually calculated in the present analysis is that how much time the repeaters have wasted in five years of education. It is quite possible that a repeater will have wasted one, two or three years during the five years of stay in the school. The study would also identify the Grade at which the child first repeated. This evidence would be crucial for educators for development of curriculum and design of instructional materials.

From the educator's point of view, the implications of dropout and repeaters are of different types and call for strategic interventions of different nature. While dropout is a social phenomenon and the solutions may partly lie outside the school system, the Grade repetition has to be handled at the school level. Repetition may result due to long absenteeism from the school, poor academic performance or under achievement in one or more subjects. Repetition may also be due to the teacher's negligence of some students or learner's indifferent attitude to studies and other related factors. India is a country of contrasts with wide variations in language, culture, religion, social stratification and ethnicity. This is particularly true of multi-lingual areas. Studies have shown that many times, the students and teachers are not able to understand each others spoken language. The communication barriers between the students and teachers can impede the teaching learning processes. Therefore, what happens within the classroom, especially in small rural schools, considerably affects learning outcomes including repetition and dropouts. The classroom

observation studies undertaken as a part of DPEP have not addressed this question fully. The dropout rates are high among the government schools even when all the teachers are professionally qualified. The private school teachers are normally untrained teachers. Even then, their performance is better than their counterparts in the government schools. Why is it so? While there is a considerable research on the reasons for dropout and its social and economic correlates, there is hardly any evidence about the reasons for Grade repetition and its correlates. Since, the proportion of repeaters is large in many parts of the country; there is a need for extensive research on the factors affecting grade repetition². Most of the studies have shown that the main reasons for dropout are: 'not interested in education' and 'economic poverty'³. While interpreting the results of these surveys, particularly the NSSO findings, it should be noted that the reasons for dropout pertain to persons in 5-24 years age group and not separately for each level of education. While almost everyone leaves the educational system before the age of 24 years, the reasons for dropout at elementary stage may be different from those when students dropout at undergraduate/post-graduate level. Many other studies on the reasons for dropout are available. The main findings of dropout studies indicate that household poverty and not interested in education are responsible for dropout especially after the age of 9-10 years.

The pupils studying in government schools are not required to pay tuition fee but there are many other education related charges that the pupils or their families bear⁴. These include students activity fee, examination fee, games fee, textbooks, stationery and the expenditure on uniforms etc. Not all parents can bear these charges for each child in the family. Some parents discriminate between boys and girls educational needs. Boys are given preference over girls as far as school or for that matter even higher education is concerned. Even those who are eligible for some incentives do not get it in time

² The author has presented data on repeaters for the DPEP districts. For details see: Aggarwal, Yash (1998). *Access and Retention: The Impact of DPEP, A National Overview*, MHRD, New Delhi.

³ The 42nd National Sample Survey is the single largest database to examine the reasons for dropout.

⁴ Tilak, J.B.G. (1996). *How Free is Free Education*, Occasional paper, NIEPA, New Delhi.

as the supplies are erratic, uncertain and incomplete. The evidence also indicates that the parents tend to spend more on boys' than on the girls' education. The NSSO estimates of the per pupil expenditure vary significantly between the rural and urban areas. For the state of Tamil Nadu, the average expenditure per pupil at primary level was Rs.464, which was considerably lower than the all India average of Rs. 501 per pupil (NSSO, 1998). The lower per pupil expenditure for primary education in Tamil Nadu is due to the greater success of government schools and a streamlined system of procurement and distribution of incentives. Quite unlike Kerala, the presence of private schools are relatively smaller in Tamil Nadu. The average per capita income of the state is higher than the national average but per pupil household expenditure is lower as compared to states with similar per capita income. Thus, average families in Tamil Nadu are able to provide primary education to their children at a cost whose proportion in family income is much lower than many other states. This could also be one of the reasons for the success of primary education initiatives in Tamil Nadu.

Notwithstanding the above, the continuation of a child in the school in itself is an expression of the family's commitment for the child's education. Viewed in this context, poor academic performance or long-term absenteeism from the school are the two most important factors responsible for Grade repetition. It is in this context that the school has a larger role to play in reducing the repetition rate. Pupils who are likely to perform poorly can be detected at early stages of an academic session. Remedial or supplementary education can be arranged for such children. Special attention by the teacher may encourage such children to do well in studies and help restore their confidence in education. Similarly, if the attendance is monitored closely, the long-term absentees can be detected at an early stage and brought back to the school. The role of VEC or other voluntary agencies like *Mahila Samakhya* or parent teacher association etc., may be very important in reducing repetitions. Such efforts will avert a potential dropout or a repeater. The state of Tamil Nadu has also initiated a number of innovative practices to bridge the gap between the community and the school. One such effort is the appointment of village level volunteers who constantly interact with the school to find out the names of the absentees and contacts the parents to determine

the reasons for absence. In the process, counseling is also provided to parents on day-to-day basis. These type of reforms have also helped in improving school attendance.

In order to improve the survival rates, both the dropout and repetition have to be reduced to the minimum and both require different strategies. The external pulls and pressures on the child have to be reduced so that he/she can concentrate on studies. Along with these measures, improvements in school environment, teachers' availability and strengthening of classroom processes are equally important. Multigrade teaching, teachers' absenteeism and lack of instructional materials are other factors affecting the learning outcomes. The achievement studies conducted under DPEP highlighted the communication related problems between teachers and learners⁵. The mid term assessment (MAS) was conducted in 1997 for the class V pupils and it was found that learning achievement were still lower in two of the four districts covered under DPEP-I. The state has already initiated a number of activities to improve the learning achievement.

The above discussion clearly shows that dropout and repetition is a complex phenomenon and requires in-depth studies to identify the factors associated with each phenomenon. Equally important is the follow up action to strengthen the community school linkages. Notwithstanding this, an attempt has been made in the following paragraphs, to estimate the dropout and repeaters' rate for the cohort under study.

4.2 Cohort dropout rates

The foregoing students-flow analysis indicated that on the whole, 82.4 percent children beginning Grade I in 1994-95 were in the school after five years of study and the remaining 17.6 percent left the school without obtaining transfer certificate and hence were treated as dropouts. Large variations in dropout rates were observed for different groups of pupils and under different type of school conditions. It would be noted from the following discussion that the

⁵ Aggarwal, Yash (1995). *Learning Achievement Among Primary School Children in Karnataka*. NIEPA, New Delhi.

emerging patterns are similar to the ones discussed for CRF but there is no one-to-one correspondence. The differentials in dropout rates associated with some of these variables are discussed below (Figure 14).

Droupout Rate : DPEP Tamil Nadu

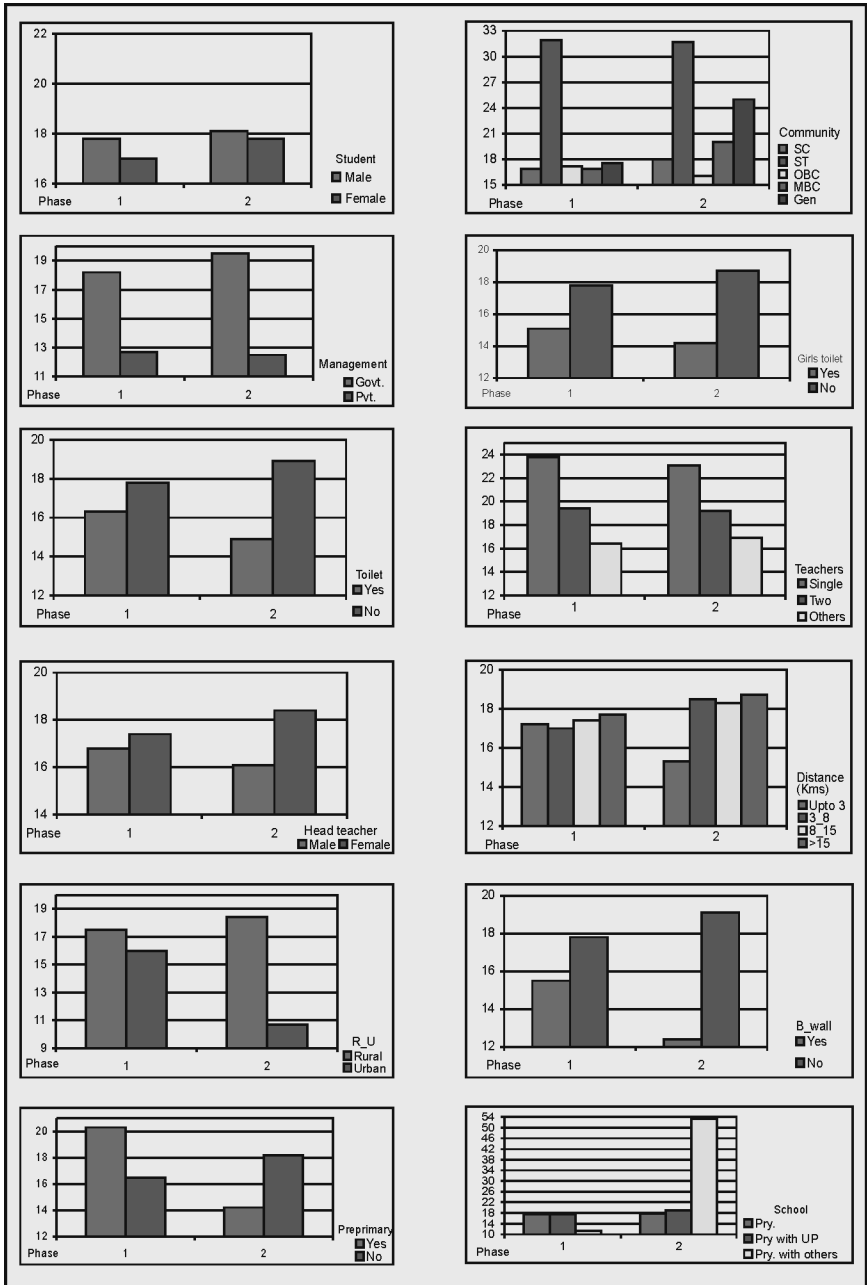


Figure 14

- Phase II districts had higher average dropout rate as compared to Phase I districts. The dropout rate for Phase I and II districts was 17.4 and 18 percent respectively. The differences in CRF were more striking between districts in Phase I and II.
- Contrary to the general belief, the dropout rates for girls were lower as compared to boys. The average dropout rate among boys was 17.9 percent as compared to 17.3 percent for girls. The difference among boys and girls showed similar patterns for Phase I and II. The girls are therefore doing better in Tamil Nadu as far as primary education is concerned. Their completion rates were higher and dropout rates lower than the corresponding values for boys.
- The most striking difference was among schools having girls toilet as compared to those without it. The dropout rate was 18.1 percent among schools without girls toilet as compared to 14.9 percent for schools with girls toilets. Similar trend was observed for schools with and without general toilets.
- Similarly, the presence/absence of boundary wall was also associated with the dropout rate. The school with boundary wall (14.7 percent) showed lower dropout rate (14.7 percent) as compared to school without it (18.2 percent). The differences between two situations are important and highlight the significance of proper school environment.
- The number of teachers showed profound association with the dropout rate. Single teacher schools reported the highest dropout rate (23.5 percent) as compared to schools with two teachers (19.4 percent). Schools having three or more teachers showed the lowest dropout rate (16.6 percent). Thus, the dropout among single teachers was about 42 percent higher than schools with three or more teachers. Therefore, the strategy of appointing a second teacher, even in schools with low enrolment, has facilitated in controlling the dropout rate. Its effect on quality of teaching and learning is difficult to assess from the present study. The analysis also shows that a gradual move towards one teacher per grade would be justified as it would lead to

considerable reduction in the dropout rate. However, the cost effectiveness of such strategies needs to be worked out in detail.

- The distance between the school and the block headquarter has been used as a proxy for the school effectiveness. Generally, schools located in far off places and in remote isolated areas are not adequately looked after by educational administrators and gain the least from developmental effort in general and that of education in particular. This assertion has been corroborated by the analysis of dropout rates. The visibility effect seems to be an important determinant of school effectiveness and efficiency. The average dropout rate is least for the schools in the neighborhood (within 3 kms.) of the block headquarter (16.6 percent) as compared to 18.0 percent for the schools located at a distance of 15 kms. and above. The differences are more striking in Phase II districts.
- Overall, the OBC have the lowest dropout rate as compared to others (Table 17). The community level dropout rates were highest for ST children. It average to about 31.8 percent, which is almost twice that of the OBC and other groups of population. The dropout rate for ST students in Thiruvannamalai was as high as 37.5 percent. The persistence of high dropout rates for STs is a matter of serious concern, even though the share of ST population ranges between nil to 2.5 percent in the DPEP districts. The schools catering to ST population are often located in remote, poorly connected, isolated villages and also have serious problems of teaching learning. It is quite possible that due to small presence of the STs, major programs for their educational development are not undertaken and their special concerns are ignored. What is needed is a more proactive strategy of identification of the clusters/pockets of concentration of ST population and implementing some target oriented reforms for improving retention among the ST children.
- Significant differences in dropout rates are observed for schools with different management controls. The children in government-managed schools reported a dropout rate of 18.5

Table 17
Cohort dropout rate by community

District	SC	ST	OBC	MBC	General
Cuddalore	12.9	23.2	14.8	13.4	15.5
Dharmapuri	22.3	32.9	22.0	21.1	20.2
Pudukkottai	16.4	28.9	17.0	19.3	18.4
Ramanathapuram	18.3	4.3	15.5	21.7	18.9
Villupuram	18.5	24.2	16.2	18.0	14.9
Thiruvannamalai	14.9	37.5	13.7	12.4	16.8
Perambalur	19.1	34.5	15.9	19.4	17.2
Total	17.2	31.8	16.8	17.6	18.8

percent as compared to the corresponding value of 12.6 percent for the private schools.

- The primary schools have higher dropout rate as compared to composite schools with primary section. The lowest dropout was in primary sections of high and higher secondary schools.

The above analysis shows the association between various independent variables and the dropout rate. While it may be difficult to establish cause and effect relationship, the above evidence clearly shows that a well equipped school with adequate infrastructure facilities including toilets, boundary wall etc., is able to retain more children as compared to schools devoid of such facilities. Some differences in school efficiency are related to the location of school

Table 18
District level cohort dropout rates

District	Boys	Girls	Total
Cuddalore	14.0	13.1	13.5
Dharmapuri	22.4	21.3	21.9
Pudukkottai	17.5	17.8	17.7
Ramanathapuram	19.2	16.3	17.8
Villupuram	18.1	17.8	18.0
Thiruvannamalai	14.7	14.6	14.6
Perambalur	17.5	19.5	18.5
Total	17.9	17.3	17.6

(rural/urban) and their management. The private schools with all inadequacies are found to be more efficient than their counterparts in the government sector.

The dropout rates for all the districts and blocks were calculated separately. The inter-district variations in dropout rate are large. It ranges from an average of 13.5 percent for Cuddalore to 21.9 percent for Dharmapuri district (Table 18).

The 95 percent confidence interval for dropout in various districts is depicted in Figure 15. These trends are also consistent with the trends in completion rates, although the two may not be strictly comparable. Excepting Perambalur, the boys dropout rate is higher than the corresponding dropout rate for girls. This evidence is contrary to belief that more girls dropout of the primary education cycle as compared to the boys. This assertion is not valid for the state of Tamil Nadu. The dropout rate for different blocks is presented in Figure 16. The spatial patterns show a number of clusters of blocks having similar profiles of dropout rates. There were two blocks with more than 30

95% Confidence Interval for Dropout

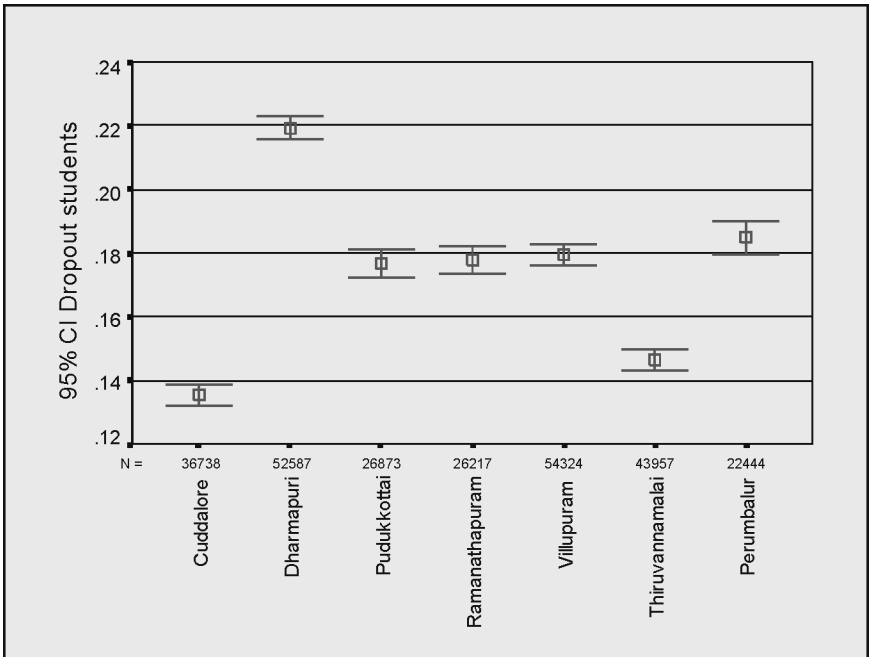


Figure 15

Tamil Nadu : DPEP Districts Dropout rate

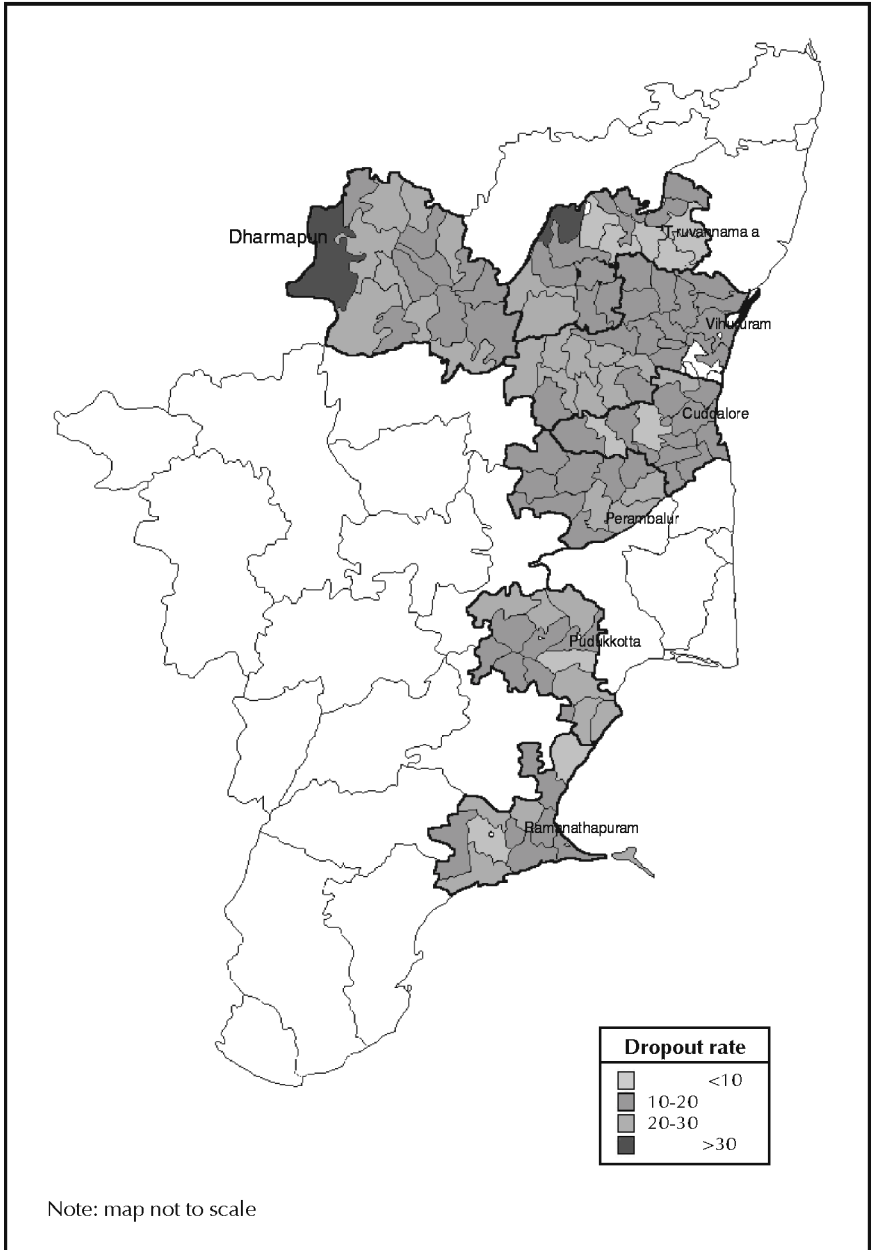


Figure 16

Table 19
Distribution of dropouts by year of dropout

Year	Number of dropouts			Col %		
	Boys	Girls	Total	Boys	Girls	Total
1994 (Y1)	5,590	4,969	10,559	23.0	22.7	22.8
1995(Y2)	7,289	6,479	13,768	29.9	29.6	29.8
1996(Y3)	5,492	5,274	10,766	22.6	24.1	23.3
1997(Y4)	3,638	3,218	6,856	14.9	14.7	14.8
1998(Y5)	2,331	1,971	4,302	9.6	9.0	9.3
Total	24,340	21,911	46,251	100.0	100.0	100.0

percent dropout rate. These were located one each in Dharmapuri and Villupuram districts. There were clusters of Blocks cutting across district boundaries having dropout rates between 20-30 percent.

The above analysis points to the overall magnitude of dropouts. In the following paragraphs, an attempt is made to place the dropout along a time scale to understand if there is any significance of the timing of dropout (Table 19). It is interesting to note that about 76 percent of the total dropouts take place in the first three years of their stay in the school. The first year accounts for 22.8 percent, the second year for 29.8 percent and the third year for 23.3 percent of all dropouts in the primary education cycle. The high dropouts in the first few years of primary education would result in illiteracy. Therefore, the investment by the individual student as well as by the social system will largely be a waste. Moreover, it would be difficult to bring back these children to school as many of these children would find their way in the unorganized labor market.

As discussed above, there are many reasons for the dropouts. These are broadly classified into social and family related and those related to the school and its effectiveness. In the present study no attempt was made to determine the reasons for dropout but a distinction was made between two types of dropouts, namely, dropouts after passing an examination and then discontinuing their studies; and dropouts after failing in the examination and not coming back to the school (Table 20).

Table 20
Classification of dropouts due to failure and other reasons

Description	Phase I	Phase II	Total
Dropout after passing	60.0	57.7	59.4
Dropout after failing	40.0	42.3	40.6
Total	100	100	100

Generally, it is believed that one major reason for dropout is poor performance/failure in the examinations. The analysis of cohort data shows that about 60 percent dropouts leave the school after passing the examination and do not return for readmission when the new session begins. The two reasons mentioned above have significant implications for improving the internal efficiency and bringing about a significant reduction in dropout rates. 'Pass and dropout' may be due to many factors. Some possible reasons could be: a) the lack of family support (financial and moral) for continuing education, especially for first generation learners; b) getting admitted to some other school without obtaining transfer certificate; c) poor academic performance in examination; d) child not interested in education due to various types of personal reasons, school and family related factors. These may include indifferent attitude of the teacher, child not interested in structured mode of teaching learning and the irrelevance of the curriculum to the real needs of the world of work; and e) migration of the child to some other place along with the family.

The second category of dropout (40 percent) consists of those who discontinue education due to failure in the examination. The failure can be directly related to school factors. Poor conditions of teaching learning, indifferent attitude of teachers, irregular working of the schools, social discrimination within the school, inability of the parents to supply the child with books and stationery, poor health conditions of some family members. Although many studies on dropouts exists, these fail to reflect on the nature of dropout, i.e. whether these are due to failure in the examination or due to other social and economic reasons.

4.3 Grade repetition

The students flow analysis traces the history of repeaters for five years. Grade repetition is the outcome of a number of factors, namely, a) due to non-compliance with the norms of school attendance; b) underage children admitted to Grade I. Such children can not be promoted to higher Grades and hence shown as repeaters; c) insistence by parents that weak students should not be promoted even if they had cleared the end term examination; d) poor academic performance in the end term examinations; and e) long term absentees who are readmitted to the same Grade. A significantly large number of children were reported to have repeated at least once.

The results on repeaters should be interpreted carefully. The repeaters continue to remain in the system till they drop out or successfully clear the final grade of primary education. Some repeaters may even repeat for more than one year. In the following analysis, the repeater is counted once even if repeated in more than one Grade. The data presented in Table 12 shows that even after five years, there were some children who remained in Grade I. The chances of such an event happening in the real life situation are remote. Therefore, such enrolment can be treated as flawed and unrealistic.

During the five year period of study, 68,370 students were found repeating in one or the other Grade, sometime more than once in the same Grade. The present study classifies such students as 'Ever Repeaters' (ER). Overall, the share of ER was 26% of total enrolment. Thus, one out of every four students admitted to Grade I is likely to repeat over a five-year period.

It is generally believed that repeaters are potential dropouts. However, the data from Tamil Nadu does not support this assertion. Out of 68,370 ER students, only 9.3 percent dropped and the others remained in the system at various levels, many repeating more than one grade. Therefore, the repeaters remain in the system and continue to follow the school curriculum even with a lag of one or more years.

The analysis of examination results of Grade 5 reported in the previous chapter indicated that the chances of failure in examination increase with the increased number of years of repetition. This

phenomenon is a matter of concern. Thus controlling repetition in government primary schools in Tamil Nadu is a challenge as well as an opportunity for the educational administrators and teachers to reflect on innovative strategies to reduce repetition and thus improve the internal efficiency. The data on repeaters was further analyzed in relation to school and other related characteristics to understand some of the correlates of repetition. The findings from such analysis are presented below:

- Overall one out of every four students admitted to Grade I repeated at least once in five year period;
- The ER was higher for Phase II districts (26.7 percent) as compared to Phase I (25.7 percent).
- The repetition was higher among boys as compared to girls. This was true for both Phase I and II districts.
- The repetition was highest among SC students as compared to any other social group (27.6 percent). For the STs, the ER was merely 22.6 percent. The comparative analysis of repetition and dropout rates reveals that more ST children tend to dropout, whereas the SC students continue to stay in the educational system despite high rates of repetition. Even after high repetition, the completion rate among SCs was better than STs.
- The inter-district variations in the average ER were not large except that Thiruvannamalai had much lower incidence of repetition as compared to other districts.
- The ER was far greater in rural schools (26.4 percent) as compared to urban schools (17.6 percent).
- The type of school was also associated with the internal efficiency indicators. The ER was least for the primary sections of the high and higher secondary schools as compared to the independent primary schools.
- Age at entry was associated with ER. Children who enter at the age of five years reported higher ER as compared to older age group children. The difference was significantly high between five and 6 year old children. These trends have serious implications for prescribing age of entry. It could also be possible that some children younger than five year are also enrolled but in official records their age is shown as five years. Such children

are allowed to repeat. Therefore, the ER for age five gets inflated. It could also be argued that the national curriculum for Grade I is meant for six years old and not for the five year old children. All states follow the national curriculum. Some sample studies are needed to corroborate this assertion.

- Facilities like general toilets, toilets for girls and boundary wall for the school were also associated with ER. The schools with these facilities showed lower ER as compared to the schools without.

The present data collection had limited objectives. Within the given framework, there would be many repeaters in various grades who would remain in the system for more than five years. While there is considerable time-series data on the movement of repeaters from Grade 1 and 2 but such data is inadequate to trace the repeaters from Grade 4 and Grade 5. Despite these constraints, an attempt is made to examine the historical movement of repeaters in the educational system. This is perhaps the first attempt of its kind using the cohort data.

As mentioned earlier, 68,370 repeaters were identified. Out of these, as many as 28,744 (42 percent) repeated in Grade I alone. The repeaters in class I accounted for about 11 percent of the total enrolment in Grade I. Further analysis showed that of the 28,744 repeaters in Grade I, as many as 23134 (80 percent) were promoted to Grade II next year. Therefore, Grade I repetition is major factor affecting the internal efficiency of the educational system in Tamil Nadu.

Table 21
Progress of Grade I repeaters

Description	Repeaters	%
Total repeaters in Grade I	28,744	100
Promoted to Grade II	23,134	80.5
Dropout	2,736	9.5
Again repeated in Grade I	2,874	10.0

It may also be argued that high repetition is the result of underage and overage. It is also associated with fictitious enrolment whereby the name of students is not struck off from the attendance register for many years. While this may be true for many areas, in the case of DPEP districts in Tamil Nadu, it is not a major factor affecting repetition as most of the repeaters were lagging behind by one year and were able to reach Grade 4 in five-year period. Fictitious enrolment would have resulted in much higher percentage of repeaters who stay in Grade I for five years.

4.4 Spatial patterns

The spatial distribution of development indicators is important in discerning the geographical similarities and dissimilarities. The spatial pattern also reveals the extent to which interventions can be focused on a cluster or group of blocks and districts. In the present study, the Block was taken as the lowest unit of analysis so that the geographical patterns could be discerned in detail.

Table 22
Blocks with high cohort dropout rate

Block	District	Cohort dropout rate	Repetition rate (ever repeaters)	CRF
Jawadhu Hills	Thiruvannamalai	44.8	16.4	40.3
Thally	Dharmapuri	31.9	28.0	41.0
Kalrayan Hills	Villupuram	29.7	13.5	55.9
Shoolagiri	Dharmapuri	29.6	35.8	35.3
Kamudi	Ramanathapuram	28.8	18.6	47.8
Kelamangalam	Dharmapuri	28.3	24.6	47.8
Rshivandiyam	Villupuram	26.9	23.6	49.9
Hosur	Dharmapuri	26.8	27.5	44.3
Ulundurpet	Villupuram	26.1	27.4	46.2
Kunnandarkoil	Pudukkottai	25.4	27.2	48.4
Dharmapuri	Dharmapuri	25.3	21.8	52.0

Note: Blocks have been arranged according to descending order of dropout rates

The ER rate was calculated for all blocks and ranges from 11 percent in Villupuram Block to 42.2 percent for Nainarkoil block in Ramanathapuram district. The blocks were classified into two groups. One group corresponding to high dropouts and the other with high repetition rates (Table 22 & Table 23). The districtwise profile of all Blocks is presented in Annex. Tables IX to XV.

Table 23
Blocks with high repetition rates

Name	District	Dropout rate	Repetition rate	CRF
Nainarkoil	Ramanathapuram	5.2	42.2	50.5
Marakkanam	Villupuram	13.1	40.5	46.5
Paramakkudi	Ramanathapuram	16.3	39.1	42.9
Arimalam	Pudukkottai	10.5	36.4	51.2
Shoolagiri	Dharmapuri	29.6	35.8	35.3
Melmalayanur	Villupuram	11.3	35.5	51.4
Theallar	Thiruvannamalai	8.6	35.0	53.0
Gingee	Villupuram	13.5	34.8	51.6
Pudukkottai	Pudukkottai	10.7	34.8	51.7
Kanai	Villupuram	17.4	34.6	48.5
Thirumanur	Perambalur	12.3	34.4	53.5
Ponnamaravathy	Pudukkottai	18.4	34.3	45.0
Kaveripattinam	Dharmapuri	14.7	33.5	49.9
Olakkur	Villupuram	13.0	33.5	53.6
Tiruppullani	Ramanathapuram	18.1	33.3	48.8
Morappur	Dharmapuri	15.8	33.3	49.6
Tiruvadana	Ramanathapuram	17.6	31.7	49.1
Manamelkudi	Pudukkottai	23.0	31.6	43.7
Panrutti	Cuddalore	15.3	31.5	52.2
Tindivanam	Villupuram	5.8	31.4	62.6
Pernamallur	Thiruvannamalai	7.6	31.2	58.6
Parangipettai	Cuddalore	14.4	31.1	52.4
Harur	Dharmapuri	19.8	30.8	48.6
Bhuvanagiri	Cuddalore	13.6	30.6	56.1
Ramanathapuram	Ramanathapuram	8.2	30.3	56.5
Annagramam	Cuddalore	20.0	30.3	50.1
Nallur	Cuddalore	7.0	30.1	60.3
Kurinjipadi	Cuddalore	18.2	30.0	51.0

Note: Blocks have been arranged according to descending order of repetition rates

A cut off point of 25 percent was used for dropout and 30 percent for ever repeaters. It is apparently clear that there were not many Blocks with higher dropout rates (11 Blocks to be precise) whereas the number of such blocks with high repetition is larger (28 to be precise). The total number of administrative blocks including urban areas considered in the study was 112.

A more important observation is that excepting one Block, namely Shoolagiri in Dharmapuri, no other block falls in both the list of high dropout or high repeaters list given in Table 22 and Table 23. This evidence clearly highlights the need for separate policies and programs to address the educational problems of the blocks having both high repetition and high dropout.

The problems of repetition is very acute for two blocks, namely, Nainarkoil in Ramanathapuram (42.2 percent) and Marakkanam in Villupuram district had 40.5 percent ever repeaters. These proportions of repeaters are unacceptably high.

The analysis of dropout and ever repeaters by administrative Blocks highlights that some districts continue to face problems with one or the other type of internal efficiency indicator (Table 24).

Table 24
Distribution of Blocks by incidence of dropout and ever repeaters percentage

District	Total blocks	Blocks with high dropouts rate	Blocks with high proportion of ever repeaters
Cuddalore	14	0	6
Dharmapuri	18	5	4
Pudukkottai	15	1	4
Ramanathapuram	13	1	5
Villupuram	24	3	6
Thiruvannamalai	18	1	2
Perambalur	10	0	1
Total	112	11	28

The analysis of block level data suggests Dharmapuri district faces an acute problem of high dropouts. Five of the eleven blocks having high dropout rate fall in the district of Dharmapuri. Similarly, the problems of repetition are serious in Cuddalore, Villupuram and Ramanathapuram districts.

The analysis of districtwise data (DISE) for the Phase I DPEP districts for the state of Tamil Nadu showed a marginal decline in the repetition rate (based on aggregated data) from 11.4 in 1995-96 to 9 percent in 1998-99⁶. The repetition rate for DPEP II remains somewhat higher as compared to Phase I districts. In Phase II districts, the repetition rate declined from 10.2 in 1997-98 to 9.9 percent in 1998-99. The decline in Phase I districts as reflected in repetition rate through comparative analysis of DISE and cohort data is significant and would result considerable improvement in CRF. However, the gains in Phase II districts are not as pronounced and similar improvements in internal efficiency may not be visible in Phase II districts. Further efforts are required to reduce repetition and dropout in Phase II districts.

It has been estimated that if the repetition can be brought to zero, which is possible at the primary stage, even without any change in the dropout rate, 82.4 percent of children will be able to reach Grade V in the stipulated period as compared to the present figure of about 59.9 percent⁷. The improvement from 59.9 percent to 82.4 percent is not a small achievement in the internal efficiency. Therefore, the DPEP has to critically look at the issue of high repetition as a top priority. The classroom observation study being conducted as a part of the DPEP should be able to throw some light on the above questions.

Is repetition a chronic disease from which all schools suffer or is it isolated and confined to few schools? The answer to this question would determine the administrative response and the design and

⁶ The repetition rates as shown in DISE data and those calculated in the present study can not be strictly compared due to different definitions and approaches followed in the two sources. However, temporal changes using the same source of data are valid for comparison and interpretation purposes.

⁷ In the present study, it was found that 82.4 percent of children were retained for five years. However, only 72.2 percent of these were in Grade 5. Therefore, in the present system, only 59.9 percent (82.4×0.722) of the Grade I children were able to reach Grade 5 in five year period.

Table 25
Distribution of schools according to school level
repetition rate (Grade 1)

Repetition rate	Cuddalore	Dharma-puri	Pudukkottai	Ramana-thapuram	Villupuram	Thiruvannamalai	Perambalur	Total
0-5	40.4	40.1	47.5	53.9	42.9	46.8	48.6	45.0
5-10	11.4	12.9	11.7	8.2	12.1	15.3	10.7	12.1
10-20	22.8	20.2	18.9	15.3	18.0	19.9	19.0	19.3
20-40	20.2	21.2	16.4	17.5	20.9	15.0	16.6	18.6
40-60	3.5	5.0	4.4	3.9	5.1	2.6	4.1	4.2
above 60	1.7	0.6	1.3	1.2	0.9	0.4	1.0	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

implementation of strategies to overcome grade repetition. The analysis showed that the malaise of repetition is confined to a few select schools alone and many schools have not been affected by it (Table 25).

There were about 37.5 percent schools for which the repetition rate in Grade I was zero. These are the best performing schools as far as the malaise of repetition is concerned. Many of these schools would also be reporting higher CRF. Another 7.5 percent showed an ER rate of less than 5 percent. Therefore, 45 percent school did not have serious repetition problems. The problematic schools would be where the repetition rate is in excess of 20 percent and their proportion was 23.8 percent. About 5 percent schools had even more than 40 percent repeaters in Grade I. Such schools need to be identified on top priority and remedial action should be initiated at the earliest. Many of these schools would have also fallen in the category of low CRF. The overall proportion of schools with more 20 percent and above repetition rate varied from 26.9 percent in Villupuram to 22.1 percent in Pudukkottai. Generally, Villupuram is considered a better performing district. However, there are few schools whose performance is poor as compared to other schools in the district. Improvements in the internal efficiency of such schools can lead to remarkable increase in overall performance of the primary education in the district.

4.5 Achievement scores and internal efficiency indicators

There are many factors, which are associated with the indicators of internal efficiency, and the foregoing analysis examined their

Table 26
Mean achievement score in mathematics, BAS and MAS

District	BAS		MAS	
	Grade I	Grade IV	Grade I	Grade IV
Cuddalore (S. Arcot)	34.8	27.7	62.5	47.6
Dharmapuri	35.3	28.2	53.1	37.8
Pudukkottai	51.5	33.3	NA	NA
Ramanathapuram	58.8	45.7	NA	NA
Villupuram	34.8	27.7	77.6	51.0
Thiruvannamalai	30.6	28.8	52.3	30.9
Perambalur	48.4	37.6	NA	NA

Source: NCERT surveys on achievement in DPEP districts.

BAS stands for Baseline Assessment Survey.

MAS stands for Mid-term Assessment Survey.

correlates. The available evidence does not permit a detailed analysis of the association between achievement indicators and indicators of internal efficiency. The disaggregated data on learners' achievement is not easily accessible and NCERT neither has undertaken a detailed analysis to unravel the complexities nor has established any type of causative model between the mean scores, school factors and associated family related variables. In the absence of such analysis, the present study only examined the average mean score for the DPEP districts (Table 26).

The mean score in mathematics is far lower than expected. The average score of less than 35 percent reflect very poor performance and low levels of achievement. Therefore, despite almost universal access, there are wide concerns about the quality of primary education. The low scores in mathematics is also a reflection on the unsatisfactory methods of teaching of mathematics and children's inability to use the existing instructional materials. Inability to cope up with the pressure of teaching learning can result in repetition or dropout. To what extent the low levels of learning contribute to the indicators of internal efficiency is not known but it can be safely concluded that low levels of achievement can considerably enhance chances of repetition. The studies in many parts of the country have also shown that the primary school teachers do not possess adequate background in teaching of mathematics and

their own level of educational attainment in mathematics is rather low. These factors can also be classified as school related factors and efforts must be made to ensure that teachers are adequately trained to teach mathematics in primary Grades.

The implications of the above findings for educators and development planners are many.

First, the analysis calls for a significant change in the process of planning. The focus of district planning has to shift to school level planning rather than restricting it up to block level. The school development plans must include strategies for addressing the school specific issues related to the participation in education and enhancement of internal and external efficiency. Localization of school curriculum and timely availability of textbooks and other instructional materials should be viewed as a method of improving the relevance of primary education.

Second, the focus of the intervention strategies in the near future should be on consolidation and efforts to reduce dropout and repetition through effective school development plans and involvement of village community and other active groups should be made. In DPEP districts, steps have already been initiated to implement the concept of school development plans. However, for the success of these efforts, considerable capacity of school head teachers and CRC coordinators will have to be build in micro-planning, forecasting and impact assessment. Some of these efforts also require a push from the state and the district levels. Ideally, targets for each school should be fixed so that progressively the internal efficiency is optimized. This can at best be done at the BRC or CRC level. It is also important to distinguish between the schools with high repetition and those with high dropout rates. Some schools will fall in former category and not in the latter and vice-versa.

Third, since in most schools, the number of repeaters is more than those who dropout, the scope for strategies for improving teaching learning processes acquire greater significance. The impact of classroom teaching learning processes and the time at task has to be optimized to improve the quality of educational outcomes. The high repetition rates are often the outcome of the poor teaching learning

conditions in schools. Some students may not get attention of the class teacher even when majority of the learners are engaged in gainful academic work. Such students are potential repeaters or dropouts. Problems related to the communication gap between the learners and the teachers were also reported from many schools. These situations adversely affect the internal efficiency of schools especially catering to the population living in multi-lingual clusters of habitations/villages. Therefore, an assessment of the time at task and the special problems faced by students is required on priority basis for schools having high repetition rates.

Fourth, high repetition may also be the result of poor textbooks design and the non-availability of supplementary instructional materials. The students may not be able to follow the textbooks and other instructional materials due to some hard spots in the printed materials. Therefore, a proper study of the effectiveness of the instructional materials is required. The state government has recently revised the textbooks for primary classes with involvement of a large number of teachers. Preliminary reports indicate that the new textbooks designed and developed by DPEP are of better quality and design. These developments in textbooks design and layout along with other innovations in teaching learning methods would hopefully lead to considerable improvements in the quality of education. Notwithstanding these reforms, further improvements in teaching learning outcomes may be necessary. The use of information and communication technologies for improving teachers' competencies and skills should also be explored on a large scale.

Fifth, the present study has clearly highlighted the association between the availability of school infrastructure facilities and indicators of internal efficiency. To what extent the facilities in the schools can be expanded so that a conducive climate for imparting quality education is created. The creation of these facilities and allocation of a minimum resources for quality inputs is also necessary to provide a level playing field between the government and private schools. Good schools must be rewarded and the poor performing schools should be taken to task. Progressively higher incentives in the form of cash rewards for school improvement should be initiated.

Sixth, further research is required to understand the malaise of dropout and repetition phenomenon in terms of pedagogical, social and economic factors. It may also be useful to prepare case studies based on specific innovations/interventions so that other districts/ states can learn from the Tamil Nadu experiences.

Seventh, the monitoring mechanisms for school functioning need to be strengthened. Along with in-service teacher training, strategies for on site support to teachers should also be evolved so that there is a continuous improvement in teaching learning processes. The role of CRCs should be further strengthened to provide continuous support to teachers in teaching learning methodologies and use of innovative approaches. Simultaneously, monitoring indicators should be defined and publicized so that measurement of change is easy.

Eighth, the parents of the likely repeaters need to be informed well in advance about the slow progress of their children.

Ninth, if the repeaters could be detected at an early stage, measures for remedial teaching should also be planned for the schools showing high repetition rates. The teachers who teach remedial classes should be adequately compensated.

Finally, the review of teacher training strategies is required so that adequate attention is given to teaching in multigrade situations, children with special needs, first generation learners from the poor and socially deprived families. In-service programs should become more specific rather than continuing with the straight jacket approach of training all teachers in the same way and in the same content. Use of modern technologies should be explored to improve teacher effectiveness.

Chapter 5

Temporal Changes in Internal Efficiency

5.1 Measuring progress in internal efficiency

The ultimate objective of all types of school reforms is to optimize the internal efficiency and to ensure that all children are able to acquire the prescribed levels of competencies and skills at the lowest per unit cost. In addition, the schools also impart social and value education which form an essential component of human development and help the child to discharge responsibilities as a good citizen. In terms of achieving the former objectives, the present study identified the CRF as the most appropriate indicator of internal efficiency and examined its behavior in detail. The analysis showed that despite significant reforms and successful implementation of many new innovative approaches in a progressive state like Tamil Nadu, the CRF was about 55 percent for most of the districts covered under DPEP¹. With the perpetuation of these levels of CRF, the objectives of EFA or achieving UEE/UPE can not be achieved within the near future.

The focus of educational planning and school development plans should result in improving the internal efficiency of the educational system as a whole. These objectives should be achieved in a manner that improvement in school efficiency does not benefit a particular group of schools or community but the focus remains on equity and social justice. Therefore, as a first step for achieving UPE/UEE, all children, irrespective of their caste, creed, religion, region or gender should be enrolled and retained till they complete primary/elementary education through formal schools or alternative modes of education². Moreover, the goal of UPE/UEE can not be achieved

¹ The average CRF for the DPEP districts is not reflective of the state situation as all the DPEP districts were educationally backward with low levels of female literacy. Advanced districts may report much higher value of CRF.

² The education policy does not clearly define the parameters for achieving UPE/UEE. Does it refer to enrolment, retention, achievement of MLL and completion or a particular combination of these attributes. Neither the education policy nor the POA specifies the indicators to be used to declare a state/district having achieved the target of UPE/UEE.

unless universal access to primary education facilities is accompanied by 90-95 completion rate and that too within the prescribed length of the educational cycle. Any extra years spent in completing the educational cycle would result in a waste of institutional as well as the child's resources. The second step for achieving UEE/UPE is that the successful completion should also result in acquiring of a set of skills and competencies in both cognitive and non-cognitive domains. Achieving this goal requires improvements in the achievement levels, about which not only the policy framework is missing but also research is inadequate. The two aspects of completion and achievement have to be seen together to get the holistic picture of the effectiveness and efficiency of the educational system. While DPEP initiated achievement studies as a means of assessing the quality of education, there is a need for considerable improvements in the scope, coverage and the methodology so that real policy and program related issues could be identified using the data generated through large scale sample surveys. Interventions for quality improvement can not be made merely based on mean achievement score. The averages mask realities especially in situations when differentials in teaching learning are high among schools even within the same district/block. In order to monitor the progress in learning achievement, a system of continuous and comprehensive evaluation has to be implemented by all states/districts. The capacity to design and implement these types of models is lacking in all DPEP districts. So far, there has not been a demonstrated success in this direction.

Often, questions are also raised about the impact of DPEP and other interventions on the quality and participation in primary education. Time series data is required to assess the extent to which the targets fixed by the central and state governments are realistic. Based on the recent trends, can these targets be achieved within the stipulated date or there is a possibility of further postponement of target dates for achieving UPE/UEE? Although, DPEP is one of the largest primary education project ever to be undertaken in any country, the social and economic impact on the beneficiaries and cost effectiveness of the delivery mechanisms has not been examined so far. The mid term reviews of the DPEP and access and retention studies have highlighted the gains in selected performance indicators in the DPEP districts. Besides these studies, there is hardly any empirical evidence

to show the impact of DPEP and other interventions on the school functioning and teaching learning outcomes. How the DPEP schools are different now as compared to the schools five or six years ago?

Similar questions are also valid for the impact of DPEP and other reforms on the internal efficiency. Has DPEP and other interventions led to some improvement in the completion rates or not? How does the performance of the DPEP district compares with those of the non-DPEP districts? The answers to many of these questions are difficult and require special research studies to be conducted at multiple points of time. In order to measure the changes in the internal efficiency, comparable data at a minimum of two time points is required.

Within the DPEP framework, excepting DISE, learner's achievement of students and PMIS data collection systems, there are no other mechanisms to collect comparable data at regular intervals of time. Even for the DPEP, empirical data on the temporal changes during the project implementation phase is not easily available. Tracking completion rates is an arduous task requiring continuous data flows. Notwithstanding this, an effort was made to generate comparable data on completion rates using the retrospective students flow model. The analysis is significant as it compares the completion rates at two points of time i.e. for 1994-95 and 1996-97 cohort of Grade I learners. For the comparative analysis, completion up to Grade 3 has been selected as the benchmark indicator for the two sets of data. Before discussing the results, it would be appropriate to examine the analytical framework used in the present study for comparative analysis of completion rates.

Cohort studies are normally conducted after a gap of 3-5 years. Studies conducted more frequently may not clearly capture the changes in completion rates as it requires a gap of a few years for the educational reforms to show results. In the present study, the method of truncated cohort was used through which the 1994-95 cohort data was used for the first three years and a simultaneous data collection was undertaken for the cohort beginning Grade I in 1996-97. Such a cohort would not have completed grade five by the time the data collection was undertaken but provided data for students flow for three years thus facilitating the analysis of changes in completion

rates over a period of two years. This method of data collection and analysis was described as truncated cohort method. The truncated cohort data collection was confined to Phase I districts only. It is expected that the DPEP would be able to repeat the study after a gap of two or three years to obtain another series of data on Grade 3 completion rates. Other methodological considerations for the truncated cohort analysis remained the same as were in the case of 1994-95 model.

5.2 Main findings of comparative analysis of completion rate

The profile of 1996-97 cohort and the main findings of the comparative analysis of CRT for the DPEP Phase I districts are as follows:

5.2.1 Profile of 1996-97 cohort

The DISE data shows that enrolment in DPEP districts have either declined or remained stagnant in the last 3-4 years. This is the outcome of significant gains in controlling the birth rates in the state. As mentioned earlier, the decadal population growth declined from 15.4 percent in 1981-91 to 11.2 percent in 1991-01 period. This has led to a considerable decline in the number of children in 6-14 years age group. The district level number of children in Grade I in 1994-95 as well as in 1996-97 is shown in Table 27³. Excepting Dharmapuri, there was a small increase in the number of children in Grade I in all

Table 27
Grade I children covered in 1994-95 and 1996-97 cohort

District	Children in Grade I			
	1994-95 cohort		1996-97 cohort	
	Total students	% Girls	Total students	% Girls
Cuddalore	36,738	49.9	39,385	50.4
Dharmapuri	52,587	47.0	49,715	46.5
Villupuram	54,324	48.0	56,821	48.8
Thiruvannamalai	43,957	48.6	43,740	49.2
Total	187,606	48.2	189,661	48.6

³ These numbers do not include children issued transfer certificates.

districts. Comparison of cohort data with DISE data shows that enrolment in DPEP districts have either declined or remained stagnant in the last 3-4 years.

5.2.2 Improvement in girls' participation

Consistent with the emphasis on gender equity, the share of girls to total enrolment has shown a marginal improvement in all districts excepting Dharmapuri. The share of girls in Dharmapuri is not only the lowest of the four DPEP districts but has also shown a decline of 0.5 percent, which is a matter of concern. As mentioned earlier, there is practically no gender bias in access and participation in primary education.

5.2.3 Structural changes in enrolment by community

The distribution of Grade I children by community for the two cohorts is shown in Table 28. There have not been major changes in the structure of enrolment. The share of SC enrolment increased in Cuddalore and Villupuram. There is a significant increase in the share of MBC in Dharmapuri district.

Table 28
Distribution of Grade I students by community
(1994-95 and 1996-97 cohort)

District	Year	SC	ST	OBC	MBC	General	Total
Cuddalore	1994	37.5	0.9	16.8	43.6	1.2	100
	1996	39.2	1.0	15.4	43.5	1.0	100
Dharmapuri	1994	18.4	3.1	26.4	50.2	1.9	100
	1996	18.2	2.5	26.4	51.2	1.7	100
Villupuram	1994	36.1	2.4	19.1	41.6	0.7	100
	1996	36.8	2.6	18.4	41.7	0.6	100
Thiruvannamalai	1994	27.8	4.5	26.4	39.9	1.4	100
	1996	27.4	4.2	25.6	41.7	1.2	100

Table 29

Distribution of children by age groups, 1994-95 and 1996-97 cohorts

Age at entry	Cuddalore		Dharmapuri		Villupuram		Thiruvannamalai	
	1996	1994	1996	1994	1996	1994	1996	1994
5	86.2	85.4	92.1	92.6	83.4	82.7	90.9	91.7
6	11.9	12.3	6.4	6.2	13.7	14.1	7.8	7.3
7	1.4	1.7	1.0	0.9	2.0	2.0	1.0	0.7
8	0.4	0.3	0.4	0.2	0.5	0.5	0.2	0.2
9	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.1
10	0.0	0.1	0.0	0.0	0.1	0.2	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

5.2.4 Change in age-structure of Grade I enrolment

The distribution of Grade I enrolment by age at entry shows that there is a marginal increase in the proportion of five year old children (Table 29). This is a positive development as the process of enrolling five year old children gains momentum. The only exception to this trend is the district of Dharmapuri, where there was a marginal decline of the five year old children in Grade I. At the same time, Dharmapuri had the highest proportion of 5 year old children entering school in Grade I (more than 92 percent).

5.2.5 Improvements in retention

In the earlier analysis, the ability of the school system to hold children for five years was taken as a proxy for the retention. The same indicator has been used to determine the holding power of the educational system to retain children for three years. The period of first three years is also crucial from pedagogical and other considerations. The dropout and repetition rates decline considerably in the fourth and fifth year of primary education. Moreover, a child who completes three years of education can retain basic literacy and numeracy skills whereas the same may not be true of the children leaving school in the first or

Table 30
Percentage children retained after three years

District	Children in Grade I		% children retained for 3 years	
	1994	1996	1994	1996
Cuddalore	36,738	39,385	89.8	92.3
Dharmapuri	52,587	49,715	82.8	85.6
Villupuram	54,324	56,821	86.4	88.9
Thiruvannamalai	43,957	43,740	89.7	92.1
Total	187,606	189,661	86.8	89.5

second year. Therefore, CRT makes a better choice not only for the comparative analysis but also from pedagogical point of view.

The analysis shows that the proportion of children retained in the educational system for three years has shown a significant positive change. On an average, 86.8 percent children who started in Grade I in 1994-95 were retained in the schools for three years (Table 30) and the corresponding value for the 1996-97 cohort was 89.5 percent (a gain of 2.7 percentage points). The improvement in retention is consistent across all districts. Therefore, the increase in the holding power of the educational system for first three years is a positive signal reflecting gains in internal efficiency. To what extent these gains are translated into completion rates would be examined in the subsequent paragraphs.

5.2.6 Decline in dropout rates

As noted earlier, the retention can not be compared with completion rates. Theoretically, the children may be retained in the school without the corresponding improvement in the internal efficiency. Therefore, a detailed analysis of the grades in which the children were studying is needed to fully understand the nature of improvement in retention rates.

Notwithstanding this, the improvement in retention is the direct outcome of the decline in the cohort dropout rates (Table 31). The decline in dropout rates for three year cohort has been the same as

Table 31
Temporal changes in three year cohort dropout rates

District	Dropout in first 3 years		Decline in dropout in percentage points
	1994-95 cohort	1996-97 cohort	
Cuddalore	10.2	7.7	2.5
Dharmapuri	17.2	14.4	2.8
Villupuram	13.6	11.1	2.5
Thiruvannamalai	10.3	7.9	2.4
Total	13.2	10.5	2.6

the improvement in retention. Despite significant improvements, Dharmapuri continues to have the highest dropout rate as compared to other DPEP districts.

5.2.7 Decline in ever repeaters

The flow of students within the three year period would directly influence the completion rate. For the three year cohort, the completion rate for Grade 3 was defined as CRT. Since, the earlier analysis showed a very high repetition rate in grade I, it was decided to first examine whether any changes have taken place in Grade I repetition (Table 32). Therefore, the second important happening is the decline in Grade I repetition rate, which declined from 11.3 percent for 1994-95 cohort to 8.4 percent for the 1996-97 cohort. There is a consistent decline in repetition rate in Grade I in all districts. Therefore, the evidence on student flows shows that DPEP and other interventions have succeeded in controlling the malaise of high repetition and dropout rate.

Table 32
Temporal changes in Grade I repetition

District	Grade I repetition	
	1994-95	1996-97
Cuddalore	12.2	10.5
Dharmapuri	11.9	7.5
Villupuram	11.8	6.9
Thiruvannamalai	9.2	9.6
Total	11.3	8.4

Table 33
Temporal changes in CRT

District	Children completing		% children completed	
	Grade 3 in 3 years		Grade 3 in 3 years	
	1994-95	1996-97	1994-95	1996-97
	cohort	cohort	cohort	cohort
Cuddalore	24,411	28,329	66.4	71.9
Dharmapuri	32,128	33,038	61.1	66.5
Villupuram	36,098	41,532	66.4	73.1
Thiruvannamalai	31,177	32,465	70.9	74.2
Total	123,814	135,364	66.0	71.4

5.2.8 Improvement in completion rate(CRT)

The success of the DPEP and other intervention in Phase I districts is reflected in significantly positive improvement in grade 3 completion rates (Table 33). Overall, an increase of 5.4 percentage points was observed in CRT over a period of two years. The increase in the value of CRT is consistent across all the four DPEP I districts. A similar increase is also expected for the full five year cohort value of CRF. It is expected that following this trend the overall CRF for the 1996-97 cohort may be to the tune of 61-63 percent. The outcome will also depend on the flow of students in Grade 4 and 5.

5.2.9 Improvement in Girls CRT exceeds that of boys

Between 1994 and 1996, the girls further consolidated their position as far as CRT was concerned. The improvement in CRT was more for girls (6.1 percentage points) as compared to boys (4.7percentage points). This is a positive outcome of the DPEP interventions in implementing the gender specific programs.

The slow improvement in completion rate for boys is also an area of concern. What factors impede larger gains in CRT for boys? Further analysis of data with supplementary information may be required to examine this aspect in detail.

Table 34
Gender specific increase in completion rates

District	Male		% increase	Female		% increase
	1994-95	1996-97		1994-95	1996-97	
	cohort	cohort	cohort	cohort		
Cuddalore	66.2	70.7	4.5	66.7	73.1	6.4
Dharmapuri	60.5	65.9	5.4	61.7	67.1	5.4
Villupuram	66.3	72.0	5.7	66.6	74.3	7.7
Thiruvannamalai	70.7	72.9	2.2	71.1	75.6	4.5
Total	65.6	70.3	4.7	66.4	72.5	6.1

5.2.10 All communities record improvements in CRT

The CRT for different communities as shown in Table 35 reflects that the increase in CRT is also accompanied by increase in completion rate for all communities. The gains are uniform for all communities. This is again a significant gain as far as equity in access, participation and completion is concerned.

Table 35
Increase in CRT by community group

District	SC		OBC		MBC		General	
	1994	1996	1994	1996	1994	1996	1994	1996
Cuddalore	65.8	70.7	70.4	75.6	65.5	71.7	71.4	76.0
Dharmapuri	59.1	65.9	61.7	67.8	61.8	66.3	62.4	73.3
Villupuram	64.6	72.5	72.3	76.0	65.1	72.6	75.3	75.9
Thiruvannamalai	68.5	71.1	73.2	77.0	72.7	76.1	73.7	82.8
Total	64.8	70.7	68.7	73.6	65.7	71.3	68.9	76.6

5.2.11 Decline in rural urban differential in CRT

Consistent with the above trends, the differences between rural and urban schools decreased significantly over the period of two years. Despite this, the urban schools continue to maintain their lead by depicting higher CRT values. The CRT for rural and urban schools

Table 36
Changes in CRT by type of rural/urban schools

	Overall CRT	
	1994	1996
Rural	65.7	71.3
Urban	73.9	76.9

indicates significant gains in rural schools as compared to urban schools. This also shows that school improvement programs and associated activities are proceeding in the right direction as far as retention is concerned (Table 36).

5.2.12. CRT for single teacher improves

From the earlier analysis, it was noted that single teacher schools had lower completion rates as compared to two and more teacher schools. The changes in CRT by number of school teachers were calculated for the two cohorts. It was observed that CRT for students studying in single teacher schools improved along with other type of schools (60 percent for 1994-95 cohort and 67.2 percent for the 1996-97 cohort). The increase in CRT in single teacher schools was higher as compared to two and more teacher schools (Table 37). This is definitely the result of teacher centered improvements brought about by the DPEP. Although, the statistical evidence is lacking, the revision of text books, preparation of teacher's handbooks, preparation of instructional materials and the continuous teacher training efforts have resulted in a cumulative gain in completion rates. The relatively higher CRT by students studying in single teacher schools is indicative of the focus of in-service teacher training on multigrade teaching and

Table 37
Changes in CRT by number of teachers in a school

Teacher's category	1994-95 cohort	1996 cohort
Single teacher	60.0	67.2
Two teacher	62.6	69.3
Others	67.4	72.4

bringing in the new methods of teaching learning including child centered approach to classroom teaching.

5.3 School level performance: Mixed signals

The school continues to remain the focus of study and hence a unit of ultimate reform. The earlier analysis had classified the schools according to their levels of efficiency. It was also noted that internal efficiency is essentially a school related phenomenon and hence each school need to prepare its own development plan. The analysis also highlighted that the focus of planning should shift to school level rather than the aggregative planning at the block or the district level.

An effort was also made to compare school level CRT for all schools in Phase I districts. Not all schools showed consistent behavior. There were many schools, which reported significant improvement in CRT as compared to another group of schools where substantial decline in the value of CRT was observed (Table 38). The overall average at the block and district level masked these realities.

Significant number of schools reported a decline in CRT over a gap of two years. The decline was more than 50 percent in some schools. The proportion of school showing more than 25 percent

Table 38
Distribution of schools by change in CRT between
1994 and 1996 cohort

Change in CRT in % points	Cuddalore	Dharmapuri	Villupuram	Thiruvannamalai	Total
More than -50%	0.5	1.0	1.0	1.2	0.9
Between -50 & -25%	5.6	6.5	5.0	6.9	6.0
Between -25 & 0%	30.8	28.3	28.8	34.3	30.4
Between 0 & 25%	47.9	45.6	46.8	45.7	46.4
Between 25 & 50%	12.7	15.9	15.5	10.2	13.8
Between 50 & 75%	2.2	2.4	2.5	1.6	2.2
Above 75 percent	0.4	0.4	0.5	0.1	0.3
Total	100	100	100	100	100

decline accounted for about 7 percent. Similarly, on the other extreme were the schools, which showed significantly higher improvement rates. About 2.5 percent schools showed an increase of more than 50 percentage points. What is important is that nearly half (46.4 percent) schools showed 0-25 percentage points improvement in CRT. Thus, the school performance also keeps on changing with the changes in the school related factors as well relating to individual child's behavior and family related factors. Further research may be necessary to understand the factors, which led to improvement in CRT in some schools and a decline in others. To what extent such changes could be attributed to school related factors. Longitudinal studies regarding the impact of classroom processes, family related factors and general environment on retention would be necessary to determine the causal relationships.

To sum up, the foregoing comparative analysis of CRT for 1994-95 and 1996-97 cohort indicates that there has been a significant improvement in overall completion rates over a period of two years. The improvement in CRT is consistent for all districts and is accompanied by reduction in differentials among the regions, caste groups, rural-urban, gender and other important dimensions. These gains were largely the result of DPEP activities and other interventions by the Department of Education in the project districts. More important factors affecting the completion rates could be the child friendly design and content of the new textbooks; organization of classrooms and emphasis on play way of learning; emphasis on capacity building of the teacher through intensive in-service training; development of teacher guidebooks and supplementary materials; the key role of BRCs and CRCs in supporting the academic activities in the schools. It is expected that the continuation of these programs would further strengthen the teaching learning processes and result in significant improvement in indicators of internal efficiency. The analysis has also highlighted that despite significant improvement in the overall CRT, the school level behavior depicts mixed trends. Some schools reported a steep decline in CRT whereas the opposite was observed for other schools. Thus, the emphasis in the coming years should be to strengthen the reforms in a manner so that the overall improvement is confined not only to aggregates but each school is able to improve its efficiency to the optimal level.

Chapter 6

Concluding Observations and Recommendations

DPEP, which began as a quality improvement program for primary education in 1994, has undergone significant changes in terms of both coverage and the strategies followed to achieve the objectives of UPE in India. It began with 42 districts and is now covering 248 districts, most of which are characterized by low female literacy rates. The first phase of the program lasting seven years would be ending by 2002 and the other phases would continue till 2007/08. The program, in addition to the regular budgets of the central and state governments for education, has a commitment of over \$2 billion from the Government of India and international organizations who conceive investment in quality primary education as a key to the development of human resources and eradication of illiteracy and poverty.

Tamil Nadu was covered under DPEP since its inception in 1994. The program began with four districts and now covers seven districts. DPEP is also known for pioneering work in implementing sustainable reforms including a monitoring system, which provides valuable indicators on school characteristics, project performance and evaluation. Many path breaking research studies have been conducted as a part of DPEP that have immensely contributed to our understanding of the complex nature of issues involved in school effectiveness. The perusal of key issues in Indian education brings to fore the highly inefficient nature of primary education in terms of internal and external efficiency. The present study addresses both theoretical issues for measuring internal efficiency, as well as presents an analytical framework for assessing spatio-temporal patterns of internal efficiency.

The national policy on education and the subsequent program of action neither defines the UPE/UEE nor provides a list of measurable indicator(s), which would be used to declare a state/district as having

achieved the target of UPE/UEE. How does one identify the progress towards UPE/UEE and which indicators should be used for this purpose? The identification of measurable indicators is not only necessary for continuous monitoring of progress towards UPE/UEE but also for its sustenance. In the absence of such a framework, many educational administrators, researchers, development planners or social activists try to define their own indicators or misinterpret the existing ones. One even wonders as to what extent the traditional indicators of educational development are valid in the present day context. The typical examples are the limited scope of using GER and NER as effective indicators for measuring the progress of primary education towards achieving UPE/UEE. As of now, there is no set of indicators suggested/approved by the Government of India or by any other international agency which can be considered as sufficient to measure the progress towards UPE/UEE. As a first step, a set of *necessary and sufficient* indicators for attaining UPE/UEE should be defined and simultaneously a framework for their monitoring should be identified. It is pity that even ten years after the Jomtien, there is no consensus about the measurement of EFA goals. What could be worse than this.

Various methods and indicators are used for estimation of internal efficiency of primary education. These suffer from many limitations. The study proposes one simple and most appropriate indicator of school effectiveness, namely the completion rate of primary education in five years. More specifically, it is defined as the proportion of children completing primary education in five years (CRF). Ideally, for achieving UPE, CRF should not only attain a value of 100 or near about 100 but also sustain at that level for years to come - an ideal route for achieving UPE in the most cost effective manner. However, in actual practice the value could be extremely low due to school level inefficiencies associated with dropout and repetition in various grades. Use of CRF, as a performance indicator would run counter to those who manipulate school statistics by following various types of unethical practices. CRF would easily identify cases where fictitious enrolment is shown. The CRF would also assist the educational administrators in ranking schools based on their internal efficiency. These measures could be linked to

an accountability scale for close monitoring of school level performance and effectiveness.

An empirical study based on school records for five years for the cohort beginning Grade I in 1994-95 was designed and executed using a specially designed data capture format covering all schools in the seven DPEP districts. Schools established after 1994-95 were excluded from the study. A similar study was undertaken for all schools in Phase I districts for the Grade I cohort of 1996-97 (Truncated cohort). For the 1996-97 cohort, the data on student flows was collected only for three years and compared with similar data from 1994-95 cohort. Transfer cases were excluded from the analysis. A total of 9,825 schools and more than 263,000 students were covered by 1994-95 cohort and 6,616 schools and 190,000 learners were covered through truncated cohort based on 1996-97 Grade I enrolment. This is perhaps not only a unique study in terms of its methodological contribution but also one of the largest students flow analysis ever undertaken in the Indian context.

Grade I intake is a function of settlement structure and the average number of Grade I students in the study area was 26.8 compared to the median value of 20. Thus, most of the schools had less than optimal number of students in each Grade to provide a separate teacher for each Grade. The total number of students in primary classes was less than 50 for about 20 percent schools. Thus, multigrade teaching or combining of classes in various forms is practiced in more than 85 percent of schools in the DPEP districts. About 13 percent of DPEP schools had at most one teacher.

Gender disparities are nearly absent in Tamil Nadu schools. A few blocks with low level of girls participation and completion were identified. Among the various communities, the MBCs constitute the largest proportion (40.8 percent) followed by OBCs (28.1 percent) and the SC students accounted for 27.9 percent. The share of ST in total enrolment was about 2 percent. The participation of SCs is higher than their share in total population. Most of children enroll in Grade I at the age of 5 but few older children were also found in Grade 1.

Three indicators were used for the analysis of cohort data. First, the holding capacity of the educational system for five years; second, the extent to which children reach grade V in five years and finally, what proportion of children complete primary education in five years. The holding capacity of the primary schools in DPEP districts in Tamil Nadu is very high. Overall, 82.4 percent of Grade I students from 1994-95 cohort were retained for five years. Thus, 17.6 percent students dropped out in five years from various Grades. The highest and lowest dropouts were observed in Cuddalore (13.5 percent) and Dharmapuri district (21.9 percent) respectively. These dropout rates are similar to the state level estimates for the DPEP and non-DPEP districts. The second important finding is that not all children who stay in the school progress at the same rate and not all of them pass the final Grade examination. Of all children retained in the school for five years, as many as 28.5 percent could not reach Grade 5, a large proportion of them repeated at least once in five years. Some could not even complete four years of education in five year period and were struggling in Grade 2 and 3. The persistence of high repetition rates across all districts is a matter of worry and raises a question mark on the success of DPEP in improving retention and completion. The third aspect relates to the completion rate. Not all children reaching Grade 5 pass the final examination successfully. Only 91.7 percent children reaching Grade 5 passed the final examination. The poor performance in the final examination is another area of concern. Moreover, the chances of passing the final examination are inversely related to the years of repetition. The results are consistent across districts. Of all the repeaters, 35.1 percent repeated in Grade I, 18.8 percent in Grade 2, 20.7 percent in Grade 3, and 25.4 percent in Grade 4. Retention without completion has no meaning and runs counter to the cause of human resource development strategy. Why so many children should repeat for so many years? What are options available to reduce repetition? These issues should engage serious debate among the educational administrators and development planners in the state.

After accounting for dropouts and ever repeaters, the overall CRF was 55 percent but the inter-district variations were large with

Dharmapuri (50.5 percent) having the lowest and Thiruvannamalai district having the highest CRF (60.4 percent). The CRF is also associated with different types of school characteristics. Lack of data excluded the possibility of similar analysis of the household related factors. Significant differences in CRF were observed due to gender, caste, school management, distance from the block headquarters, age at entry, number of teachers in the school, rural-urban nature of schools, school category and availability of facilities like boundary walls, toilets for girls etc.,

The girls reported higher CRF than the boys thus showing that girls performance is in no way less than the boys. Similarly, it was observed that Phase II average was far lower than the CRF for Phase I districts. The present levels of CRF (50-60 percent) are not adequate to achieve the target of UPE in the near future. Therefore, serious efforts are required to improve the internal efficiency of the educational system. The analysis also showed that the classification of schools based on their CRF value would help the administrators developing a time bound action plan for targeting the problems of low performing schools. A six fold classification of schools based on CRF has been proposed. The spatial patterns of CRF were also analyzed and the clusters of blocks with similar characteristics were identified for target specific interventions. The study identified 1,583 schools (16.1 percent of all schools) for which the CRF was 30 percent or less than that. On the other hand, the CRF was more than 75 percent for 1,624 schools. The state DPEP office has already initiated action program to improve the efficiency of low performing schools by focusing on their specific needs. Initial feedback suggests that significant improvements would take place in the next few years. Similarly, the high performing schools should be encouraged to invest more time and resources for strengthening the teaching learning processes and improving the quality of learning outcomes.

Further analysis of spatial patterns of dropout and repetition revealed that the two have to be handled separately. The study identified the blocks having high repetition (28/112 blocks) and blocks with high dropout rates (11/112 blocks). Moreover, the remedial action

for containing dropout and repetition is of different type. The latter is essentially a family related phenomenon whereas the former is predominantly a reflection on the poor teaching learning processes in the school.

The analysis of dropout data showed that a) phase II districts had higher dropouts as compared to Phase I; b) dropout among girls was lower than that of boys; c) schools with girls toilet showed lower dropout rates and compared to those without; d) the number of teachers in schools were inversely associated with dropout rate. Thus single teacher schools had the highest dropout rate; e) schools located in interior areas and at far off distance from the block headquarter showed higher dropout rates as compared to schools located in the neighborhood of the block headquarter; f) Although the share of ST in total school population is about 2 percent, they had the highest dropout as compared to other communities; g) the government schools had much higher dropout rate than the schools under private management; h) the primary schools had higher dropout rate than the middle and secondary schools; i) the spatial patterns of dropout rate show clusters of blocks having similar behavior in terms of dropout rates; j) the analysis further showed that a large segment of dropouts leave the school after completing the end term examination. Of the two groups, i.e. those who dropouts leaving schools after passing a Grade and those failing in the examination and leaving the schools, less than half dropouts were due to failure in the examination. These evidences clearly show that school environment and the availability of teachers are important correlates of dropout.

During the five year period under review, about 26 percent children had repeated at least once. Thus, one out of every four children admitted to grade I is likely to repeat at least once even if they stay in the school for five years. What a tragedy and agony for the learner who has to undergo this experience in the early years of his/her childhood!

For the purpose of the present study, a child repeating at least once was classified as 'ever repeater' (ER). ER was higher for Phase

II as compared to Phase I districts. The repetition was higher among boys as compared to girls. The repetition was higher among SC students, whereas the dropout was highest among ST students. The ER was far greater in rural as compared to urban areas. Similarly, the government schools had much higher ER as compared to privately managed schools. Schools with facilities like girls toilets, boundary walls showed much lower ER as compared to schools without these facilities.

Grade repetition is the outcome of many factors, namely, a) not attending the school for required number of days; b) underage children admitted to Grade I and hence not promoted till they acquire the prescribed age; c) insistence of parents; d) neglect of studies by the learners; e) inadequate attention of the teacher towards certain learners; f) non availability or late availability of textbooks, stationery and other instructional materials; g) poor academic performance of the learners; h) child not interested in studies; and i) communication problems associated with mother tongue and the medium of instruction. While there is a considerable research on the nature and causes of dropouts, such studies are not available for the repetition and the causes thereof.

The time series analysis of cohort data was carried out at two levels, i.e. the temporal changes in students' profile and the completion related indicators. The implementation of DPEP and other educational reforms initiated by the department have resulted in considerable positive developments having bearing on the achievement of UPE in the state. The completion rate corresponding to Grade 3 was computed for 1994-95 and 1996-97 cohorts (CRT). This was done with two important considerations. First, the analysis of CRF and its correlates indicate that major problems of dropout and repetition are confined up to Grade 3 and secondly, gathering time series analysis data on full cohort is a long process. The share of girls in Grade I increased from 48.2 percent to 48.6 percent, proportionately more children of age five were enrolled in Grade I and the participation of various communities remained at satisfactory level. The holding capacity up to Grade 3 of the educational system increased from

86.6 percent to 89.5 percent. There was a steep reduction in dropout from an average of 13.2 percent to 10.5 percent and similarly the proportion of ever repeaters declined from 11.3 percent to 8.4 percent. Because of these trends, the CRT improved from 66 percent in 1994-95 cohort to 71.4 percent for 1996-97 cohort. This is a significant improvement over a period of two year. The CRT for girls showed relatively more gains than that of boys thus widening of the gender disparities in favor of girls. All communities gained in different proportions. The rural urban differentials in CRT declined further although the urban areas continue to register significantly higher completion rates. The gap between government and private schools narrowed down but was still very high. Despite considerable improvement, the low levels of completion rates persisted in single teacher schools. Various types of trends mentioned above were consistent across districts and blocks. Notwithstanding the overall improvement in CRT, the school level analysis presented a mixed bag of outcomes. Some schools improved on their CRT value whereas others showed significant decline.

The next few years would be crucial for educational reforms in Tamil Nadu. The reforms should focus on consolidation of ongoing educational reforms, identification of out-of-school children, improving the internal efficiency, enhancing the quality of learning, strengthening of monitoring mechanisms for measuring school effectiveness, remedial teaching for slow learners and on increasing the relevance of education for various sections of the society. Declining population base, coupled with improved internal efficiency particularly because of reduction in grade repetition may result in a sharp decline in the number of school age group children. This unprecedented situation would result in surplus teachers at certain places whereas there may be shortages at another point. Therefore, redeployment of teaching and non-teaching resources would become necessary to produce least cost output. The state should also explore the possibility of identifying good teachers from primary schools and prepare them through specially designed training package for teaching upper primary classes for which considerable additional demand would emerge in the next few years.

Advance exercise should be carried out to identify primary schools, which could be upgraded to upper primary stage.

Besides the above factors, there are many implications of the above findings for planning and management of education not only in the state of Tamil Nadu but also for the country as a whole. These are :

First, the focus of decentralised 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 on the basis of 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. While considerable efforts have been made to produce more child friendly textbooks, an extensive analysis should be undertaken to identify hard spots with the involvement of learners from different social and economic backgrounds so that teachers could give better attention to the learning needs of these students.

Fifth, the achievement studies have indicated low levels of achievement in mathematics. 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, what constitutes a school in the Indian context? Without going in to the merits and demerits of this question, it can be argued that whatever be the selection criteria, many existing schools will not be able to cross the threshold. The present study has clearly demonstrated the positive association between the availability of school infrastructure facilities and indicators of internal efficiency. The lack of proper infrastructure and teaching learning materials and low utilization of teaching learning aids in Indian rural schools is well documented. 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. The association between school infrastructure facilities and internal efficiency indicators has been established by the study.

Seventh, the academic support to schools is provided through new structures like BRC and CRC created under DPEP. How effective is this support to help individual schools to improve their efficiency and effectiveness is yet to be established through research. These new structures can play vital role in improving school effectiveness by proper monitoring and implementing the concept of continuous and comprehensive evaluation.

Eighth, Tamil Nadu does not follow no-detention policy and hence examinations are held every year at the end of each academic session. However, there is a considerable confusion about the implementation of 'no detention policy' in many other states. Similar is the situation with the enrolment of underage children. The state policies in these regards need to be widely disseminated so that enrolment statistics are free from such biases. A review of these policies

is required so that the extent to which these schemes have facilitated the achievement of the UPE objectives is properly assessed.

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. The committees can also interact with the parents of those children who are likely dropouts and repeaters and convince them about the importance of primary education for the future of the child.

Tenth, the review of teacher training (both in-service and pre-service) 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 the district. The existing data collected through DISE in the DPEP districts should be used to the extent possible. In other districts, the DIETs should endeavor to develop adequate database on elementary education. These profiles would facilitate the decision making processes and at the same time help the educators to fine tune the delivery of teacher training strategies to the district specific needs.

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 most irregular 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.

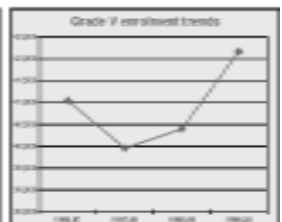
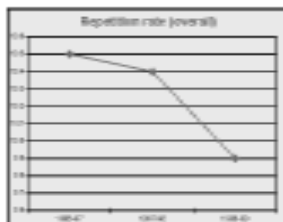
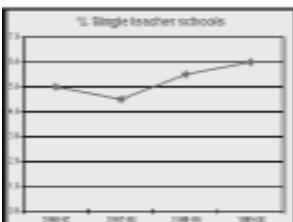
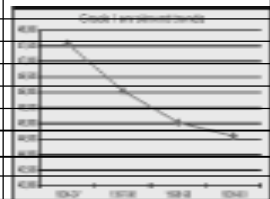
Fourteenth, a set of simple indicators should be developed for measuring progress towards UPE/UEE. Three key indicators are suggested for this purpose. First, proportion of out-of-school children; second, completion rate (CRF) and finally, the average achievement score. These indicators can be generated 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 inefficiencies in the educational system which has not only perpetuated over the years but has also contributed to the human misery and eaten away the scarce financial resources. It is our strong conviction that no individual or the State can ever hit the *bull's eye* as long as the internal efficiency and low levels of educational attainment and skills persist. Not many choices for future are available. A small step in the right direction can be more fruitful than groping in the dark. The education sector in India with all its inadequacies has provided that direction to other social and economic sectors, so why not for itself? The future costs of not overcoming the present inefficiencies would be many times more than what needs to be invested today.

Annex Table 1

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

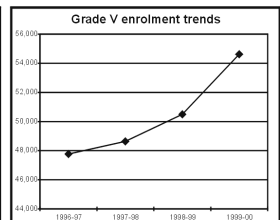
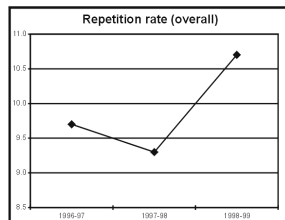
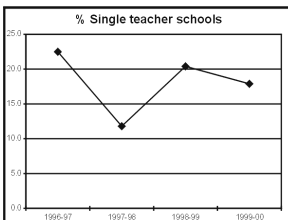
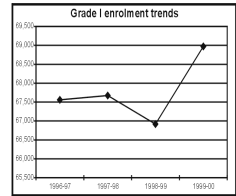
District Name	South Arcot		2205	State	Tamil Nadu		Project Inception		
Population and Literacy								1994	
Population 1991 (in Thousands)			4878	Overall literacy, 1991				52.9	
% Urban population, 1991			16.2	Female literacy, 1991				39.7	
Sex ratio (Females per thousand males), 1991			968	SC Female literacy, 1991				24.8	
Primary school age group population 1999 (in Thousands)			274.8	ST Female literacy, 1991				11.3	
% SC population, 1991			36.4	% Habitations with <=300 persons, 1993				13.0	
% ST population, 1991			2.0	% Pop. in habitations with <=300 persons, 1993				1.8	
Number of Blocks/Taluks, 1999			14	% Pop. with access to prv. school within habitation				77.9	
								% Pop. with access to prv. school with 1 km. (1993)	99.4
Primary Education (1999-2000)									
	School		Enrolment		Teachers		Classrooms		
School category	Government	Private	Government	Private	Government	Private	Government	Private	
Primary schools	1,000	180	128,349	38,071	3,340	876	3,283	979	
Primary with upper primary	149	71	27,356	20,284	1,057	782	974	865	
Primary with others	2	1	450	147	11	6	11	6	
Alternative schools	246	x	4863	x	246	x	x	x	
Total	1,397	252	161,018	58,502	4,654	1,664	4,268	1,850	
Performance Indicators-(1999-00)									
Indicator	Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00		
% Girls	50.7	49.8	I	47,570	46,048	45,033	44,600		
Pupil teacher ratio (PTR)	35.4	35.2	II	45,310	45,443	43,758	42,098		
Student classroom ratio (SCR)	37.0	32.0	III	42,726	44,734	44,461	42,881		
% Schools with <=50 students	10.3	3.6	IV	41,965	41,660	43,398	43,150		
% School with PTR>100	0.3	0.8	V	41,041	39,952	40,396	42,161		
% Female teachers	50.7	51.7	AS/EGS						
% Schools established since 1995	3.6		Total	218,612	217,837	217,046	214,890		
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00	
% SC enrolment	29.9	31.0	31.4	38.9	GER	79.4	79.9	142.0	
% SC girls to SC enrolment	48.2	48.7	49.3	49.3	IGE	103.6	104.3	102.5	
% ST enrolment	0.7	0.7	0.7	0.9	ISE (SC)	102.7	104.5	0.0	
% ST girls to ST enrolment	47.5	49.0	50.0	48.8	ISE (ST)	40.7	44.6		
Repetition Rate									
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00		1996-97	1997-98	1998-99	
% Single classroom schools	5.6	4.9	5.5	6.6	I	12.6	12.9	12.3	
% Single teacher schools	5.0	4.5	5.5	6.0	II	9.4	9.7	9.5	
% OBB Single teacher schools	5.3	4.5	5.6	5.0	III	10.7	9.8	9.5	
% Schools with SCR>60	23.4	17.1	14.8	13.7	IV	10.6	10.0	8.9	
% Schools with preprimary	8.3	13.4	13.6	9.3	V	9.1	9.5	9.1	
% Schools with common toilets	17.5	18.5	19.7	19.4	Overall	10.5	10.4	9.9	
% Schools with girls toilets	11.9	12.5	14.2	14.3					
% Enrolment in Govt. schools	75.5	72.9	75.8	72.8					
% No female teacher school (total tch>=2)	27.2	21.2	22.7	20.5					
% Students in single teacher schools	2.2	1.7	1.8	2.1					
% Students in schools with SCR>60	31.8	23.4	19.3	17.4					
% Students in schools without buildings	0.2	0.2	0.2						
% Students in schools without black boards	2.3	1.6	0.5						
% Underage & overage grade (<5 & >6Yr.)	6.3	4.3	5.0	3.8					
Mean Percent Achievement Score	BAS Lang.	BAS Maths.	MAS Lang.	MAS Maths					
Grade I	40.3	34.8	66.5	62.5					
Grade III/IV	36.5	27.7	59.8	47.6					



Annex Table 2

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

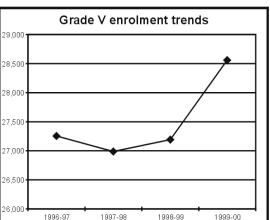
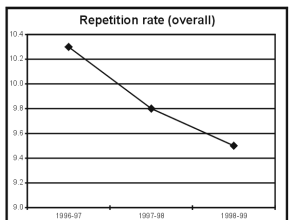
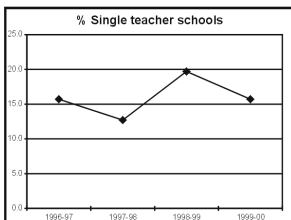
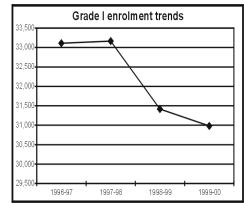
District Name	Dharmapuri		2206	State	Tamil Nadu		Project Inception	
Population and Literacy								1994
Population 1991 (in Thousands)			2429	Overall literacy, 1991		46.0		
% Urban population, 1991			9.6	Female literacy, 1991		34.2		
Sex ratio (Females per thousand males), 1991			942	SC Female literacy, 1991		27.7		
Primary school age group population 1999 (in Thousands)	357.5		15.1	ST Female literacy, 1991		17.1		
% SC population, 1991			15.1	% Habitations with <=300 persons, 1993		36.0		
% ST population, 1991				% Pop. in habitations with <=300 persons, 1993		9.0		
Number of Blocks/Taluks, 1999	18			% Pop. with access to pry. school within habitation		72.2		
				% Pop. with access to pry. school within 1 km. (1993)		99.9		
Primary Education (1999-2000)								
	School		Enrolment		Teachers		Classrooms	
School category	Government	Private	Government	Private	Government	Private	Government	Private
Primary schools	2,023	19	251,067	8,346	5,652	151	5,822	172
Primary with upper primary	197	7	37,385	2,331	1,006	55	1,090	72
Primary with others	2		458		7		14	
Alternative schools	146	x	3231	x	146	x	x	x
Total	2,368	26	292,141	10,677	6,811	206	6,926	244
Performance Indicators-(1999-00)								
Indicator	Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00	
% Girls	47.0	47.3	I	67,557	67,673	66,916	68,970	
Pupil teacher ratio (PTR)	43.2	51.8	II	62,556	59,828	61,216	59,904	
Student classroom ratio (SCR)	41.0	44.0	III	57,580	60,216	58,256	59,211	
% Schools with <=50 students	13.6		IV	53,227	53,598	58,623	56,557	
% School with PTR>100	2.3	7.7	V	47,766	48,638	50,497	54,616	
% Female teachers	51.3	76.2	AS/EGS					
% Schools established since 1995	10.4		Total	288,686	289,953	295,508	299,258	
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00
% SC enrolment	14.2	14.7	14.9	18.0	GER	88.6	90.4	78.0
% SC girls to SC enrolment	48.3	47.8	48.5	48.5	IGE	95.1	95.1	97.0
% ST enrolment	1.4	2.0	2.1	2.5	ISE (SC)	116.3	118.8	0.0
% ST girls to ST enrolment	44.9	44.9	46.2	46.4	ISE (ST)			
Repetition Rate								
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99	1998-99
% Single classroom schools	6.6	4.7	6.2	20.8	I	10.5	11.3	13.2
% Single teacher schools	22.5	11.8	20.4	17.9	II	7.8	8.5	10.0
% OBB Single teacher schools	21.1	9.9	15.7	12.1	III	11.1	8.8	10.8
% Schools with SCR>60	20.1	14.9	10.8	20.6	IV	10.4	9.9	10.4
% Schools with preprimary	22.7	52.6	55.7	39.4	V	8.5	7.7	8.4
% Schools with common toilets	8.1	13.0	16.7	15.2	Overall	9.7	9.3	10.7
% Schools with girls toilets	4.4	6.8	7.3	6.4				
% Enrolment in Govt. schools	97.2	96.4	95.3	96.4				
% No female teacher school(total tch=>=2)	34.6	24.0		20.9				
% Students in single teacher schools	12.7	4.6	9.8	7.7				
% Students in schools with SCR>60	31.7	24.4	18.0	27.0				
% Students in schools without buildings		0.3	0.6					
% Students in schools without black boards	1.2	0.5	0.1	0.1				
% Underage & overage grade (<5 & >6Yr.)	5.2	3.0	2.5	2.5				
Mean Percent Achievement Score	BAS Lang.	BAS Maths.	MAS Lang.	MAS Maths				
Grade I	39.3	35.3	58.8	53.1				
Grade III/IV	38.5	28.2	44.2	37.8				



Annex Table 3

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

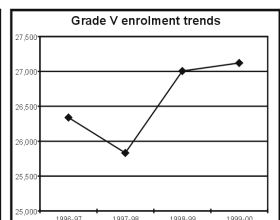
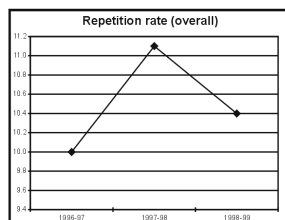
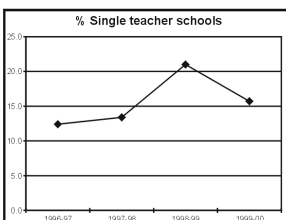
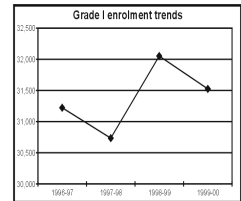
District Name	Pudukkottai		2215	State	Tamil Nadu		Project Inception		
Population and Literacy								1997	
Population 1991 (in Thousands)			1347	Overall literacy, 1991		57.6			
% Urban population, 1991			14.6	Female literacy, 1991		43.6			
Sex ratio (Females per thousand males), 1991			1005	SC Female literacy, 1991		35.8			
Primary school age group population 1999 (in Thousands)			177.1	ST Female literacy, 1991		27.9			
% SC population, 1991			16.8	% Habitations with <=300 persons, 1993		50.5			
% ST population, 1991			0.1	% Pop. in habitations with <=300 persons, 1993		16.4			
Number of Blocks/Taluku, 1999			15	% Pop. with access to pry. school within habitation		71.0			
								% Pop. with access to pry. school within 1 km. (1993)	
Primary Education (1999-2000)								100.0	
		School		Enrolment		Teachers		Classrooms	
School category	Government	Private	Government	Private	Government	Private	Government	Private	
Primary schools	1,101	51	99,923	11,865	2,656	258	2,372	331	
Primary with upper primary	155	28	25,225	9,067	771	248	729	276	
Primary with others	3	2	428	559	12	11	8	15	
Alternative schools	42	x	1051	x		x	x	x	
Total	1,301	81	126,627	21,491	3,439	517	3,109	622	
Performance Indicators-(1999-00)									
Indicator		Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00	
% Girls		49.3	47.7	I	33,108	33,164	31,415	30,983	
Pupil teacher ratio (PTR)		36.5	41.6	II	31,012	30,028	29,970	28,752	
Student classroom ratio (SCR)		40.0	35.0	III	29,473	30,265	29,415	29,756	
% Schools with <=50 students		25.3	1.2	IV	28,822	28,523	49,495	29,148	
% School with PTR>100		0.2	2.5	V	27,254	29,989	27,193	28,558	
% Female teachers		52.1	69.2	AS/EGS					
% Schools established since 1995		4.4		Total	148,669	148,969	147,488	147,197	
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00	
% SC enrolment	17.6	17.5	17.5	21.2	GER	82.8	80.3	84.0	
% SC girls to SC enrolment	48.6	49	49	49	IGE			97.9	
% ST enrolment	0.0	0.0	0.0	0.1	ISE (SC)			125.9	
% ST girls to ST enrolment	53.6	45.8	69.2	50.0	ISE (ST)				
Repetition Rate									
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99	1998-99	
% Single classroom schools	40.0	20.8	11.9	37.3	I	12.0	12.9	12.8	
% Single teacher schools	15.7	12.7	19.7	15.7	II	9.2	8.5	8.4	
% OBB Single teacher schools	14.5	10.8	18.9	14.8	III	10.6	9.4	9.4	
% Schools with SCR>60	36.0	21.3	13.1	23.3	IV	10.7	9.5	9.1	
% Schools with preprimary	3.3	6.8	6.6	4.1	V	8.9	8.0	7.6	
% Schools with common toilets	6.2	8.7	10.7	14.5	Overall	10.3	9.8	9.5	
% Schools with girls toilets	3.9	5.6	6.3	8.3					
% Enrolment in Govt. schools	84.9	84.0	86.6	85.4					
% No female teacher school(total tch=>=2)	27.3	22.4		19.0					
% Students in single teacher schools	8.0	5.1	9.7	6.0					
% Students in schools with SCR>60	48.5	30.0	21.1	29.4					
% Students in schools without buildings	0.1	0.2	0.2						
% Students in schools without black boards	4.1	2.1	1.0						
% Underage & overage grade (<5 & >6Yr.)	5.9	4.6	4.3	3.5					
Mean Percent Achievement Score	BAS Lang.	BAS Maths.	MAS Lang.	MAS Maths					
Grade I	54.5	51.5							
Grade III/IV	34.3	33.3							



Annex Table 4

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

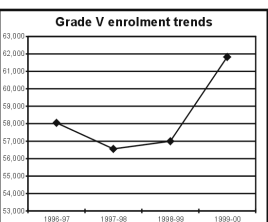
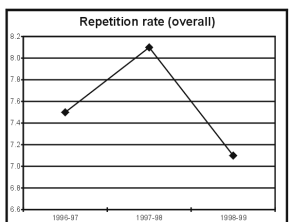
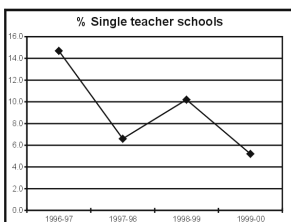
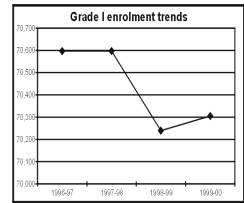
District Name	Ramanathapuram		2217	State	Tamil Nadu		Project Inception	
Population and Literacy							1997	
Population 1991 (in Thousands)			1144	Overall literacy, 1991				61.6
% Urban population, 1991			21.9	Female literacy, 1991				48.7
Sex ratio (Females per thousand males), 1991			1012	SC Female literacy, 1991				30.3
Primary school age group population 1999 (in Thousands)			150.2	ST Female literacy, 1991				29.2
% SC population, 1991			18.1	% Habitations with <=300 persons, 1993				35.3
% ST population, 1991			0.1	% Pop. in habitations with <=300 persons, 1993				7.9
Number of Blocks/Taluks, 1999			13	% Pop. with access to pry. school within habitation				73.9
				% Pop. with access to pry. school within 1 km. (1993)				99.9
Primary Education (1999-2000)								
	School		Enrolment		Teachers		Classrooms	
School category	Government	Private	Government	Private	Government	Private	Government	Private
Primary schools	822	160	71,774	36,820	2,109	821	1,189	539
Primary with upper primary	108	55	17,999	15,722	586	452	290	293
Primary with others								
Alternative schools	83	x	1974	x	83	x	x	x
Total	1,013	215	91,747	52,542	2,778	1,273	1,479	832
Performance Indicators-(1999-00)								
Indicator	Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00	
% Girls	49.5	48.3	I	31,222	30,736	32,053	31,526	
Pupil teacher ratio (PTR)	33.3	41.3	II	28,228	28,055	29,325	28,126	
Student classroom ratio (SCR)	61.0	63.0	III	27,482	27,623	28,863	29,193	
% Schools with <=50 students	32.2	4.7	IV	27,228	26,897	28,547	27,427	
% School with PTR>100	0.3	0.9	V	26,338	25,831	27,006	27,122	
% Female teachers	57.1	69.4	AS/EGS					
% Schools established since 1995	3.2	0.9	Total	140,498	139,142	145,794	142,394	
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00
% SC enrolment	19.4	19.1	19.4	23.4	GER	86.6	88.8	83.0
% SC girls to SC enrolment	48.3	48.8	49.3	49.5	IGE			97.5
% ST enrolment	0.0	0.0	0.0	0.0	ISE (SC)			129.0
% ST girls to ST enrolment	46.2	54.7	46.9	42.9	ISE (ST)			
Repetition Rate								
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00		1996-97	1997-98	1998-99
% Single classroom schools	8.4	8.7	63.3	62.1	I	11.1	14.2	13.6
% Single teacher schools	12.4	13.4	21.0	15.7	II	8.3	9.2	9.4
% OBB Single teacher schools	13.7	15.3	25.8	16.3	III	9.8	10.3	10.1
% Schools with SCR>60	13.7	12.8	44.5	42.8	IV	10.9	11.1	9.5
% Schools with preprimary	19.0	18.9	2.7	1.0	V	10.0	10.4	9.3
% Schools with common toilets	13.7	13.6	15.0	17.3	Overall	10.0	11.1	10.4
% Schools with girls toilets	9.1	8.2	9.3	9.3				
% Enrolment in Govt. schools	68.2	67.9	63.6	63.1				
% No female teacher school (total tch=>=2)	25.7	21.4	17.7	17.7				
% Students in single teacher schools	5.8	5.6	9.5	5.8				
% Students in schools with SCR>60	26.3	25.8	60.5	59.7				
% Students in schools without buildings	0.1	0.1	0.4					
% Students in schools without black boards	1.1	0.4	1.5					
% Underage & overage grade (<5 & >6Yr.)	10.3	5.0	4.0	3.1				
Mean Percent Achievement Score	BAS Lang.	BAS Maths.	MAS Lang.	MAS Maths				
Grade I	60.8	58.8						
Grade III/IV	40.8	45.7						



Annex Table 5

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

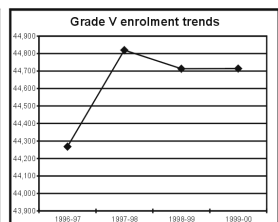
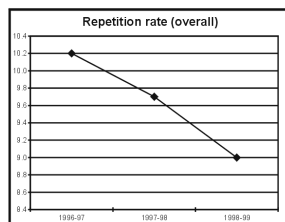
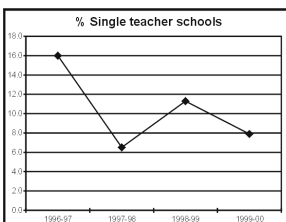
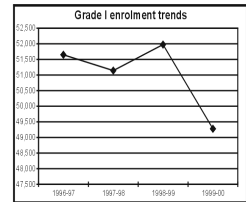
District Name	Villupuram		2222	State	Tamil Nadu	Project Inception				
Population and Literacy						1994				
Population 1991 (in Thousands)				Overall literacy, 1991						
% Urban population, 1991				Female literacy, 1991		39.7				
Sex ratio (Females per thousand males), 1991				SC Female literacy, 1991		24.8				
Primary school age group population 1999 (in Thousands)	385.2			ST Female literacy, 1991		11.3				
% SC population, 1991	14.5			% Habitations with <=300 persons, 1993		13.3				
% ST population, 1991				% Pop. in habitations with <=300 persons, 1993		1.9				
Number of Blocks/Taluks, 1999	24			% Pop. with access to pry. school within habitation		88.3				
				% Pop. with access to pry. school within 1 km. (1993)		100.0				
Primary Education (1999-2000)										
	School		Enrolment		Teachers		Classrooms			
School category	Government	Private	Government	Private	Government	Private	Government	Private		
Primary schools	1,483	212	203,371	42,224	4,760	799	3,658	381		
Primary with upper primary	217	72	54,124	22,027	1,304	510	1,098	607		
Primary with others	7	6	1,720	3,836	40	70	33	66		
Alternative schools	310	x	6279	x	310	x	x	x		
Total	2,017	290	265,494	68,087	6,414	1,379	4,789	1,354		
Performance Indicators-(1999-00)										
Indicator		Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00		
% Girls		49.3	48.8	I	70,597	70,597	70,239	70,305		
Pupil teacher ratio (PTR)		42.5	49.4	II	68,951	69,663	69,250	65,530		
Student classroom ratio (SCR)		54.0	50.0	III	65,230	67,425	65,045	66,673		
% Schools with <=50 students		10.7	1.0	IV	61,983	61,631	62,748	63,942		
% School with PTR>100		1.1	4.1	V	58,054	56,555	56,997	61,824		
% Female teachers		47.2	53.4	AS/EGS						
% Schools established since 1995		3.7		Total	324,815	325,871	324,279	328,274		
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00		
% SC enrolment	28.9	29.7	30.1	35.5	GER	86.7	86.8	95.0		
% SC girls to SC enrolment	47.2	47.7	48.5	48.9	IGE	101.8	103.4	100.6		
% ST enrolment	2.0	2.3	2.6	2.7	ISE (SC)	242.7	249.7	0.0		
% ST girls to ST enrolment	43.4	44.6	45.1	45.2	ISE (ST)					
Repetition Rate										
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99			
% Single classroom schools	10.3	9.0	33.1	27.4	I	8.0	10.0	1.7		
% Single teacher schools	14.7	6.6	10.2	5.2	II	5.9	6.9	7.5		
% OBB Single teacher schools	15.3	6.4	9.3	4.0	III	7.8	7.7	8.9		
% Schools with SCR>60	33.0	31.4	50.0	43.2	IV	8.2	8.5	9.1		
% Schools with preprimary	4.9	5.5	7.0	6.2	V	7.5	7.1	9.1		
% Schools with common toilets	13.6	12.5	15.7	17.8	Overall	7.5	8.1	7.1		
% Schools with girls toilets	8.8	8.1	11.1	11.0						
% Enrolment in Govt. schools	79.9	80.7	79.3	79.2						
% No female teacher school(total tch=>=2)	34.8	28.2	26.0	23.7						
% Students in single teacher schools	8.5	3.5	5.2	2.0						
% Students in schools with SCR>60	42.3	39.3	54.7	49.2						
% Students in schools without buildings	0.4	0.4	0.4							
% Students in schools without black boards	2.1	0.6	0.3							
% Underage & overage grade (<5 & >6Yr.)	7.3	4.6	4.6	4.1						
Mean Percent Achievement Score	BAS.Lang.	BAS.Maths.	MAS.Lang.	MAS.Maths						
Grade I	40.3	34.8	79.4	77.6						
Grade III/IV	36.5	27.7	51.3	51.0						



Annex Table 6

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

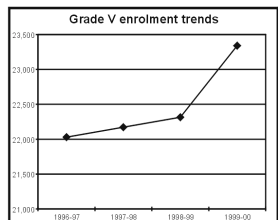
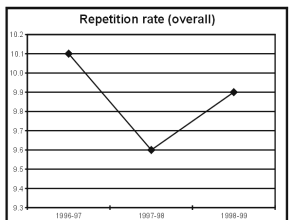
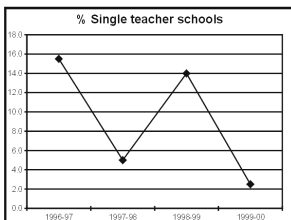
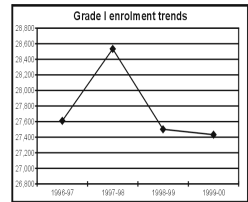
District Name	Thiruvannamalai		2223	State	Tamil Nadu		Project Inception		
Population and Literacy							1994		
Population 1991 (in Thousands)				Overall literacy, 1991					
% Urban population, 1991				Female literacy, 1991				39.3	
Sex ratio (Females per thousand males), 1991				SC Female literacy, 1991				30.5	
Primary school age group population 1999 (in Thousands)	255.7			ST Female literacy, 1991				11.3	
% SC population, 1991	27.1			% Habitations with <=300 persons, 1993				17.8	
% ST population, 1991	1.2			% Pop. In habitations with <=300 persons, 1993				1.9	
Number of Blocks/Taluku, 1999	18			% Pop. with access to prv. school within habitation				86.9	
							% Pop. with access to prv. school within 1 km. (1993)		100.0
Primary Education (1999-2000)									
	School		Enrolment		Teachers		Classrooms		
School category	Government	Private	Government	Private	Government	Private	Government	Private	
Primary schools	1,368	128	157,359	26,699	4,226	615	4,557	657	
Primary with upper primary	185	21	39,706	7,766	1,123	181	1,228	258	
Primary with others									
Alternative schools	287	x	7052	x	287	x	x	x	
Total	1,840	149	204,117	34,465	5,636	796	5,785	915	
Performance Indicators-(1999-00)									
Indicator	Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00		
% Girls	49.2	48.8	I	51,647	51,139	51,974	49,280		
Pupil teacher ratio (PTR)	36.8	43.3	II	48,687	48,508	47,702	46,197		
Student classroom ratio (SCR)	34.0	38.0	III	48,091	47,892	47,029	45,931		
% Schools with <=50 students	18.0	4.1	IV	47,204	47,145	46,924	45,408		
% School with PTR>100	0.6	3.4	V	44,268	44,820	44,713	44,714		
% Female teachers	47.2	65.1	AS/EGS						
% Schools established since 1995	4.0	Total		239,897	239,504	238,342	231,530		
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00	
% SC enrolment	22.3	22.5	22.3	27.5	GER	89.8	90.0	85.0	
% SC girls to SC enrolment	48.9	48.9	49.4	49.5	IGE	104.0	104.2	101.1	
% ST enrolment	3.0	3.2	3.6	4.6	ISE (SC)	101.4	101.3	0.0	
% ST girls to ST enrolment	42.3	41.8	41.9	43.1	ISE (ST)	313.5	350.0		
Repetition Rate									
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99	1998-99	
% Single classroom schools	10.6	5.4	4.9	4.3	I	13.3	13.0	12.0	
% Single teacher schools	16.0	6.5	11.3	7.9	II	9.3	8.4	7.8	
% OBB Single teacher schools	15.8	5.7	11.8	6.6	III	9.5	8.7	8.2	
% Schools with SCR>60	19.6	12.6	9.6	6.3	IV	10.1	9.3	8.6	
% Schools with preprimary	5.9	3.9			V	8.7	8.5	7.8	
% Schools with common toilets	9.9	14.3	18.2	20.2	Overall	10.2	9.7	9.0	
% Schools with girls toilets	7.0	9.3	10.6	12.9					
% Enrolment in Govt. schools	85.2	85.3	85.1	85.1					
% No female teacher school (total tch>=2)	32.7	25.2	25.6	22.8					
% Students in single teacher schools	8.4	2.4	4.7	3.0					
% Students in schools with SCR>60	27.6	20.3	15.2	9.7					
% Students in schools without buildings	0.2	0.5	0.1						
% Students in schools without black boards	1.5	0.5	1.4						
% Underage & overage grade (<5 & >6Yr.)	2.5	3.6	3.7	2.7					
Mean Percent Achievement Score	BAS Lang.	BAS Maths.	MAS Lang.	MAS Maths					
Grade I	32.5	30.6	56.3	52.3					
Grade III/IV	33.7	28.8	43.6	30.9					



Annex Table 7

DISTRICT REPORT CARD 2000 : PRIMARY EDUCATION

District Name	Perambalur		2224	State	Tamil Nadu		Project Inception		
Population and Literacy							1997		
Population 1991 (in Thousands)				Overall literacy, 1991					
% Urban population, 1991				Female literacy, 1991					
Sex ratio (Females per thousand males), 1991				SC Female literacy, 1991					
Primary school age group population 1999 (in Thousands)			143.1	ST Female literacy, 1991					
% SC population, 1991				% Habitations with <=300 persons, 1993					
% ST population, 1991				% Pop. In habitations with <=300 persons, 1993					
Number of Blocks/Talucs, 1999			10	% Pop. with access to prv. school within habitation					
				% Pop. with access to prv. school within 1 km. (1993)					
Primary Education (1999-2000)									
		School		Enrolment		Teachers		Classrooms	
School category	Government	Private	Government	Private	Government	Private	Government	Private	
Primary schools	638	81	80,608	20,336	2,334	453	1,834	482	
Primary with upper primary	88	28	17,254	7,000	662	267	420	285	
Primary with others	1		126		4		4		
Alternative schools	105	x	2280	x	105	x	x	x	
Total	832	109	100,268	27,336	3,105	720	2,258	767	
Performance Indicators-(1999-00)									
Indicator		Govt.	Private	Enrolment	1996-97	1997-98	1998-99	1999-00	
% Girls		49.2	49.9	I	27,609	28,534	27,502	27,432	
Pupil teacher ratio (PTR)		32.7	38.0	II	24,796	25,039	26,118	24,957	
Student classroom ratio (SCR)		43.0	36.0	III	23,879	24,788	24,667	25,514	
% Schools with <=50 students		15.9	2.8	IV	23,204	23,446	24,259	24,079	
% School with PTR>100			3.7	V	22,029	22,171	22,314	23,342	
% Female teachers		50.4	63.3	AS/EGS					
% Schools established since 1995		2.2		Total	121,517	123,978	124,860	125,324	
Enrolment of SC/ST	1996-97	1997-98	1998-99	1999-00	Indicator	1997-98	1998-99	1999-00	
% SC enrolment	23.7	23.8	24.7	29.8	GER	84.4	83.2	91.0	
% SC girls to SC enrolment	47.6	48.5	49	49	IGE			102.9	
% ST enrolment	0.5	0.9	0.9	1.4	ISE (SC)			0.0	
% ST girls to ST enrolment	43.1	42.5	45.4	45.9	ISE (ST)				
Repetition Rate									
Trends in Performance Indicators	1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99	1998-99	
% Single classroom schools	33.7	25.5	15.0	21.5	I	11.9	11.7	13.5	
% Single teacher schools	15.5	5.0	14.0	2.5	II	8.4	7.7	8.9	
% OBB Single teacher schools	15.0	4.1	13.2	1.9	III	9.8	9.4	9.2	
% Schools with SCR>60	42.9	32.6	18.8	21.5	IV	10.6	10.0	8.8	
% Schools with preprimary	17.8	15.8	4.3	3.1	V	9.6	8.7	8.3	
% Schools with common toilets	9.6	10.8	12.0	12.4	Overall	10.1	9.6	9.9	
% Schools with girls toilets	4.8	5.2	5.4	6.5					
% Enrolment in Govt. schools	79.9	78.1	77.7	78.2					
% No female teacher school(total tch=>=2)	24.9	20.4	20.2	19.6					
% Students in single teacher schools	7.4	1.9	6.8	1.0					
% Students in schools with SCR>60	49.9	38.8	22.1	25.9					
% Students in schools without buildings	0.1		0.3						
% Students in schools without black boards	5.5	0.9	0.9						
% Underage & overage grade (<5 & >6Yr.)	9.9	4.3	2.8	2.5					
Mean Percent Achievement Score	BAS Lang.	BAS Maths.	MAS Lang.	MAS Maths					
Grade I	48.9	48.4							
Grade III/IV	38.8	37.6							



Annex Table 8
School characteristics and CRF

Category	Completion Rate		
	Overall	Phase I	Phase II
Overall	55.0	55.9	52.7
Male	54.0	55.1	51.4
Female	56.1	56.8	54.1

Caste group

Category	Overall	Phase I	Phase II
SC	53.9	55.0	50.5
ST	45.2	45.5	40.9
OBC	57.6	59.1	56.1
MBC	54.3	55.6	50.1
General	58.5	59.0	55.9

Management

Category	Overall	Phase I	Phase II
Govt.	53.8	55.1	50.3
Private	51.5	61.6	61.4

By age

Category	Overall	Phase I	Phase II
5.0	55.2	56.3	52.6
6.0	55.1	55.7	54.1
7.0	45.7	45.2	47.1
8.0	38.5	36.5	44.3

Head Teacher

Category	Overall	Phase I	Phase II
Male	58.0	58.5	57.2
Female	54.4	55.5	51.3

Girls Toilet

Category	Overall	Phase I	Phase II
Yes	52.0	61.3	63.7
No	53.7	54.9	50.7

Teachers

Category	Overall	Phase I	Phase II
Single Teacher	45.5	47.1	43.1
Two teachers	49.8	51.5	46.2
Others	57.3	57.8	56.0

Distance from Block Headquarter

Category	Overall	Phase I	Phase II
<= 3	62.0	62.0	61.9
3_8	55.1	56.1	52.5
8_15	54.1	55.1	51.8
>=15	52.8	54.2	52.7

Rural-Urban

Category	Overall	Phase I	Phase II
Rural	54.4	55.5	51.8
Urban	66.1	65.2	67.8

Boundary Wall

Category	Overall	Phase I	Phase II
Yes	62.3	61.4	64.9
No	53.5	54.8	50.3

Preprimary

Category	Overall	Phase I	Phase II
Yes	53.9	53.1	62.2
No	55.3	56.9	52.1

School Category

Category	Overall	Phase I	Phase II
Primary	54.0	55.1	51.4
Primary with upper primary	59.3	60.0	57.8
Primary and others	64.9	69.3	60.0

Annex Table 9**Indicators of internal efficiency, Cuddalore district**

Block name	Cohort Dropout rate	Cohort Repetition rate	CRF
Cuddalore	11.1	27.2	60.2
Annagramam	20.0	30.3	50.1
Panrutti	15.3	31.5	52.2
Neyveli	13.6	18.6	65.8
Kurinjipadi	18.2	30.0	51.0
Virddhachalam	12.8	23.3	64.9
Nallur	7.0	30.1	60.3
Mangalore	13.4	20.9	63.7
Kammapuram	9.9	28.5	58.2
Parangipettai	14.4	31.1	52.4
Bhuvanagiri	13.6	30.6	56.1
Keerapalayam	13.4	24.3	59.5
Kumaratchi	13.9	25.9	57.0
Kattumannarkoil	12.1	29.9	55.5

Annex Table 10
Indicators of internal efficiency, Dharmapuri district

Block name	Cohort Dropout rate	Cohort Repetition rate	CRF
Dharmapuri	25.3	21.8	52.0
Nellampalli	17.3	24.2	58.6
Pennagaram	24.3	20.1	53.4
Palacode	25.1	18.8	53.3
Karimangalam	18.5	19.7	61.9
Morappur	15.8	33.3	49.6
Pappireddipatti	21.2	29.0	50.8
Harur	19.8	30.8	48.6
Uthangarai	18.8	29.4	50.7
Krishnagiri	10.2	17.2	68.4
Kaveripattinam	14.7	33.5	49.9
Bargur	20.4	29.1	49.6
Veppanpalli	25.1	19.7	52.9
Shoolagiri	29.6	35.8	35.3
Hosur	26.8	27.5	44.3
Kelamangalam	28.3	24.6	47.8
Thally	31.9	28.0	41.0
Mathur	17.5	29.3	50.8

Annex Table 11**Indicators of internal efficiency, Pudukkottai district**

Block name	Cohort Dropout rate	Cohort Repetition rate	CRF
Kunnandarkoil	25.4	27.2	48.4
Annavasal	17.1	24.1	56.6
Viralimalai	22.5	23.7	53.0
Gandarakkottai	22.3	23.7	54.6
Pudukkottai	10.7	34.8	51.7
Thiruvarankulam	9.7	17.5	68.7
Karambakkudi	11.5	24.4	54.9
Thirumayam	16.2	25.3	54.1
Ponnamaravathy	18.4	34.3	45.0
Arimalam	10.5	36.4	51.2
Aranthangi	20.0	27.4	51.1
Manamelkudi	23.0	31.6	43.7
Avudaiyarkoil	24.0	27.3	46.3
Pudukkottai Town	15.0	12.1	69.5
Aranthangi Town	19.8	18.7	58.0

Annex Table 12**Indicators of internal efficiency, Ramanathapuram district**

Block name	Cohort Dropout rate	Cohort Repetition rate	CRF
Tiruvadanai	17.6	31.7	49.1
Rajasingamangalam	13.6	29.9	51.3
Paramakkudi	16.3	39.1	42.9
Bogalur	11.6	18.1	66.8
Nainarkoil	5.2	42.2	50.5
Kamudi	28.8	18.6	47.8
Mudukulathur	18.7	26.2	52.2
Kadalady	22.7	26.5	47.3
Ramanathapuram	8.2	30.3	56.5
Tiruppullani	18.1	33.3	48.8
Mandapam	20.2	24.8	53.8
Paramakkudy Town	9.7	20.0	69.1
Ramanathapuram(Mt)	4.8	19.5	70.8

Annex Table 13
Indicators of internal efficiency, Villupuram district

Block name	Cohort		CRF
	Dropout rate	Repetition rate	
Melmalayanur	11.3	35.5	51.4
Gingee	13.5	34.8	51.6
Vallam	14.3	29.7	54.4
Olakkur	13.0	33.5	53.6
Mailam	14.5	25.3	59.6
Marakkanam	13.1	40.5	46.5
Vanur	10.3	24.8	64.6
Kanai	17.4	34.6	48.5
Vikravandi	18.7	26.9	58.1
Kolianur	13.1	24.7	64.4
Kandamangalam	14.0	23.9	60.1
Mugaiyur	16.1	17.3	64.6
Tirukkoilur	23.4	22.7	54.0
Tiruvennainallur	20.1	28.4	53.5
Sankarapuram	21.0	12.8	64.3
Rshivandiyam	26.9	23.6	49.9
Kallakurichi	24.5	21.9	54.1
Chinnasalem	18.4	15.4	65.6
Thiagadurugam	25.0	22.6	54.7
Kalrayan Hills	29.7	13.5	55.9
Ulundurpet	26.1	27.4	46.2
Thirunavalur	17.8	26.2	55.5
Tindivanam	5.8	31.4	62.6
Villupuram	12.6	11.0	74.1

Annex Table 14**Indicators of internal efficiency, Thiruvannamalai district**

Block name	Cohort Dropout rate	Cohort Repetition rate	CRF
Vembakkam	15.2	25.8	57.3
Cheyyar	12.0	19.7	66.4
Anakkavur	7.6	21.1	68.0
Pernamallur	7.6	31.2	58.6
Vandavasi	9.3	27.9	58.1
Thellar	8.6	35.0	53.0
Arni	12.7	21.2	62.4
West Arni	12.5	20.9	65.1
Polur	9.0	21.7	69.4
Kalaspakkam	16.5	22.5	59.8
Chetpet	9.2	22.8	63.9
Thurinapuram	11.5	24.1	60.7
Kilpennathur	14.8	18.8	65.6
Thiruvannamalai	16.5	23.7	59.6
Pudupalayam	16.8	27.0	57.8
Chengam	22.0	18.0	60.2
Thandrapet	22.1	24.0	53.8
Jawadhu Hills	44.8	16.4	40.3

Annex Table 15**Indicators of internal efficiency, Perambalur district**

Block name	Cohort Dropout rate	Cohort Repetition rate	CRF
T. Palur	23.8	25.2	49.8
Veppur	16.7	25.9	53.6
Veppanthattai	13.8	26.7	55.7
Perambalur	13.5	28.4	56.0
Sendurai	19.3	22.0	55.4
Alathur	18.4	23.1	53.5
Ariyalur	22.8	28.3	48.6
Andimadam	17.7	25.8	53.1
Jayanakondam	24.1	28.4	44.7
Thirumanur	12.3	34.4	53.5

Bibliography

- Aggarwal, Yash (2000). *DPEP: 2000 An Assessment of Trends in Access and Retention*, NIEPA, New Delhi.
- Aggarwal, Yash (1999a). *Access and Retention, The Impact of DPEP: The National Overview*, Department of Education, Government of India, MHRD, New Delhi.
- Aggarwal, Yash (1999b). *Access and Retention: A study of Primary Schools under DPEP*, Department of Education, MHRD, New Delhi.
- Aggarwal, Yash (ed). (1998a). *Reforming School Education: Issues in Policy, Planning and Implementation*, NIEPA. Vikas Publishers, New Delhi.
- Aggarwal, Yash (1998b). *Primary Education in Delhi: How Much do the Children Learn*, NIEPA, New Delhi.
- Aggarwal, Yash (1997). *Planning and Implementation: Issues and Response Matrix*, *DPEP Calling*, February 1997.
- Aggarwal, Yash (1987). *Education for All: Census Evidence on School Going Children*, *Perspectives in Education*, Vol. 3, No.4.
- Chapman, David, W. Windham, Douglas M. *The Evaluation of Efficiency in Educational Developmental Activities*, Agency for International Development, Washington.
- Chaudhri, D.P. (1996). *A Dynamic Profile of Child Labour in India, 1951-1991*, ILO, New Delhi.
- Cuadra, E. Birgar Fredriksen (1992). *Scope for Efficiency gains Resulting from Reduction in Repetition and Dropout*. PHREE Background Paper Series, World Bank, Washington.
- Dauraisamy, Malathy and P. Dauraisamy (1999). *Costs, wastage and Effectiveness of primary schooling in Tamil Nadu*, A paper presented at the national Seminar on Costs and wastage in primary Education, Institute of Social and Economic Change, Bangalore.
- DPEP (1998). *Three years of DPEP: Assessment and Challenges*, Department of Education, MHRD, New Delhi.

- Evans, David R. (1999). *The Politics of Educational Statistics, CERcular (No. 1)*, University of Hong Kong, Hong Kong.
- Fredriksen, Birger. (1991) *An Introduction to the Analysis of Student Enrollment and Flows Statistics*. PHREE Background Paper No. PHREE/91/39, World Bank, Washington D.C.
- Fredriksen, Birger. (1984) *Methods of Analyzing and Projecting Education Statistics in Zambia*. Oslo: Norsk Utenrikspolitisk Institutt, NUPI Rapport NO. 86.
- Fredriksen, Birger. (1976) "The use of Flow Models for Estimating the Future School Enrolment in Developing Countries, in UNESCO. *Methods of Projecting School Enrolment in Developing Countries*. Paris: UNESCO.
- Fuller, B. (1987) Raising School Quality in Developing Countries: What investments Improve School Quality? *Review of Educational Research*. V.57, pp. 255-291.
- Government of Tamil Nadu (1997). *Statistical Handbook of Tamil Nadu, 1997*. Directorate of Economics and Statistics, Chennai.
- Haddad, Wadi D. (1979) *Educational and Economic Effects of Promotion and Repetition Practices*. World Bank, Staff Working Paper No. 319.
- Holmes, C.T. (1989) Grade Level Retention Effects: A Meta-Analysis, in Shepard, L.A and Smith, L.E. (ed) *Flunking Grades, Research and Policies on Retention*. The Falmer Press, Philadelphia, pp. 16-33.
- International Institute of Population Studies (1995). *National Family Health Survey, India 1992-93*, IIPS, Mumbai.
- International Bureau of Education (1971). *Wastage in Education: A World Problem*, UNESCO/ IBE, Paris.
- Majumdar, Mauaki (1997). *Rural Literacy Scene in Tamil Nadu and Rajasthan*, Discussion Paper No. 23. Studies on Human Development in India, UNDP, New Delhi.
- NCAER, (2001). *South India: Human Development Report*, NCAER, New Delhi.
- PROBE, (1998). *Public Report on Basic Education in India*, Oxford University Press, New Delhi.

- Puryear, J.M. (1995). International education Statistics and research: Status and Problems, *International Journal of Educational Development*. Vol. (15), No.1 pp. 79-91.
- Schiefelbein, Ernesto (1975). Repeating: An Overlooked Problem in Latin American Education, *Comparative Education Review*, 19(3), pp. 468-487.
- Schiefelbein, Ernesto and Davis, Russell G. (1980) "Methods of Estimating Enrollment Flow Rates: An Instructional Unit." In Russell G. Davis, *Planning Education for Development: Volume II. Models and Methods for Systematic Planning of Education*. USAID/HARVARD, Cambridge pp. 121-149.
- Schwille, J., Eisemon T.O., Ukobizoba F., Houang R., Kwon D., and Prouty R. (1991). *Is Grade Repetition Always Wasteful? New Data and Unanswered Questions*. BRIDGES Research Report Series, No. 7. Cambridge, MA. Harvard University.
- Sharma, R.C. and C.L. Sapra (1969). *Wastage and Stagnation in Primary and Middle Schools in India*, NCERT, New Delhi.
- Srivastava, A.B.L. (1996). *Benchmark Survey of 25 Blocks of the First Phase of Lok Jumbish Project*. A report submitted to the Lok Jumbish Project (India).
- Srivastava, A.B.L. (1999). Methodological issues in estimation of dropout rates in primary education, EdCIL, New Delhi. (mimeo).
- Thonstad, T. (1980). *Analysing and Projecting School Enrolment in Developing Countries: A Manual of Methodology*. UNESCO, Statistical Reports and Studies No. 24, Paris.
- Tyagi, P.N. (1993). *Education for All: A Graphic Presentation*, NIEPA, New Delhi.
- UNESCO, (1993). *World Education Report 1993*, UNESCO, Paris.
- UNESCO, (1972). *Statistical Study of Wastage at School*, UNESCO Office of Statistics, UNESCO, Paris.
- UNESCO, (1976). *Methods of Projecting School Enrolment in Developing Countries*, Division of Statistics, Office of Statistics, UNESCO, Paris.
- World Bank, (1997). *Primary Education in India*, World Bank, Washington.