

**SARVA SHIKSHA ABHIYAN : AN EXAMINATION
OF ITS FUNDING AND ITS PERFORMANCE AT
THE STATE LEVEL**

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Declaration

I do hereby declare that the dissertation titled "SARVA SHIKSHA ABHIYAN : AN EXAMINATION OF ITS FUNDING AND ITS PERFORMANCE AT THE STATE LEVEL" submitted by me for the award of the degree of MASTER OF PHILOSOPHY of Jawaharlal Nehru University is my own work. The dissertation has not been submitted to any other university for the award of any other degree.

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To My Parents



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Abbreviations

AIE	Alternative and Innovative Education
AIE	Alternative & Innovative Education
AWP&B	Annual Work Plan and Budget
BRC	Block Resource Centres
BRG	Block Resource Group
CRC	Cluster Resource Centres
CSS	Centrally Sponsored Scheme
DEE&L	Department of Elementary Education and Literacy
DEE&L	Department of Elementary Education and Literacy
DEEP	District Elementary Education Plan
DIET	District Institute of Education and Training
DI_s	Dimensional Indices
DISE	District Information System for Education
DPEP	District Primary Education Project
DPO	District Project Office
EC	Executive Committee
ECCE	Early Childhood Care and development
ECE	Early Childhood Education
EDI	Educational Development Index
EGS	Education Guarantee Scheme
EGS	Education Guarantee Scheme
EMIS	Educational Management Information System
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GOI	Government of India
ICDS	Integrated Child Development Services
IED	Integrated Education of the Disabled
IMR	Infant Mortality Rate
KGBV	Kasturba Gandhi Balika Vidyalaya
MDGs	Millennium Development Goals
MHRD	Ministry of Human Resource Development
MIS	Management Information System
NCERT	National Council of Educational Research and Training
NCTE	National Council of Teacher Education
NIEPA	National Institute of Education Planning and Administration
NPE	National Policy on Education
NPEGEL	National Programme for Education for Girls at Elementary Level
NUEPA	National Institute of Education Planning and Administration
OBB	Operation Black Board
PAB	Project Approval Board
PAB	Project Approval Board
PCA	Principal Component Analysis

PRI	Panchayati Raj Institution
PTA	Parent Teacher Association
PTR	Pupil Teacher Ratio
SC	Schedule Caste
SIS	State Implementation Society
SMC	School Management Committee
SSA	Sarva Shiksha Abhiyan
ST	Schedule Tribe
TLE	Teacher Learning Material
TLM	Teaching Learning Material
UEE	Universal Elementary Education
VEC	Village Education Co

“.... the state has to come forward to liberally finance education: after all, ‘no nation goes bankrupt by investing in education’.”

- J. B. G. Tilak (2009)

Chapter 1

Chapter 1: Introduction

1.1 Importance of Education

The importance of education has been widely recognised for a person and for the society as a whole (Schultz¹, 1961; Blaug, 1972). The ultimate goal of any civilized society is human development, which is possible through education. Education not only leads to human development but it also positively affects the other indicators² of human development. It reduces fertility, improves mortality rates and health (Colclough, 1982; Tilak, 1994). There is enough evidence even in India to show that a high literacy rate, especially in the case of women, correlates with low birth rate, low infant mortality rate (IMR) and increase in the rate of life expectancy (Planning Commission, 2002-07).

Education also leads to the formation of human Capital that is why its acquisition has been compared with acquiring the 'means of production' (Schultz, 1961). Education opens up many new choices and opportunities which otherwise would have been unavailable to an individual. After acquiring education an individual no longer remains at the mercy of others, but now he can be in control of his increased productivity and earnings.

Education is also needed to make economic growth inclusive, as economic growth seldom percolates down to the bottom most section of the society (Chakrabarti & Joglekar, 2006). It has been established that there is positive association between education and earnings (Schultz, 1961; Blaug, 1972). Education plays an empowering and a re-distributive role by helping people to break intergenerational cycles of poverty, deprivation and exploitation, as the spread of education facilitates higher participation of the skilled labour force in development (Tilak, 1994; Mehrotra & Srivastava, 2005). It is widely seen, and justified as a crucial vehicle for social and economic development (Jha, Das, Mohanty & Jha, 2008). The poor cannot improve their human capabilities without the functioning schools, nor can they take advantage of market opportunities as they arise (Mehrotra, 2006). Education and absolute poverty are inversely related, as education

¹ The concept of Human Capital was first introduced by Nobel Laureate Theodore Schultz (1961). His work has led to the recognition of education as a productive sector, which helps in the production of 'human capital' comparable with physical capital in production.

² viz. literacy rate, infant mortality rate, life expectancy, death rate, birth rate etc.

affects poverty directly by imparting knowledge and skills that are associated with higher productivity and higher wages and indirectly by influencing fulfillment of basic needs like better utilisation of health facilities, water and sanitation, and shelter (Tilak, 1994). That is why a proper education system can help us reduce poverty and income inequalities.

At an individual level, a student who does not complete school education severely restricts his adult earning potential; he loses out in the race for self advancement being unable to leverage the opportunities available to lead a healthy and contented life (Choudhury, 2006). While there is no assurance that with the education one can always move to higher positions, it is generally unlikely that one can do so without education (Gore, 1994). This is why education should not be thought of as something for which we need to compete against each other, because then all one can do, as of right, is the right to enter the competition (Wornock, 1975). It should be provided by the government, and everyone should have the right to receive it, not just the opportunity for it. Education policy should be framed in such a way that every child gets equal quality education irrespective of his/her caste, religion and most importantly irrespective of his/her parental economic condition. Overall development of a nation is not possible without human development and human capital formation. And a development process is sustainable only when it is inclusive. Education also provides the basis for sustained democracy (Tilak, 1994). So education plays a vital role for an economy.

1.1.1 Levels of Education

Each level of education has its own importance, but contribution of primary schooling has greater impact on economic development. There is evidence that attainments in the early years are positively correlated with later academic and economic success (Gibbons and Machin, 2001). Elementary education increases the productivity in all the sectors of the economy much more than other levels of education and that economic returns to investment in primary education are greater than those arising from other levels of education (Coclough, 1980; Das, 2007; Tilak, 1994). It increases labour productivity, reduces fertility, improves health and nutrition, and promotes other behavioural and attitudinal changes which are helpful to economic development; thus

investment strategies which give primary schooling an important place would be more conducive to growth-with equity than many other alternatives (Colclough,1982).

1.2 Elementary Education in India

Indian constitution adopted in 1950, directed the state to endeavor to provide free and compulsory education for the children up to the age of 14, within 10 years of adoption of the Constitution³. Though it was a Directive Principal of State Policy, it was expected that state led development policies would be guided by it, but it still remains just a dream⁴. The importance of free and compulsory education has been reiterated time and again since independence. In the field of education an important landmark was the setting up of Education Commission (1964-66), which recommended that 6 percent of Gross Domestic Product (GDP) should be spent on education. There were two policy formulation to raise the education standard in the country, namely National Policy on Education (1968) and National Policy on Education (1986), which talked about the provision of access to education of a comparable quality to all children. NPE (1986) advocated for the universal education for all children up to the age of 14 years. Operation Blackboard (1987), a scheme to improve the teaching environment in schools by providing minimum essential facilities to all primary schools in the country, followed the NPE (1986). District Primary Education Programme (DPEP) was launched in 1994 covering nearly 60 percent of the country, with the aim of increasing enrollment, retention and achievement at the primary stage and simultaneously reducing gender and social disparities in the districts. The emphasis of educational planning during the last sixty three years was on removing the supply side constraints, but very little could be accomplished in terms of quality improvement.

Despite all these efforts there has been educational inequality in the country. There are areas/groups of population that attained universal literacy long ago, while there are others who are still lagging behind (Aggarwal, 1998). This has been attributed to historical neglect, poor governance, concentration of population of disadvantaged social/religious groups, limited livelihood options and poverty, traditional or socio-

³ Article 45 of the Indian Constitution.

⁴ Though Right to Education has become an Act now, but it excludes children of 0-5 age group from its purview.

cultural barriers to education of girls or an overall lack of commitment to the education of children in the area, persistence of regional and social disparities in general and that of educational development in particular (Jhingran and Sankar, 2009; Aggarwal, 1998).

1.2.1 Development Towards Universal Elementary Education

Despite existence of the commitments regarding universal education, nothing was happening towards the achievement of universal education. From 1990 onwards pressure for universal elementary education was building up from two direction which could be termed as followed, *first, internal pressure* and *secondly, external pressure*. The landmark judgment⁵ of the Supreme Court in 1993 pronounced the Right to Education a Fundamental Right, which built the pressure on the government to make elementary education universal. This led Government of India to draft the first Bill to amend the Constitution to make education a fundamental right. Nine years after that historical judgment, the Parliament of India modified the Constitution to make education a fundamental right of the children in the age group of 6-14, enabling citizen, at least theoretically, to demand it from the state⁶. The 86th Constitution Amendment (2002) added a clause (A) to Article 21 (Fundamental Rights), which stated clearly that the State “*shall provide free and compulsory education to all children of the age of six to fourteen years in such a manner as the State may, by law, determine.*” The external pressure to make elementary education universal as well was building up as India become signatory to several international agreements, namely Jomtien Declaration⁷ (1990), Dakar

⁵ The Judgement of the Supreme Court in Unnikrishnan J.P. Vs. Andhra Pradesh (1993) states : "The citizens of the country have a fundamental right to education. The said right flows from Article 21 of the Constitution. This right is, however, not an absolute right. Its contents and parameters have to be determined in the light of Articles 45 and 41. In other words, every child/citizen of this country has a right to free education until he completes the age of 14 years. Thereafter his right to education is subject to the limits of economic capacity and development of the State."

⁶ "Before the 86th Amendment to the Constitution, compulsory education acts had existed in 19 states and union territories, but they lacked teeth and were rarely implemented" (Ramachandran and Sharma, 2009).

⁷ In 1990, delegates from 155 countries, as well as representatives from some 150 governmental and nongovernmental organizations, agreed at the World Conference on Education for All in Jomtien, Thailand (5-9 March 1990) to make primary education accessible to all children and to massively reduce illiteracy before the end of the decade. The delegates reaffirmed the notion of education as a fundamental human right and urged countries to intensify efforts to address the basic learning needs of all. The goals included: universal access to learning, a focus on equity, emphasis on learning outcomes, broadening the means and the scope of basic education, enhancing the environment for learning, and strengthening partnerships by 2000.

Framework for Action⁸ (2000) and millennium development goals⁹ (MDGs). Subsequently, in 2000, Sarva Shiksha Abhiyan (SSA) was launched across the country as an umbrella programme for universalisation of elementary education by 2010.

1.2.2 Sarva Shiksha Abhiyan (SSA)

Sarva Shiksha Abhiyan (SSA) is a framework of programs that clubs all existing programmes of elementary education in the central and centrally sponsored¹⁰ category. It forms the cornerstone of government interventions in basic education for all children. It was launched in November 2000 as an umbrella programme, was to support and build on elementary education projects. It is a programme with budget provision to achieve universal elementary education (UEE). One of the main objectives of SSA was to address inequities in education in terms of access and outcomes by aligning financing with the needs of particular regions and communities (Mukherjee and Sen, 2007).

SSA has been conceived as a programme which is demand driven that encourages partnership between different tiers of government right down to the Gram Panchayat level. Planning for the needs related to teacher and infrastructure gaps is done at the village and block level and then consolidated into district educational plan, which forms the basis for the state level Annual Work Plan and Budget (AWP&B). Decentralized planning forms the basis of funding under SSA. The major difference between SSA and other programmes is that the funds are channeled through registered society at the state level.

⁸ The World Education Forum (26-28 April 2000, Dakar) adopted the Dakar Framework for Action. Its participants reaffirmed the vision of the World Declaration on Education for All adopted ten years earlier (Jomtien, Thailand, 1990). They collectively committed the world community to achieving education for 'every citizen in every society'.

⁹ The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000. The eight MDGs to be achieved by 2015 are: 1) Eradicate extreme poverty and hunger, 2) Achieve universal primary education, 3) Promote gender equality and empower women, 4) Reduce child mortality, 5) Improve maternal health, 6) Combat HIV/AIDS, malaria and other diseases, 7) Ensure environmental sustainability, 8) Develop a Global Partnership for Development.

¹⁰ CSS are designed by the central government and to be implemented by the states under central guideline to fill the existing educational gaps in states.

The declared goals of SSA in brief are:

- All children in school, Education Guarantee Centre or Alternate School by 2003.
- All children complete five years of primary schooling by 2007
- All children complete eight years of schooling by 2010
- Focus on elementary education of satisfactory quality with emphasis on education for life
- Bridge all gender and social category gaps at primary stage by 2007 and at elementary education level by 2010
- Universal retention by 2010

The objectives of Sarva Shiksha Abhiyan are to achieve Universal Elementary Education (UEE), which means universal enrollment, retention and achievement. Implicitly embedded in the notion of universal retention and completion of the elementary stage is the idea that children must learn adequately so that they can continue to make satisfactory progress through the education system.

1.2 The Objective:

It is recognised that the India is very large country with states at different level of educational development and having different level of educational infrastructure. Some states might move quite close to the SSA target by the end of the plan period while some others might remain far behind. From the available literature¹¹ two issues emerge very prominently about the existing elementary education system in the country. *First*, there is huge difference in terms of availability of infrastructure in the elementary level schools; *second* is the difference in terms of educational outcomes among the states, which has been attributed to factors like historical neglect, poor governance, concentration of population of disadvantaged social/religious groups, limited livelihood options and poverty, traditional or socio-cultural barriers to education of girls or an overall lack of commitment to the education of children in the area, persistence of regional and social disparities in general and that of educational development in particular (Jhingran and Sankar, 2009; Aggarwal, 1998).

Existence of disparities in terms of availability of educational infrastructure and

¹¹ Discussed in the next chapter.

outcome would force any government worth its salt to initiate remedial measures to reduce such disparities. SSA is one such programme addressed to these disparities. It gives financial assistance to states so that they can improve the condition of elementary education. Given existing disparities, it becomes very important that the financial assistance should be given according to the educational needs of the states.

The propose study will try to see how different Indian states have performed in respect of different educational indicators, if at all there exists educational disparity then what is its level and whether the funding¹² and expenditure by different states under SSA are according to the educational needs of the respective states. Data used to see the performance of states in terms of educational indicators and to estimate educational disparity corresponds to the year 2007-08; and the data related to funding corresponds to the year 2008-09.

1.3 Research Questions:

- 1) How the states have performed in terms of different dimension¹³ of educational development at the elementary level and what is the level of disparity, if it exists?
- 2) Are there any gender and social category gaps in terms of access to elementary education across state?
- 3) What is the overall level of educational development at the elementary level across states and what is the level of disparity, if it exists?
- 4) Whether funding¹⁴ pattern under SSA especially expenditure by states is according to the educational need of a particular state as reflected by their level of educational development?

1.4 Hypothesis:

- 1) SSA has reduced the educational disparity across states.
- 2) Funding pattern under SSA is according to the educational need of the states.

¹² Funding here means funds allocation, funds release and actual expenditure.

¹³ Access, infrastructure, teachers, equity and output.

¹⁴ Data for funding and expenditure correspond to the year 2008-09.

1.5 Methodology:

The methodology used in each chapters varies according to the objective it deals with. The explanation of the same is briefly mentioned in this chapter. The study have dealt with finding the answers of the first three research questions by preparing dimensional indices representing different dimensions of educational development namely, access index, infrastructure index, teacher index, outcome index, equity index and a overall educational development index (EDI). We have taken all together 25 indicators representing above mentioned five dimensions. These indicators correspond to the year 2007-08. The selection of the year 2007-08 was purely based on the availability of the data at the time we started working on this dissertation. Wherever data was not available for some of the states for some indicators¹⁵, the latest available data has been used. The negative indicators¹⁶ have been properly adjusted to make them positive indicators. So we have five matrices each representing different dimensions of educational development.

$$X_i = \begin{bmatrix} x_{11} & x_{12} & x_{13} & \dots\dots\dots & x_{1n} \\ x_{21} & x_{22} & x_{23} & \dots\dots\dots & x_{2n} \\ x_{31} & x_{32} & x_{33} & \dots\dots\dots & x_{3n} \\ \vdots & \vdots & \vdots & & \vdots \\ x_{m1} & x_{m2} & x_{m3} & \dots\dots\dots & x_{mn} \end{bmatrix}$$

where,

X_i = Metrics of i^{th} dimension, where rows represent different states and
Columns represent different variables

$i = 1, 2, 3, \dots, 5$; which represent different dimensions of educational
development

We have then standardized each observation of i^{th} matrix to make it unit free. Respective means are subtracted from each observation and then it is divided by the

¹⁵ Indicators for which data was not available for some of the state are survival rate, transition rate from primary to upper primary and drop-out rate.

¹⁶ Drop Out Rate and Repetition Rate have been changed into "*Adjusted Drop Out Rate = 100 - Drop Out Rate*" and "*Repetition Rate = 100 - Repetition Rate*" respectively.

standard deviation of the indicator to standardize it.

$$\hat{X}_i = \begin{bmatrix} \frac{x_{11}-\mu_1}{\sigma_1} & \frac{x_{12}-\mu_2}{\sigma_2} & \dots & \frac{x_{1n}-\mu_n}{\sigma_n} \\ \frac{x_{21}-\mu_1}{\sigma_1} & \frac{x_{22}-\mu_2}{\sigma_2} & \dots & \frac{x_{2n}-\mu_n}{\sigma_n} \\ \vdots & \vdots & \ddots & \vdots \\ \frac{x_{m1}-\mu_1}{\sigma_1} & \frac{x_{m2}-\mu_2}{\sigma_2} & \dots & \frac{x_{mn}-\mu_n}{\sigma_n} \end{bmatrix}$$

Where,

μ_n = Mean of n^{th} variable

σ_n = Standard Deviation of n^{th} variable

\hat{X}_i = Standardize metrics of i^{th} dimension, where each component has been subtracted by the mean (μ_n) of a and standard deviation (σ_n) particular variable.

Different methods can be used for the construction of indices, the difference could be based on the way the individual weighs an indicator while summarizing them into a composite index. One can use a method where equal weight is assigned to each indicator or a method of giving different weights to different indicators depending on how important one indicator is considered (one could use value judgment for it). Or, on the other hand one can also use statistical method like Principal Component Analysis (PCA) to determine the statistical importance of the indicators.

We have used the Principal Component Analysis (PCA) to prepare indices for each dimensions and a common Educational Development Index (EDI). PCA helps us in converting large set of variables into a smaller set of variables known as Principal Component, which explains maximum amount of variance among the set of variables. In a sense we can say that it brings out uncorrelated liner combination of the original variables which accounts for most of the variation in original variables.

We have used 'STATA 9' for getting principal components for each \hat{X}_i . We have used first principal component to get different dimension indices and EDI. We have multiplied each standardize matrices (\hat{X}_i) with its first principal to get a particular index.

$$I_i = \hat{X}_i * PC_i$$

Where,

I_i = i^{th} index

PC_i = First principal component of i^{th} matrix

These dimensional indices and EDI show the level of educational development across states, on the basis of which states have been ranked.

Formulas used in calculating gender and social equity

Following formulas have been used to quantify gender and social equity,

$$\text{Gender Equity} = \frac{\text{Percentage of girls enrollment(Class I to VIII)}}{\text{Share of girls in 5-14 Pop(Census 2001)}}$$

$$\text{Social Equity (SC/ST)} = \frac{\text{Percentage of SC/ST enrollment(Class I to VIII)}}{\text{Share of SC/ST in 5-14 Pop(Census 2001)}}$$

Our fifth objective is to find out the whether the funding under SSA is according to the educational needs of the respective states or not. To answer this objective we have prepared a correlation of coefficient matrix between 'per capita¹⁷ allocation, release & expenditure' and different indices. To see whether funding correspond to educational needs of the states or not, we needed data on funding for the year 2008-09, as different indices - representing educational development of states - were prepared for the year 2007-08.

1.6 Data Source

Following are the data source used for the present dissertation:

a) District Information System for Education (DISE)

The data related to educational infrastructure and educational outcome have been taken from District Information System for Education (DISE), which is published by National University of Educational Planning and Administration(NUEPA). Here, it would be very useful to explain DISE in brief. One remarkable feature of DISE is that it

¹⁷ Per capita has been calculated using child population (age 5-14) from Census 2001. Where ever the term 'per capita' has been used it means the same.

has drastically reduced the time lag in the availability of educational statistics which is now down from 7-8 years to less than a year at the national level and only a few months at the district and state level (NUEPA, 2007-08). Schools are the unit of data collection and district as the unit of data dissemination under DISE.

The data is collected once per annum and the date of reference is 30 September. All the recognised schools government as well as private imparting elementary education are included under DISE. DISE provides detailed data at school, cluster, district, state and national level for elementary education. Various reports like District and State Report Cards as well as DISE Flash Statistics and Analytical Reports are brought out by NUEPA annually.

Despite significant increase in the number of schools covered, a few schools, largely private un-aided ones, are yet to be covered under the DISE. It will be wise to mention here the limitation present in the DISE data. A) The data presented in the report are based on the schools that responded to a particular question and hence may not be applicable to the entire state. B) Field agencies might have not covered all the recognized schools imparting elementary education supposed to be covered under DISE. In addition, unrecognized schools are not covered under DISE, which are in large numbers, in few states. C) It has been found that *“a few schools did not report age and grade matrix which is crucial in knowing the status of elementary education. A few states even did not report enrolment of Grade VIII because of the composition of school structure in the state. Therefore, enrolment in upper primary classes does not present the complete picture in Grades VI-VIII; thus GER and NER may not give correct portrayal of universalisation in such states (NUEPA, 2009)”*.

b) Ministry of Human Resource Development (MHRD)

The detailed data related to financial transfer for 2008-09 under SSA was not available from any published report or from MHRD's website. So it has been obtained through an RTI. The file no of the data is “File No – 8-4/2010-EE/3Pt”.

c) RBI

Deflator has been calculated using GDP data from RBI.

d) Census

Data related to child population has been taken from Census 2001.

1.7 Brief Discussion of the Chapters

The **second chapter** discusses about the nature of elementary education, how it should be funded, how it has been funded by center & state over the years, fiscal stress of the states in the 1990s and issues related to the elementary education which emerge very prominently from the available literature. The **third chapter** deals with the norms and provisions of SSA. In the **fourth chapter** we have measured the level of educational development among different states. First we have looked at the performance of different states in respect of different educational indicators, and secondly, we have made 5 indices related to different dimensions of educational development and then an overall educational development index (EDI) to measure the level of existing educational disparity across state. In the **fifth chapter** we have tried to find out whether the funding pattern under SSA in states is, in accordance to the educational requirements of a particular state, as reflected in their status of educational development?

Chapter 2

Chapter 2 : Literature Review

2.1 Statement of the Problem

The constitutional obligation of Universal Elementary Education (UEE) is yet to be achieved even after the implementation of SSA. According to the latest statistics provided by District Information System for Education (DISE), Gross Enrolment Ratio¹⁸ (GER) at primary and upper primary is 113.94 and 69.88 per cent in 2008-09 respectively. Considering the objective of universal education the drop-out rates of 9.63 for boys and 9.08 for girls for the year 2007-08 is also very high. Our schools are very poor in terms of infrastructure as well. 10.13 percent of schools in our country are single teacher schools. There are 62.67 percent of schools (primary and upper primary together) which have common toilet for both girls and boys, such a situation can very well affect the enrolment and drop-out rate of girls especially in rural area. The distribution of schools by type of building shows that 72.98 percent primary schools have pucca (permanent) buildings. Efforts should be made to provide pucca building to all schools. All this present a very grim scenario of elementary education in our country considering the goal of UEE.

In the following paragraph I will explain; what available literature says about the nature of education? How it should be funded? How the expenditure on education has been changing over the years? What is the status of available infrastructure in the elementary education? How it has changed in post SSA years? How the indicators related to outcomes in education have changed over the years?

2.2 Nature of Education and its Funding

2.2.1 Nature of Education

Education raises the social status and empowers the weaker section economically, by raising their employability and increasing their productivity. It is an important

¹⁸ The ratio of children enrolled in elementary education to the total child population of relevant age (6-14 years). As the GER includes under and over age children in the numerator, even a high GER does not necessarily indicate higher enrolment of children of relevant age. It is generally contended that the ratio of children net of over and under age in elementary education to total child population of relevant age group is much lower.

instrument of human development having intrinsic value of its own. It is well established that the investment in human capital produces high economic returns (Psacharopoulos, 1994; Mingat and Tan, 1996). It is considered a public good¹⁹ (Eckaus, 1964; Tomlinson, 1986; Grace, 1989), producing a wide variety and huge magnitude of externalities²⁰. People those who consume education confer positive externalities²¹ on those not acquiring it. Hence it has been argued that taxing those who receive these benefits and subsidising the provision of education, the welfare of both groups, and thereby the society as a whole, can be improved (Tilak, 2004a). Education is subsidised in almost all the countries and the justification given is that it produces externality as a public good (and as a quasi-public good in case of higher education), as a merit good²², as a social investment for human development, and as a major instrument of equity, besides as a measure of quality of life in itself (Tilak, 2004a).

2.2.3 Public Provision of Education

Provision of education can't be left in the hands of market, especially of elementary education. Externalities associated with elementary education are large, but if left to market it certainly will be undersupplied. It may not produce desirable levels of investment in education, because market is a good instrument for measuring certain kinds of household preferences but not necessarily all preferences relating to education (Tilak, 2004a; Mehrotra, 2005c; Tilak, 2006a). The social benefit of elementary education far exceed the private benefit to the individual, which implies that the most appropriate mechanism for internalizing the social benefits is for the state to finance it on a universal basis from tax based revenue (Mehrotra, 2005c). When it comes to pure public goods and merit goods, the state has to play the role of not only "provider" (as conventionally emphasised) but also provide incentives for utilisation for funds allocated (Lalvani, 2008).

¹⁹ Public goods are goods which are non-excludable and non-rival in nature. Non-excludability means that no one can be effectively excluded from the consumption of the commodity and non-rivalry means that availability of a particular good does not reduces for others when it is consumed by one individual.

²⁰ Some of the externalities of education include improvement in health, reduction in population growth, reduction in poverty, improvement in income distribution, reduction in crime and rapid adoption etc.

²¹ The externalities include improvement in health, reduction in population growth, reduction in poverty, improvement in income distribution, reduction in crime etc.

²² Goods provided free by the government for the betterment of the society because if left in the hands of the market forces it would be under provided.

That is why it has been argued that education should be publicly funded²³ (Tilak, 2004a; Mehrotra, 2005c).

It is not only the nature of education which demands it to be publicly funded; there are many more reasons which necessitate it to be publicly funded. Many people could be ignorant of the benefits of education and that is why they may be unwilling to invest in education; but governments are expected to be more informed than individuals and it could look into the future and so it can take wise decision regarding investment in education (Tilak, 2004a). In the societies where marriages are patrilocal, the parents investment in a girl's education is rarely seen as worthwhile, in such circumstances, poor parents are more willing to finance the education of their sons than of their daughters (Mehrotra, 2005c). If the education is left in the hands of market then the higher income parents will be able to buy more years of education for their children but students who can't pay for it will not enroll in schools, thus inequality will be passed on from one generation to the next (Mehrotra, 2005c). Education is subject to *increasing returns* to scale, so that it is far more efficient to finance and provide education publicly and thus government monopoly in the field of education is viewed desirable as compared to allowing many producers (Tilak, 2004a; Mehrotra, 2005c). Existence of such situations necessitates intervention of government in provision of education.

2.2.4 Recommendations Regarding Expenditure on Education in India

Education Commission (1966) also known as Kothari Commission had strong belief that investment in education leads to human capital formation which leads to higher economic growth. One of the most important recommendations of the Commission was on allocating six percent of the national income on education. But the un-accomplishment of the stated expenditure on education, as a percentage of GDP, led the Government of India to reiterate it in *National Policy on Education (1986)* and *National Policy on Education Revised (1992)*. The recommendation of six percentage of GDP has been misinterpreted by many. It has been argued that six percent of national income includes government expenditure and private expenditure (family expenditure on

²³ Kothari Commission has stated that most of the responsibility for education should be squarely placed on government funds (page 870) and one should not depend upon the private sector.

education and private sector expenditure) (BJP & Alliance Partners, 1998; Economic survey, 1998-99; Planning Commission, 1999). On the basis of this it has been said that the goal is already achieved and so that it does not deserve any more attention.

According to Tilak (2008b) all these were attempts to misinterpret the facts, to quantitatively under-define the goals, to cover our dismal failure and to boast at our (pseudo) achievements. Commission had referred mainly to public expenditure, and that the UNESCO figures and other international statistics that Commission used as a yardstick for comparison also refer to government expenditure only. In fact, there is a need to revisit the policy relating to resource commitment to education. But any fresh exercises of requirement of resources for education sector may mean a figure much above 6 per cent of GDP (Tilak, 2006a).

Because of certain well known characteristics of elementary education, such as the merit good and public good nature, the externalities associated with education, and the direct economic benefits it offers in terms of growth and social justice, the government has to liberally finance education (Tilak, 2009a). It is however, generally felt that what is lacking is not the financial resources, but a strong political will and public action to promote the all round development of education (Tilak, 2009a).

2.3 Supply Side Issues of Elementary Education

2.3.1 Public Expenditure

Public Expenditures on education (all levels) have increased remarkably in India during the post-independence period, but if we examine the expenditures in real prices and per student we would find that the growth has not been impressive (Tilak, 2004a; Mukherjee, 2008). Expenditure on education as a share of GDP has remained low (Srivastava, Ranjana 2005; Mehrotra, 2006) and falling, making the goal of allocating 6 per cent farther and more difficult (Tilak, 2006b). The growth in the government expenditures has been very slow during the 1990s (Tilak, 2004a), but the Central share in total spending has slowly increased since the early 1990s (Srivastava, Ravi, 2008).

2.3.2 Expenditure on Elementary Education

Elementary – primary and middle (upper primary) – education is nearly totally financed by the government – central, state and local bodies (Tilak, 2004a). The expenditure on elementary education has increased both in current and real prices at a seemingly high rate of growth (Srivastava Ravi, 2005a; Tilak, 2009a) and a greater share of this increase has come in the form of plan spending²⁴, which has grown at a faster rate than overall spending on education (Srivastava Ravi, 2005a). On the one hand central government has been increasing expenditure on elementary education; the overall fiscal problems of state governments are severe (Mehrotra, 2006).

2.3.3 Central Expenditure and Centrally Sponsored Schemes

The central government has been assuming greater responsibility for funding expenditure on elementary education in recent years, its spending on elementary education has been increasing quite rapidly (Dev and Mooij, 2002; Srivastava Ranjana, 2005; Srivastava Ravi, 2005a; Mehrotra, 2006; Tilak, 2009b). The increase in central government expenditure on elementary education during 1990s have come mainly in the form of the centrally-sponsored schemes²⁵ which were financed by externally borrowing (Mehrotra, 2006; Tilak, 2009b). Tilak (2009b) has thus called it aid led growth.

There has been increasing divide between revenue mobilisation for centrally sponsored schemes and accountability of its implementation, as the onus of financing is increasingly falling on the union government but the responsibility of implementation, however, is being pushed on to the district level and below²⁶(Mukherjee, 2009). This division has created a scenario in which both Center and State government can wash their hands off from non achievements of any stated goals. State government can say that they did not receive enough funding so they could not perform and central government can say that states are not performing their duties properly so they are facing reduction in the

²⁴ Plan activities are generally meant for development activities (new programmes, projects, schemes, new schools, new buildings, new teachers, etc.), while non plan expenditure is meant for the maintenance of the system. The latter is regarded as committed liability of the government and includes salaries, allowance, and wages. As education system expands non-plan expenditure expands (Tilak, 2009b).

²⁵ DPEP, mainly donor-funded; Operation Blackboard; Midday Meal and Teacher Education

²⁶ The structure of financing universal elementary education, therefore, suffers from an underlying tension between “centralisation” of revenue mobilisation and assignment, and “decentralisation” of expenditure and accountability (Mukherjee, 2009).

central release to the states. Decentralisation approach to educational planning has its own value but, it is also important to note that this method can be used by different tier of government as a tool of abdicating of its own responsibilities of educating the people (Tilak, 2006a).

Ideally central funds should equalise resources across states, especially by targeting states with lower resources, central transfers for education have not been found in contributing to reduction in inter-state disparities (Mehrotra, 2006; Tilak, 2009b). While there is clear need to reward states that mobilise resources for education from within the state (either through taxation or reallocation within the state budget), there is also a need to take into account the requirements of states based on their outcome indicators (Mehrotra, 2006).

2.3.4 Fiscal Stress on States

Share of state government expenditure on elementary education has been falling relatively since the beginning of 1990s (Tilak, 2009b). This fall has been attributed to fiscal problem²⁷ of state governments, which have increased severely, especially post 1991 (Dev and Mooij, 2002; Srivastava Ranjana, 2005; Mehrotra, 2006). States are fighting hard to ward off current deficit, which is driving some of the states to pursue ad-hock measures such as appointment of para teachers, to reduce costs (Govinda, 2008; Jha, Das, Mohanty & Jha, 2008; Mehrotra, 2006). These short term measures have worsened the existing problem in the following ways (Govinda, 2008); *first*, it hides the real magnitude of the problem to be addressed in the long run, in financial terms, *second*, it distorts the shape of the budget by projecting teacher salary which should in the normal course be part of the recurring expenditure as plan expenditure, unlikely to be absorbed as non-plan component as they are on contract basis.

Fiscal condition of states need to be corrected, as state governments account for around 90 per cent of total education expenditure in the country (Mehrotra, 2006), otherwise objective of UEE will be very difficult to achieve. The fiscal deficit of the

²⁷“The main sources of such fiscal stress have been the long history of high fiscal deficits leading to rising government debt and interest payments, the large increases in government wages and pensions following the Fifth Pay Commission (Acharya, 2002, 2004), weak tax revenue performance, and growing subsidies for food, fertiliser, power, water and other items”(Mehrotra, 2006).

poorest states are so serious that, while inter-sectoral reallocation in favour of education from other sectors is desirable, it may not be feasible and the prospect of intra-sectoral reallocation within the education sector (from higher level of education to the lower levels of education) will be limited unless the total envelop for education can be increased (Mehrotra, 2005b).

2.3.5 Education Cess

The fact that elementary education became fundamental right after the constitutional amendments of 2002, government needed more funds to implement this amendment. To overcome the problem of financing the commitment of UEE, central government levied an education cess of 2 percent on all central tax in 2004. The cess is conceived as a separate, dedicated non-relapsable fund for elementary education, the revenues collected from this are supposed to be incurred on the implementation on SSA and Mid-day meal programme. The revenues generated from cess flow to 'dedicated non-relapsable fund' called Prathamik Shiksha Kosh.

There have been some critics of cess. According to Tilak (2006b) the predominance of education cess in the Union Government's budgetary allocations to education also suggests the reluctance or inability of the government to increase the allocation from the common pool of revenues to education. It is believed that education 'cess' will make a significant contribution, but probably will still not be enough (Mehrotra, 2006).

2.3.6 Inter- Functional Allocation of Resources

A very important question is allocation of resources between different objects and items. When expenditure is made in education sector we need to look about the heads on which these expenditures are being done. Equity oriented items like scholarships, textbooks, noon meals, uniforms, other teaching-learning materials and teacher training are found to have significant impact on the quality of education. Allocations to these items have to be increased (Fuller, 1986; Tilak, 2009b). But, Tilak (2009b) has found that very meager amounts are allocated to non-salary items in school education.

Lalvani (2008) has argued that the share of revenue expenditure in total

expenditures has increased and that of capital expenditure has declined. While one is well aware that not all revenue expenditure is “bad” and not all capital expenditure is “good”, a falling share of capital expenditures and a rising share of revenue expenditures seems to indicate that the “fiscal consolidation” is of the wrong variety.

2.3.7 Need for Complementary Expenditure

Expenditure on education sector per se is not enough for the betterment of children of the country. Tilak (2006a, 2009b) observes that expenditure on education needs to be complimented by investments in other sectors as well, which may not necessarily fall under the education sector. For example, it is not enough if schools are set up to attract girl children in rural and even in urban areas. Complementary investments in the form of setting up proper security mechanisms for girl children on roads, street lighting, transport, etc, are important. Similarly, unless child labour laws are effectively implemented, parents may still continue to opt to send their children to work rather than to schools.

2.3.8 Other Issues Related to Supply side of Elementary Education

Teachers

In any education system skilled teachers are a prerequisite for dissemination of quality education, as they are the single most important factor influencing the quality of education. A better teaching-learning atmosphere in the school and an increase in the quality of education would definitely attract more students to schools and also increase the retention rates. In India there are two issues related to teachers in elementary education, *first issue* is related to the *quality of teachers* and the *second issue* is related to the *quantity of the teachers* in schools.

Quality of Teachers

In the recent years recourse to the appointment of para teachers as an ad-hock measure to minimise the cost has affected the teaching standards in schools (Das, 2007;

Govinda, 2008; EPW editorial, 2006; Mehrotra²⁸, 2006; Pandey, 2006; Jha, Das, Mohanty & Jha, 2008; Rao, 2009). Many states have virtually dismantled the professional cadre of teachers by appointing para-teachers, essentially as a cost saving measure (Govinda, 2008). Para teachers are often recruited without ensuring the accepted norms of qualification and on short-term contracts with lower levels of salary as compared to regular teachers. Though they are sincere about teaching, they are pushed to find supplementary source of income, which affects their level of motivation and thus educational quality (EPW, 2006; Rao, 2009). Some the examples of para teachers are *shiksha karmi*²⁹ in Rajasthan in 1987-88, *shiksha mitra* in UP. A peculiar situation is prevailing in India's primary schools where we have two sets of teachers appointed as 'regular' and 'para-teachers' working in the same school and performing the same duties, but are governed by different service conditions (Pandey, 2006).

There have been some academicians who have supported the introduction of para teachers in elementary education on three grounds; first, *economic reason*, despite poorer training, para-teachers may be more cost-effective than regular teachers (Kingdon and Rao, 2010), second, *motivation*, on the one hand, the security of tenure enjoyed by regular teachers tends to make them complacent, and takes off the pressure to perform but on the other, the contractual basis on which para teachers are appointed makes them motivated and proactive towards their jobs than regular permanent teachers, although they are far less trained than the latter (Mehrotra, 2006) and third, *expanding access*, with the objective of expanding access as well as reducing the pupil-teacher ratio the appointment of para teachers have been justified (Srivastava, Ravi, 2006; Kingdon and Rao, 2010).

But the logic of using financial constraint to justify the appointment of para teachers is flawed, as allocations to education can be increased either (i) by reallocating

²⁸ "Enrollment expanded in the 1990s, partly driven by the midday meal scheme as well as the expansion of facilities in DPEP districts, a problem arose: pupil-teacher ratios began to increase. But since states suffer from serious fiscal constraints, new teachers could not be hired at regular salaries. In fact, teacher recruitment in most states had remained frozen for many years. The response, therefore, by state governments has been to compensate by hiring para-teachers to override the fiscal constraint" (Mehrotra, 2006).

²⁹ Para-teachers, identified by the community, were made in charge of the primary school of the village after receiving training (Mehrotra, 2006).



resources from other sectors³⁰, or (ii) by raising more resources by the government for the common pool or specifically for the education sector or (iii) by both (Tilak, 2006a).

Quantity of teachers

The second issue is related to the quantity of teachers in schools. It is necessary that adequate numbers of teachers are available in schools, so that there is no extra pressure on teachers, and thus quality of teaching is not hampered. The increase in the number of teachers has not kept pace with the increasing enrollments in the various states (Srivastava, Ranjana, 2005). The number of teachers in schools is not adequate across the country. The figure of single teachers schools is as high as 40 percent in Rajasthan, 28 percent in Chattisgarh, 26.7 percent in Madhya Pradesh, 25.8 percent in Uttaranchal, 23 percent in Assam, and 21 per cent in Jharkhand. Pupil Teacher Ratio is very high in the country, it varies from 20 percent in Assam to 85 percent in Bihar (Das, 2007).

Parallel Education Structure

The creation of parallel education structure³¹ which are low in quality and which are governed by different norms and playing by different rules, have been questioned (Ramachandran, 2007; EPW, 2006). SSA in a way, formalised and nationalised the alternative poor forms of providing education³² and accorded it a status equal to formal schooling, thereby making formal school not a basic necessity. Pursuing such a questionable method to achieve the target of UEE may not yield sustainable positive outcome and it may give rise to serious problems not only in the long run, but also in the medium and even short run (Tilak, 2007b).

There are different forms of schools –public versus private schools, different types of private and government schools, which are divided by class, education of parents, degree of wealth, fee-paying population and region; such difference generates a systematic inequity among different economic strata (Batra, 2009). On the one hand, the

³⁰ “Reallocation of resources from other sectors should not be viewed as if it takes place at the cost of other sectors; after all almost all other sectors are beneficiaries of investments in education. There is vast potential to generate additional revenues through various measures.” (Tilak, 2006a)

³¹ Alternative schools, education guarantee scheme centers, multi grade teaching and so called back to school camps

³² Such as EGS centre or a centre for bridge courses.

disadvantaged children are pushed into schools with poor facilities, teachers and overall learning environment; and on the other hand fee paying population has better quality schools for its children (EPW, 2006; Batra, 2009). It is not that people should not have better quality schools, what is argued here is that everybody should have access to better quality school. An education system in which different social class enjoys differential access to different kinds of schools poses a threat to our democracy. In a democratic set up each and every child has the right to education of equitable quality irrespective of his economic or social status.

Infrastructure

An encouraging learning atmosphere is very integral part of an education system. **Availability of schools** a minimum level of school infrastructure makes teaching and learning an enjoyable experience. That is why SSA provides specific grants for infrastructure development in the schools. Many educational indicators are dependent on the availability of basic infrastructural facilities in the school premises. Adequate number of schools in the country is a very important element to address the problem of access (Iyengar and Surianarain, 2008). But the states have differed in the pace of expansion in schools; growth in enrolment has far exceeded the growth in educational institutions and the number of teachers in the various states (Srivastava, Ravi, 2005a). In states like Andhra Pradesh, Bihar, Chhattisgarh, Madhya Pradesh and Rajasthan, large numbers of students at the lower primary level are enrolled in schools, which do not have adequate, building facilities (Das, 2007).

Separate **toilet facilities** for girls are an important consideration in the minds of parents while sending their daughters to school, especially to upper primary school (Panchamukhi and Mehrotra, 2005). Separate toilet facilities for girls do not exist or it is very low in most states (Das, 2007; Kainth, 2006). One of the reasons female teachers are not willing to be posted in rural schools is that there are no toilet facilities in the schools (Panchamukhi and Mehrotra, 2005). Most of the states show satisfactory performance in providing **drinking water** facility within the school premises (Das, 2007), although in rural schools the absence of drinking water facilities is much greater than in urban schools across all states (Panchamukhi and Mehrotra, 2005).

2.4 Demand Side Factors of Elementary Education

Though supply side factors of elementary education are necessary condition for universalisation of elementary education, but they are not the sufficient condition. We need to address demand side factors as well. Total expenditure on education includes public expenditure and household expenditure. There is now increasing evidence that households do spend significant amounts of money on acquiring education for their children, in addition to opportunity cost (Tilak, 2009b). It is observed that household costs are the major deterrent to effective demand for schooling as out-of-pocket costs to households of sending a child to school remain significant and this is why elementary education in India is not universal (Mehrotra, 2006). These household costs are higher in BIMARU states (Bihar, MP, Rajasthan, and UP) because opportunity costs are higher and incentives (free uniforms, midday meals, free textbooks) are too low in these states (Mehrotra, 2006).

While the increasing level of household expenditure on education is viewed by some as 'willingness to pay' for education, it is more likely that families feel compelled to spend on education because public expenditure is not adequate and it is found that the poor household spend higher proportions of their income on education than rich households do, which creates new inequalities (Tilak, 2009b). Until and unless spending on elementary education is increased, the household costs that deter parents from sending their children cannot be reduced (Mehrotra, 2006).

2.5 Outcome of Supply and Demand Side Factors

Available literature does not present a very promising picture in elementary education. Despite many government initiative to improve the condition of elementary education many outcome related indicators show very dismal picture. There is significant variation across the districts within a state and the country in the universalisation of education (Jhingran and Sankar, 2009; Kainth, 2006).

2.5.1 Enrollment

There has been remarkable progress in terms of enrollment rate (Srivastava, Ranjana, 2005; Venkatanarayana, 2009) especially post SSA years (Mukherjee, 2007),

however it is an undisputable fact that there are a large number of children who remain out of school (Venkatanarayana, 2009). There has been evidence to indicate that the progress is only partial, and that substantial efforts are warranted not only in the narrowing of spatial and gender differences within and among the states, but in improving their overall GERs as well (Srivastava, Ranjana, 2005). It has been argued that the main reason for education deprivation is high rate of non enrollment, that is why if the goal of universalisation of elementary education is to be achieved there is a strong need for an enrolment drive and an action plan to ensure the attendance and retention of those enrolled (Venkatanarayana, 2009). The great numbers race of enrolling children into schools in order to meet global norms has led to total neglect of the kind of education that is available to India's poor. The issue of quality of education has been forgotten, as the system is happy to generate numbers like enrollment, transition and completion rates to show progress (Ramachandran, 2007).

Venkatanarayana (2009) has found that overenthusiastic school teachers try to meet their targets under the government enrolment drives, gather names of the children who are not enrolled and fill up the enrolment register sometimes even without the consent of the child or the parents. But they do not ensure that all enrolled children attend school. Ramachandran (2009a) has found out in his study based on selected states that while official data claims near universal enrolment, 24% of the children in the survey sample were reported as being never enrolled.

Schooling should not only mean going to school but it should mean meaningful access; i.e. regular attendance of children and teachers, availability of books and other learning materials and a learning environment in a functioning school (Ramachandran & Jandhyala, 2007). A mere increase in the number of children enrolled in primary school does not make much difference unless and until the children acquire a basic standard of education, say, at least a secondary level education (Das, 2007).

2.5.2 Drop Out

Literacy rate in India has improved a lot but the problem of school dropouts has remained a blot in the face of educational outcomes. Retaining students in the school has been a much bigger problem than enrolling them, and it has been true for children from

very poor economic backgrounds (Khasnabis & Chatterjee, 2007; Das, 2007). The scenario is not expected to change radically unless the basic socio-economic issues related to the disadvantaged families are addressed properly (Khasnabis & Chatterjee, 2007). One of the reasons for the high dropout rate, according to school-based information (MHRD), is due to “fictitious enrolment”³³(Venkatanarayana, 2009). Over the years the problem of dropouts has undoubtedly reduced but they are still high enough to require proper medication. The reason for dropouts can be classified in three categories; **first category, economic condition** of a family like, low income levels, 'poverty' of parents (Srivastava, Ranjana, 2005; Ramachandran, 2009a) and high cost of schooling including the opportunity costs (Panchamukhi, 2005; Tilak, 2009a) act as major constraints to schooling, **second category, family related reasons** like “working to support the family” and “sibling care” (Srivastava, Ranjana, 2005; Mukherjee, 2007), socio-economic status, parental education (Choudhury, 2006); **third category, school-related factors** distance, curriculum, school buildings, facilities, teachers (Mukherjee³⁴, 2007); non availability of schools, lack of incentives, the reason that the schools are less equipped with learning materials and teaching methods designed to retain the interest of children (Srivastava, Ranjana, 2005); quality of education, non-recognition of the relevance of education, inaccessibility of schools, improper functioning of schools (Ramachandran, 2009a); non availability of reasonably good physical infrastructure, committed teachers and lack of attractive learning environment (Tilak, 2009a), attendance, grades, academic achievement, interest in school and school work (Choudhury, 2006) ; **fourth category, personal reasons** like, ‘child not interested in studies’ or ‘child unable to cope with studies’(Srivastava, Ranjana, 2005), disciplinary problems and other extenuating circumstances like marriage, etc (Choudhury, 2006); **fifth category, education not useful**, there are considerable proportion of parents spread across the various states that find little gain in educating their children (Srivastava,

³³ “overenthusiastic school teachers try to meet their targets under the government enrolment drives, gather names of the children who are not enrolled and fill up the enrolment register sometimes even without the consent of the child or the parents. But they do not ensure that all enrolled children attend school”(Venkatanarayana, 2009).

³⁴ Though he considers these school related factors affect dropout rates, he believes that family related reasons have more effect on drop- out rate. He says that school related factors are definitely necessary but certainly not sufficient conditions for reducing dropout rates. Demand-side factors are more important according to him.

Ranjana, 2005).

2.5.3 Gender Parity

The objective of ensuring gender parity remains elusive, especially for the more backward states. Problems of girls' participation in education remain widespread covering even states otherwise well placed in education development (Kainth, 2006). No doubt, gender gap in primary education is closing but in some areas there exists a wide gap.

2.6 Issues Related to SSA

There have been shortcomings in the existing norms of SSA. SSA does not significantly differentiate between districts in different states. **Norms based funding** results in 'equal' distribution of resources across various states, and within states, across districts and blocks. There is an apparent disconnect between the 'real investment needs' of the districts and the actual allocations made on an annual basis under SSA; in some of the educationally and socially disadvantaged districts actual allocation and expenditure were even found to be lower (Jhingran & Sankar³⁵; Govinda, 2008) when it was more than double in better performing districts (Mukherjee and Sen, 2007). Questions have been raised on the usefulness of such policy in removing educational disparity among different states and districts (Jhingran & Sankar³⁶, Govinda, 2008). We need to recognise that there is no uniform formula to help promote faster progress in educationally backward states, which are also poor in their economic status (Jhingran & Sankar, 2009). Norms under the SSA should have the flexibility to accommodate the changing contexts of different states and their needs (Govinda, 2008; Jhingran & Sankar, 2009). Considering the existing educational inequality among states disaggregated targets for every state could be set up, wherein programmes and time lines could be designed according to the needs of individual states (Kainth, 2006; Jhingran & Sankar, 2009). The implementation of straitjacketed interventions of a routine nature is not likely to bring about any significant change in the educational status of these pockets (Jhingran &

³⁵ Mimeo.

³⁶ Mimeo.

Sankar, 2009). There is also the problem of systematic discrepancy between funds sanctioned for both the DPEP as well as the SSA and funds actually released (Mehrotra, 2006).

According to Jhingran & Sankar (2009) districts with large infrastructure gap, greater shortage of teachers, high proportion of children not attending schools, high dropout rates or high gender gaps in enrollment, would need proportionately higher financial resources to make up for the greater distance they need to cover for achieving universalisation of elementary education. They have also observed that the districts which have low educational development have a weaker administrative set up. So state governments could take decisions to place senior, sensitive, result oriented and dynamic officers in these districts and ensure much higher level of attention and supervision in these areas.

The SSA among other things also seeks to promote **community participation** in school education, through village education committees, consisting of village government leaders, parents, and teachers. It is believed that the village education committee will take decisions based on local needs and therefore will be able to utilise the resources allocated for primary education at the local level. The VEC will be responsible for planning, implementation and monitoring of the programme at the village level. Local action is an essential element in the design and implementation of SSA for ensuring universal enrolment, retention, and achievement of a satisfactory level of learning. But the community participation has not been able to improve educational outcomes as people are unaware of the existence of these committees, their responsibilities, the resources that are available and how decisions have to be made (Rao, 2009; Banerjee, Banerji, Duflo, Glennerster, Kenniston, and Others, 2007). The power of community-based forums like village education committees or parent-teachers associations in ensuring accountability have been questioned, because in spite of entrusted responsibilities, the committees rarely have any real power to ensure school/teacher accountability or better performance (Ramachandran & Jandhyala, 2007).

Decentralised planning under SSA assumes that the district plans are prepared through a participatory process involving district personnel. It is also assumed that these district plans will be prepared only after micro- level diagnosis of every village and

community. However, such participatory planning is yet to materialize in the most places, and thus the plans have tended to be typecast in standard formats designed centrally and scrutinized at the national level for final approval and release of funds, and lack sensitivity to local variations in the strategies to be adopted (Govinda, 2008). There have been instances of a rollback in government expenditure in some states, as a response to the rise in the state share in total SSA expenditure³⁷ (Mukherjee and Sen, 2007).

Mukherjee and Sen (2007) are of the view that there is a need to **limit the discretion of the Project Approval Board (PAB)** at the centre to modify the state-level annual plans. If SSA is essentially a demand-driven program, then it should be left to the states to decide on the final outlay for the program, particularly when a sharing arrangement has been built into the scheme.

2.7 Conclusion

SSA has contributed successfully in expanding the provision of education, but its progress so far has not been satisfactory enough to achieve the target of universalisation by 2010 (Panchamukhi and Mehrotra, 2005; Kainth, 2006; Das, 2007). There are huge disparity in educational achievements between inter and intra states. The main motive of SSA is to address existing educational inequities in terms of access and outcome but the preliminary examination of the data points to significant underachievement in this objective (Mukherjee and Sen, 2007). The reduction of disparities in elementary education across regions and social/religious groups is a daunting challenge and necessitates higher resource allocation, flexible approaches and higher attention to the districts and pockets identified as educationally backward (Jhingran & Sankar, 2009). A clear message which emerges from the available literature is that a lot more is to be done if we want to achieve the target of the universalisation of elementary education by 2010.

³⁷ In Orissa for example, a drive is under way to close down primary schools that do not have adequate number of students and which have other schools within a specified distance (Mukherjee and Sen, 2007).

Chapter 3

Chapter 3: Sarva Shiksha Abhiyan: An Overview of Its Provisions

3.1 What is Sarva Shiksha Abhiyan?

Sarva Shiksha Abhiyan is a flagship programme of the government with the aim of providing useful and relevant elementary education to all children in the age group of 6-14 by 2010. This has to be achieved, with the systematic mobilization of the community and with the creation of an effective system of decentralized decision making, in a manner so that gender, social and regional gaps are reduced. SSA is an attempt to provide equal opportunities to children to improve human capabilities, as well as to nurture the sense of belongingness among the people of the country through the provision of community owned school education system. SSA is a (MHRD, 2008):

- A programme with a clear *time frame* for universal elementary education.
- A response to the demand for *quality basic education* all over the country.
- An opportunity for promoting *social justice* through basic education.
- An effort at *effectively involving* the Panchayati Raj Institutions, School Management Committees, Village and Urban Slum level Education Committees, Parents' Teachers' Associations, Mother Teacher Associations, Tribal Autonomous Councils and other grass root level structures in the management of elementary schools.
- An expression of *political will* for universal elementary education across the country.
- A *partnership* between the Central, State and the local government.
- An opportunity for States to develop their *own vision* of elementary education

SSA wants to develop an education system which is not alienating and that draws on community solidarity. SSA realizes the importance of Early Childhood Care and Education that is why it supports preschool learning in Integrated Child Development Services³⁸ (ICDS) centres or special pre-school centres in non ICDS areas which will

³⁸ Launched on 2nd October 1975, today, ICDS Scheme represents one of the world's largest and most unique programmes for early childhood development. ICDS is the foremost symbol of India's commitment to her children. India's response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the other.

supplement the efforts being made by the Department of Women and Child Development.

3.1.1 Objectives of Sarva Shiksha Abhiyan

- All children in school, Education Guarantee Centre, Alternate School, ' Back-to-School' camp by 2003;
- All children complete five years of primary schooling by 2007
- All children complete eight years of elementary schooling by 2010
- Focus on elementary education of satisfactory quality with emphasis on education for life
- Bridge all gender and social category gaps at primary stage by 2007 and at elementary education level by 2010
- Universal retention by 2010

Though the objectives are expressed nationally, it is expected that various districts and States would achieve universalisation in their own respective contexts and in their own time frame. The outer limit for such achievement is set 2010. The emphasis is on bringing out of school children to schools through diverse strategies and providing 8 years of schooling for all children in 6-14 age groups. Under SSA framework education system will be made relevant so that children and parents find the schooling system useful and absorbing, according to their natural and social environment.

3.1.2 Sarva Shiksha Abhiyan as a Framework and as a Programme

Sarva Shiksha Abhiyan (SSA) has two aspects – Firstly, it intends to provide a wide convergent framework for the implementation of Elementary Education schemes; Secondly, it is a programme with budget provisions for strengthening the vital areas to achieve universalisation of elementary education. While all investments in the elementary education sector from the State and the Central Plans will reflect as part of the SSA framework, they will all merge into the SSA programme within the next few years. As a programme, it reflects the additional resource provision for UEE (MHRD, 2008). SSA is

different from other programmes as it gives framework for implementation and not guidelines. The reasons for this could be summarised as followed:

- To allow states to formulate context specific guidelines within the overall framework
- To encourage districts in States and UTs to reflect local specificity
- To promote local need based planning based on broad National Policy norms
- To make planning a realistic exercise by adopting broad national norms.

3.1.3 Broad Strategies Central to SSA Programme:

- ***Institutional Reforms*** – To improve the efficiency of the delivery system under the SSA, the central and state governments will undertake reforms. The states will have to access the prevalent education system which includes educational administration, financial issues, achievement levels in schools, community ownership and decentralisation, monitoring and evaluation, review of State Education Act, rationalization of teacher deployment and recruitment of teachers, SC/ST and disadvantaged groups, status of education of girls, policy regarding private schools and Early Childhood Care and Education³⁹ (ECCE).
- ***Sustainable Financing*** – The premise on which SSA is based on is that financing of elementary education interventions needs to be sustainable, which could only be done with a long term financial partnership between the Central and the State governments.
- ***Community Ownership*** – The goal of UEE has to be achieved through effective decentralisation. SSA calls for community ownerships of schools, which will be

³⁹ Realising the crucial importance of rapid physical and mental growth during early childhood, Government started a number of programmes of early childhood care and education (ECCE). Declaration of a National Policy for Children (1974) shows the commitment of Government for the development of children. The existing ECCE programmes include: (i) Integrated Child Development Services (ICDS); (ii) Scheme of assistance to voluntary organisations for conducting early childhood education centres (ECE); (iii) Balwadis and day-care centres run by voluntary agencies with Government's assistance; (iv) Pre-primary schools run by the State Governments, Municipal Corporations and other agencies; (v) Maternal and child health services through primary health centres and sub-centres and other agencies.

augmented by the involvement of women's groups, VEC members and members of Panchayati Raj institutions.

- **Community Based Monitoring with Full Transparency and Accountability** – Community based monitoring system has been initiated under SSA. The Educational Management Information System (EMIS) will correlate school level data with community-based information from micro planning and surveys. Each and every school has to share all information with the community, including grants received. This programme as a whole will be accountable to the community.
- **Habitation as a Unit of Planning** – Planning will start at the habitation level and these habitation level plans will form the basis of formulating district plans.
- SSA will focus on girls, SC/ST, religious and linguistic minorities, disabled, and other disadvantaged groups;
- Educational quality will be improved through improved curriculum and effective teaching methods- For this central and critical role of teachers has been recognised under SSA, thus Block Resource Centres/Cluster Resource Centres have been established. Recruitment of qualified teachers, opportunities for teacher development through participation in curriculum-related material development, focus on classroom process and exposure visits for teachers are all designed to develop the human resource among teachers.
- Elementary education plans will be prepared district wise which will reflect all investments needs of the district.

3.1.4 Public Private Partnership in SSA

Provision of elementary education is largely made by the government, government aided schools private unaided schools. Government, Local Body, and government aided schools would be covered under the Sarva Shiksha Abhiyan. A partnership with private sector would be developed if it wishes to improve the functioning of a government, local body or a private aided school.

3.2 Funding Pattern Under SSA

“The assistance under the programme of Sarva Shiksha Abhiyan will be on a 85:15 sharing arrangement during the IX Plan, 75:25 sharing arrangement during the X Plan for all States. During the XIth Plan, it will be 65:35 for the first two years i.e. 2007-08 and 2008-09; 60:40 for the third year i.e. 2009-10; 55:45 for the fourth year i.e. 2010-11; and 50:50 thereafter i.e. from 2011-12 onwards between the Central Government and State Governments/Union Territories other than North Eastern States. For the 8 North-Eastern States, the fund sharing pattern between Centre and States shall be 90:10 under the programme during the XIth Plan period and till the end of the programme with the Centre’s share resourced from the 10% earmarked funds for the North Eastern Region from the Central Budget for the SSA. Commitments regarding sharing of costs would be taken from State governments in writing (MHRD, 2008)”.

There are certain guidelines which each and every state has to follow, they are:

- a) The level of investment in elementary education has to be maintained at the level of 1999- 2000 by the State Governments. And the State share for SSA has to be over and above this investment.
- b) Funds would be released directly to the State Implementation Society. The second installment would be released to the Society only when the State government has transferred its matching share to the society and if at least 50% of the funds (Centre and States) transferred has been incurred.
- c) The support for salary of teacher appointed under the SSA programme would be shared as per the funding pattern given in the above paragraph.
- d) Except Mahila Samakhya, National Bal Bhawan and NCTE all existing schemes of elementary education of the Department will converge into SSA after the IX Plan. The National Programme for Nutritional Support to Primary Education (Mid-Day-Meal) would remain a distinct government intervention.
- e) Other incentive schemes like distribution of scholarships and uniform will continue to be funded under the State Plan. They will not be funded under the SSA programme.

3.3 Planning, Appraisal, and Fund Flow

3.3.1 Preparatory Activities

Sarva Shiksha Abhiyan encourages community based planning process. For this to be a success, we need to develop capacities in communities so that communities can engage in effective planning. The objective of UEE is to be achieved through need based planning under the SSA. It encourages decentralised decision making. The planning process is expected to be participatory in nature in order to create a sense of ownership among the stakeholders, build awareness and help in the capacity building of personnel at various levels (Jha, Das, Mohanty and Jha, 2008). Village education plans are prepared by PRIs which then form the basis of District Elementary Education Plan(DEEP). Each district has to prepare a DEEP reflecting all the ongoing investments and requirement for new investment in elementary education. Each district will prepare a perspective plan which gives a framework of activities over a longer period of time to achieve UEE, and also an Annual Work Plan & Budget (AWP&B) that priorities the list of activities to be carried out in a particular year.

The preparatory activities are expected to initiate a process of institutional development and capacity building for professional management of elementary education sector at the local level. The focus has to be on capacity building through training, rigorous planning processes, focus on community based data collection and its analysis, and most of all, a willingness to allow the local community to manage schools. It is expected that the preparatory phase will take anywhere from four to eight months (MHRD, 2008).

3.3.2 Perspective Plans and Annual Plans

Each district have to prepare perspective Plan⁴⁰ and an Annual Plan⁴¹. While the

⁴⁰ “The perspective Plan will be a Plan for Universalisation within the time frame of Sarva Shiksha Abhiyan. It will be based on the existing position with regard to attendance, retention, drop out and learning achievement. It will work out the total requirement for universalisation, spread over a number of years. A clear Plan for improving access, increasing retention and ensuring achievement will be a part of the perspective Plan. The Perspective Plan will also be a dynamic document rather than any blue print and would be subject to modifications based on the feedback on the programme implementation” (MHRD, 2008).

objective of the Perspective plan is to assess and Plan for the unfinished UEE agenda in a particular district, the Annual Work Plan and Budget (AWP&B) is an exercise in prioritization (MHRD, 2008). An AWP&B is prepared every year on the basis of the perspective plan to priorities the investment for a particular year. It is supposed to include component wise budget demands for the year and also the spillover activities⁴². Under the SSA norms the spillover activities are allowed in the non-recurrent heads of expenditure but there is no provision for spillover in the case of the recurring heads of expenditure.

The CRCs, BRCs and DIETs play a very important role in the preparation of perspective and Annual Plans. SSA recognises the intra-regional, inter State and inter district disparities and it is trying to address these disparities. Identification of Special Focus Districts (SFDs) is a crucial step in this direction. School building and classrooms are sanctioned on priority, besides focused scrutiny during Appraisal.

A district plan must have the following things participation of women and other disadvantaged groups, intervention must be gender sensitive, it should focus on educational development of children belonging to the scheduled castes, scheduled tribes, context specific strategy for out of school children, evidence of school-based activities like Bal melas, sports, etc., institutional arrangements for decentralized decision making, consultation with teachers, habitation wise school mapping and micro planning, centre wise incentives of meals, scholarships, uniforms, free textbooks and notebooks, etc., teaching-learning materials, information system, community ownership of the district plan, a plan for quality education with strategies for capacity building of teachers and trainers, academic support structure, learning enhancement programmes, remedial teaching, classroom processes and continuous comprehensive evaluation and monitoring mechanism for academic aspects, reflection of all investments in Plan and Non Plan

⁴¹ *"The Annual Plans have to be based on a broad indication of resource availability to a district in a particular year. The National and State Mission will try and finalise the resource likely to be allocated to a particular district at least six months before the first installment is released to a district. The district would undertake a prioritization exercise in the light of the likely availability of resources. The Annual Plan will be a prioritized plan in the light of the likely availability of resources. The National/ State Mission will appraise these Annual Plans and changes in keeping with resource availability could be effected by the National/ State Mission"* (MHRD, 2008).

⁴² Activities which are proposed to be carried out over the current year, which actually were supposed to be carried out in the previous year.

being made in a particular district for elementary education etc.(MHRD, 2008).

3.3.3 Appraisal of District Plans, Allocation of Resources as per Approved Plans

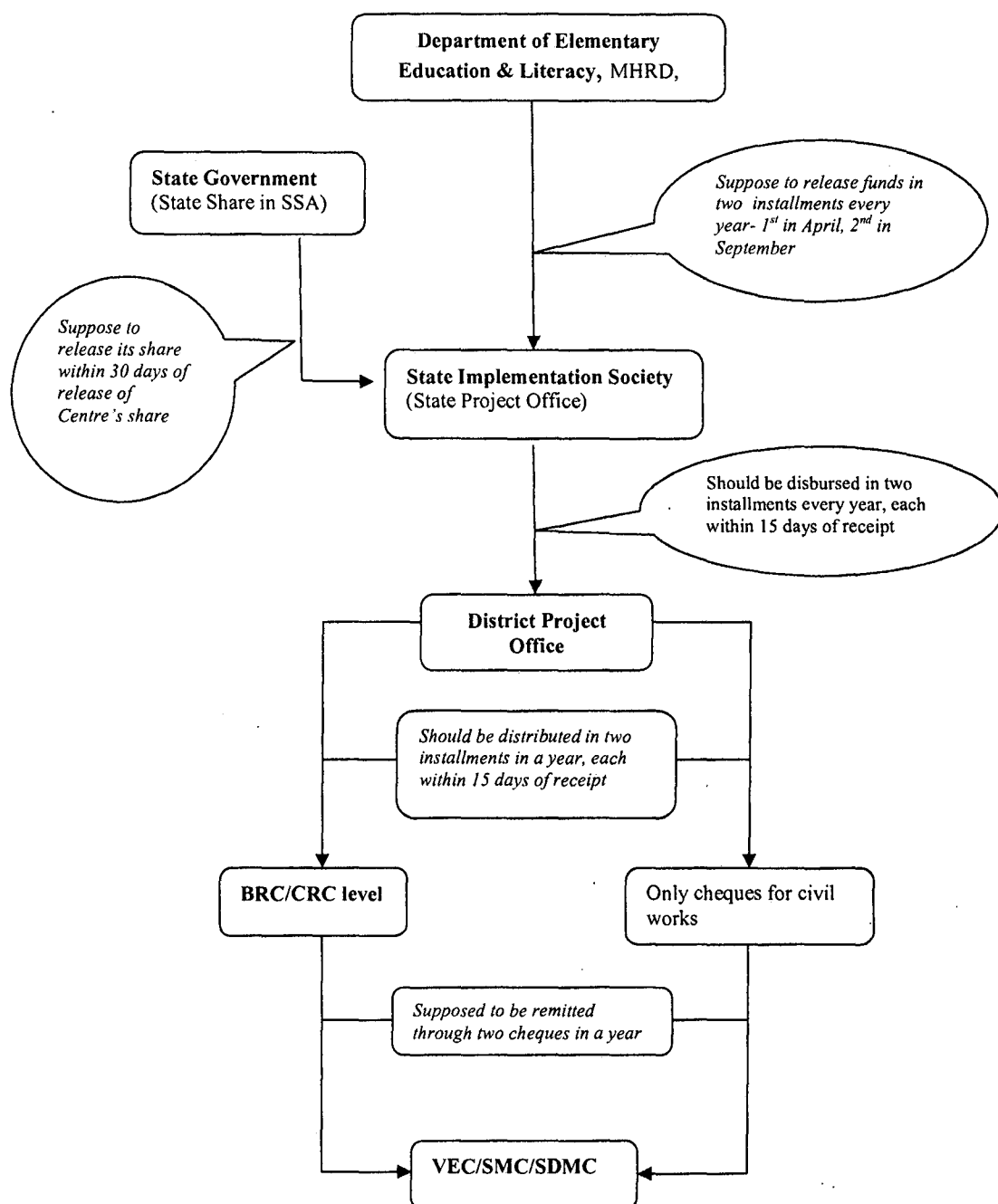
With the support of the resource team the National/State Mission will undertake the appraisal of district plans. These district plans are then sent to Project Approval Board (PAB) along with appraisal report. While adhering to the financial norms envisaged in the SSA framework, PAB reviews the district plans including their cost estimates. The Governing Council of the National Sarva Shiksha Abhiyan Mission has empowered the PAB under the chairmanship of the Secretary of the department to approve the Annual Plan on the basis of the appraisal report, the recommendation of the State Implementation Society, the availability of Central Plan funds, and the commitment of the State government regarding financial resources (MHRD, 2008). There is a time frame specified to carry out the whole set of activities every year with regard to preparation, appraisal and approval of the AWP&B.

The quantum of annual budget outlay is approved by PAB, though with modifications if required. Besides the preparation of District Elementary Education Plans and their appraisal there are other things as well which determine the allocation of resources, they are: commitment of the State government with regard to the State share; performance of the State government regarding resources made available earlier; institutional reforms in States to facilitate decentralized management of education; reports of supervision teams regarding the quality of programme implementation; and availability of financial resources in a particular year. *“It is likely that districts with poor infrastructure will require more resources. However, the release will also be performance linked. If an educationally backward district does not utilize the resources in the manner intended, it is unlikely to continue to receive a priority.....There are no fixed criteria for allocation of resources, as the actual allocation will depend on a large number of factors, including the availability of resources (MHRD, 2008)”*.

3.3.4 Release of Funds

Funds are released directly to the State Implementation Society (SIS) in two installments in a year, first in April (for the first two quarters of the financial year) and

Figure 3.1: Flow of Funds in SSA⁴³



second in September (for the third and fourth quarters). However, second installment is released only after the State Government contributes its matching share to the society (which it is required to release within 30 days of the release of the Central share) and at least 50 percent of the total funds (released by both Centre and State governments) have

⁴³ Jha, Das, Mohanty and Jha(2008)

been utilised by the society, which was given in the first installment.

In fact, both the release of the second installment by the Centre and its magnitude depend on level of expenditure and the quality of implementation of the first installment as also the time left in the financial year (Jha, Das, Mohanty & Jha, 2008). The utilisation certificate (for the funds given to the Society) needs to be submitted to the National Mission within one year of the release of an installment. Delay in the submission of utilisation certificate may stop any further release of installments.

Unspent balances are not needed to be sent back to the Centre at the end of a particular financial year and could be carried forward for utilisation in the next financial year with proper approval. Same is true with the State Government's share of funds, which is left unspent with the SIS at the end of a financial year. Any approved outlay not spent fully becomes outlay saved for that particular year. Activities of non-recurrent nature are allowed to continue under spillover, such as furniture grant for BRC, CRC, civil works, and one time grant of TLE which could not be completed during the year. Spill over plans are prepared every year by each districts along with the AWP&B.

Within 15 days of its receipts of funds from Central and State Governments, the SIS needs to release funds to districts. Districts need to release funds to VEC/School Management Committee/Gram Panchayat/any other arrangement for decentralisation within 15 days of receipt of first installment from SIS and second installment only after ensuring satisfactory utilisation of the first installment.

3.4 Implementing Agencies at Various Level

SSA, like any other Centrally Sponsored Scheme (CSS), has norms and guidelines for its implementation designed by the Ministry of HRD at the Centre. Department of Elementary Education and Literacy (DEE&L) has the responsibility of implementing the programme at the national level. General Council, an Executive Committee (EC) and a Project Approval Board (PAB) are placed at the national level. Work related to policy, appraisal of plans, release of funds to State Implementation Societies, overall review of the programme, technical support to States, research evaluation, supervision, monitoring are carried out by DEE&L. State implementation Society (SIS) at the state level, District Project Office (DPO) at the district level and Village Education Committee (VEC) at the

village level implements the programme. SIS works with General Council & an Executive Committee and, DPO works with Panchayati Raj Institutions⁴⁴ (PRIs) in the districts. At the village level School Development and Management Committee, Mother Teacher Association, Parent Teachers Association and Women's Group help VEC in the implementation of the programme.

3.5 Monitoring of Programme Implementation

Community based monitoring system has been initiated in the SSA. The Educational Management Information System (EMIS) will incorporate provision for correlation of school level data with community-based information from micro planning and surveys (MHRD, 2008). School notice boards will show the grants received by the school, all reports sent to the Block and the District level with regard to enrolment, attendance, incentive, etc. The basic principle in monitoring will be its community ownership and periodic quality checks by external teams – external to the activity but internal to the system (MHRD, 2008).

Monitoring will also be done by State Implementation Societies (SIS). Periodic monitoring and resource support would be provided to SIS, by National level institutes like National Council of Teacher Education (NCTE), National Institute of Education Planning and Administration (NUEPA), and National Council of Educational Research and Training (NCERT) and representative of National Mission for UEE to strengthen appraisal and monitoring systems. Autonomous research institutions will be encouraged to do independent research and supervision. “All financial monitoring has to work within a system of social monitoring with full transparency. Joint training programmes for auditors, community leaders, teachers, etc. to understand and appreciate the context of universal elementary education would be made under the Sarva Shiksha Abhiyan (MHRD, 2008)”.

Quality also is a major area of concern under the SSA. That is why monitoring of quality is very important. NCERT has developed a set of quality monitoring tools, which could provide quarterly and annual information on many quality related indices under

⁴⁴ Panchayati Raj Institutions are Zilla Parishad, the Block Development Committee and the Village Panchayats.

SSA. They are (MHRD, 2008) :-

- (i) Student enrollment and actual attendance
- (ii) Pupil achievement levels
- (iii) Teacher availability and teacher training
- (iv) Classroom Practices
- (v) Academic supervisions of schools by Cluster and Block Resource Centres
- (vi) Community perceptions of school functioning

3.6 Special focus Group Under SSA

There is the need to put in special efforts to bring the out of school children of special groups like child labour, street children, adolescent, SC/ST, girls especially those belonging to certain backward communities, children of migrating families, educational needs of deprived children in urban areas, rag pickers, children whose parents are engaged in professions that makes children's education difficult, education of children living in urban working class slums, children who are working in industry, children working in households, children at tea shops, children engaged in domestic chores, street children, adolescent girls, Children of sex workers etc. A diversity of approaches is required to tackle different kind forces stopping these children from going to schools.

Education Guarantee Scheme (EGS) and, Alternative and Innovative Education(AIE) scheme are part of SSA to bring out of school children into schools. EGS schools will provided in all such habitations not having a primary school within one kilometre and having a minimum of school age children. EGS, Back to School Camps, Balika Shivirs, etc. are range of options provided under SSA. There are four broad focus areas(MHRD, 2008): (i) Full time community schools for small un-served habitations, (ii) Mainstreaming of children through bridge courses of different duration, (iii) Specific strategies for special groups like child labour, street children, adolescent girls, girls belonging to certain backward communities, children of migrating families, etc., (iv)Innovative programmes - the innovations can be in the areas of pedagogic practices, curriculum, programme management, textbooks and TLMs, etc.

Incentives have been arranged to bring these special children into the schools. Some of the incentives are midday meals, uniforms, scholarships, educational provision

like textbooks and stationery. The following provisions have been made for girls' education and education of SC/ST children (MHRD, 2008): i) Interventions for Early Childhood Care and Education, ii) School/EGS like alternative facility to be set up within one kilometer of all habitations, iii) Up-gradation of EGS to regular schools, iv) Special mainstreaming camps for out-of-school girls/ SC/ST children under the Alternative and Innovative Education component, v) Mahila Samakhya like interventions from the innovation fund, vi) Provision of process-based community participation with a focus on the participation of women and SC/ST, vii) Provision of context specific innovative intervention for girls' education and education of SC and ST children.

3.6.1 Girls Education

To improve the girl's enrollment into schools many steps have been taken under SSA. They are i) the **National Programme for Education of Girls at Elementary Level (NPEGEL)** is a special intervention for girls, especially those not in school, but integral component of SSA, and ii) the **Kasturba Gandhi Balika Vidyalaya (KGBV)** scheme for setting up residential schools at upper primary level for girls belonging predominantly to the SC, ST, OBC and minority communities. Some of the other targeted provision for girls under Sarva Shiksha Abhiyan include(MHRD, 2008): a) Free textbooks to all girls upto class VIII, b) Separate toilets for girls, c) Back to school camps for out-of-school girls, d) Bridge courses for older girls, e) Recruitment of 50% women teachers, f) Early Childhood Care and Education centers in/near schools/convergence with ICDS programme etc., g) Gender-sensitive teaching-learning materials including textbooks, h) Intensive community mobilization efforts, i) 'Innovation fund' per district for need based interventions for ensuring girls' attendance and retention, j) Girls only schools at upper primary level within the State policy.

3.6.2 Early Childhood Care

Early childhood has crucial importance as it determines the future physical and mental growth. Realising this a number of programme of Early Childhood Care and development (ECCE) were started. The existing ECCE programmes include (MHRD, 2008): (i) Integrated Child Development Services (ICDS), (ii) Scheme of assistance to

voluntary organizations for conducting Early Childhood Education (ECE) centres, (iii) Balwadis and day-care centres run by voluntary agencies with Government's assistance, (iv) Pre-primary schools run by the State Governments, Municipal Corporations and other governmental and non-government agencies, (v) Maternal and child health services through primary health centers and sub-centers and other agencies.

3.6.3 Children With Special Need

SSA ensures that children with special needs are provided education in an appropriate environment irrespective of the kind, category and degree of disability. SSA will adopt 'zero rejection' policy so that no child is left out of the education system (MHRD, 2008). Provisions like education through open learning system and open schools, non formal and alternative schooling, distance education and learning, special schools, wherever necessary, home based education, itinerant teacher model, remedial teaching, part time classes, community based rehabilitations (CBR) and vocational education and cooperative programmes.

3.7 Teachers in SSA

Critical role of teachers have been recognized in SSA thus it advocates on their development needs and setting up of Block Resource Centres/Cluster Resource Centres. Teachers participate in curriculum-related material development, classroom process and they even get exposure visits, all these help develop human resource among teachers. There are provisions of in service training for teachers at BRC level and above. There is a provision that teacher Attendance should be publicly displayed.

3.8 Conclusion

SSA is designed to incorporate all existing ongoing programmes in elementary education sector; it has wide range of intervention required for UEE. Some of the interventions of SSA are, improving the quality of teaching, providing universal access to elementary education, incentive for greater school participation by girls, SCs/STs and also disabled children, improving the retaining capacity, increasing community participation in elementary education, etc. The strategy of allocating resources based on district specific Perspective Plans, which cover the activities proposed for the entire

project duration, for a maximum of 10 years, and estimate the total financial resources that would be required for UEE in the specific district, is one of the major strength of the design of SSA (Jha, Das, Mohanty, Jha, 2008). The intensity of existing problems in elementary education widely differs across district and state. Thus the strategy of plans being formulated at the district level can be expected to have greater impact in improving the problems of elementary education across the country.

However, a careful examination of SSA norms will tell us that there area of concerns, such as SSA does not differentiate significantly between states and districts, which are at different level of educational development. Norms based funding according to district level plans for all states irrespective of overall state of elementary education is problematic. Will this help to overcome regional imbalance?

Chapter 4

Chapter 4: A State Wise Comparison of Educational Disparity

SSA has been launched in cooperation with State Governments with the aim of providing universal elementary education by 2010. In the last chapter we discussed the provisions and norms existing in the flagship programme of SSA, how it has been designed to incorporate all existing ongoing programmes in elementary education sector and how the goal of UEE could be achieved through SSA. On paper all the existing norms look very good, but it is very important to check, whether the educational disparity between different states have been reduced or not. From our past experience we know that the most of the times policies on paper do not translate to the ground realities. Government documents have accepted the shortcoming in terms of educational outcome. The approach Paper to Tenth Plan acknowledged that, *“Our performance in the field of education is one of the most disappointing aspects of our developmental strategy. Out of approximately 200 million children in the age group 6-14 years, only 120 million are in schools and net attendance in the primary level is only 66% of enrolment”* (Planning Commission 2002-07). This reveals how badly different educational development programmes have been implemented since independence. That is why it becomes very important to see whether policies implemented at national level are leading to reduced educational disparity at the state level.

4.1 Objective of the chapter

In the present chapter the focus is on how initiation of a programme like SSA has changed the infrastructure available in the schools across states and how these changes in the availability of infrastructure has affected educational level outcomes. Is there any educational disparity among states and, if it is there then, what is the level of educational disparity across different states and how they are performing in terms of different educational indicators? To measure the level of disparity we have created five dimensional indices related to different aspect of educational development and a overall educational development index (EDI); and then we have ranked different states. Almost similar analysis has been done by NUEPA. Our analysis differs from NUEPA's on several accounts. Firstly, we have categorised the indicators into 5 sub groups whereas

NUEPA has 4 sub groups, Secondly, we have dropped some of the indicators and taken some new indicators (See Table A.4.1 in Appendix). Data used in this chapter for preparation of indices correspond to the year 2007-08.

In this chapter we have tried to compare the performance of states in respect of different indicators of educational development, all together 25 indicators have been taken which have been categorized into five categories representing different dimension of educational development; namely indicators related to access, infrastructure, teacher, equity and output. We have used Principal Component Analysis (PCA)⁴⁵ for making different dimensional indices⁴⁶ (DIs) and overall educational development index (EDI). DIs would help assess the different dimension of educational development in states and EDI would help in assessing the overall educational development of states. We have not included Union Territories (except Delhi), for a simpler analysis of our study.

We have categorized the whole data set into five sub-groups representing different dimensions of educational development. Each of the resulting data matrices were standardized and their principal components were computed using STATA 9. Indices--DIs and EDI--were computed from the first principal components and these were used to rank the states (please refer to Chapter 1 for the detailed methodology used in constructing the indices).

4.2 Indicators Used

The following 25 indicators have been used for the construction of composite index, they have been classified into 5 categories, representing different dimension of educational development.

Indicators Related to Access

- a) Availability of schools per 1000 child population in the age group of 6-11⁴⁷
- b) Ratio of Upper Primary to Primary Schools

⁴⁵ PCA helps us in converting large numbers of variables into less variables known as Principal Component, which explains maximum amount of variance among the set of variables. In a sense we can say that it brings out uncorrelated liner combination of the original variables which accounts for most of the variation in original variables.

⁴⁶ Access index, infrastructure index, teacher index, equity index and output index representing different dimension of educational development.

⁴⁷ Child population corresponds to 2001(Census).

Indicators Related to Infrastructure

- a) Percentage of Pucca School
- b) Average Class Room
- c) Average Classroom Student Ratio
- d) Percentage of Schools with separate toilet for girls
- e) Percentage of Schools Having Drinking Water Facility
- f) Percentage of Schools Having computer in Schools

Indicators Related to Teacher and Teaching

- a) Percentage of Regular Teachers
- b) Percentage of Non-Single Teacher School
- c) Percentage of Schools with Female Teachers
- d) Average Number of Teachers Per School
- e) Teacher-Pupil Ratio
- f) Percentage Distribution of Professionally Trained Teachers
- g) Average Number of Instructional Days

Indicators Related to Equity

- a) Gender Equity
- b) Social Equity (ST)
- c) Social Equity (ST)

Indicators Related to Outcome

- a) Transition Rate from Primary to Upper Primary
- b) Survival Rate Up to class IV
- c) Gross Enrollment Rate (I-VIII)
- d) Adjusted Drop Out Rate⁴⁸(Primary)
- e) Adjusted Repetition Rate⁴⁹(Primary)
- f) Percentage of Passed students to enrolled student

⁴⁸ Adjusted drop out rate = 100 – dropout rate.

⁴⁹ Adjusted repetition rate = 100 – repetition rate.

g) Percentage of girls passed to percentage of boys passed

The table 4.1 gives the summary statistics of the indicators used in this chapter. It is clear from the table below that there is huge disparity in the performance of states in terms of different indicators and the magnitude of disparity is very high for some of the indicators. This disparity in terms of performance is clearly visible by coefficient of variation (CV) of different indicators. We can put different indicators in three groups on the basis of their CV. The first group is where CV is below 20, indicators in this category are percentage of schools having drinking water facility, percentage of regular teacher,

Table 4.1 Summary Statistics of Indicators

	Mean	Std Dev	Min	Max	CV
Availability of schools per 1000 child	9.33	5.81	1.91(Delhi)	25.48(Meghalaya)	62.23
Ratio of Upper Primary to Primary	0.43	0.13	0.18(WB)	0.68(Gujarat)	30.34
% of Pucca Schools	60.47	28.37	7.94(Mizoram)	98.3(Haryana)	46.92
Average Classrooms	5.2	3.17	2.2(Assam)	18.7(Delhi)	61.07
Average Classroom-Student Ratio	0.04	0.01	0.01(Bihar)	0.07(Sikkim)	34.61
% Schools having Drinking Water Facility	83.84	12.16	50.64(Meghalaya)	100(TN)	14.51
% Schools having Girl's Toilet in School	44.01	24.64	10.2(Meghalaya)	87.32(Haryana)	55.99
% Schools having Computer in School	19.29	17.63	0.58(Bihar)	72.8(Delhi)	91.37
% of regular teacher	90.15	10.91	55.43(Jharkhand)	100(Karnataka)	12.11
% of Non Single Teacher Schools	90.06	11.15	45.59(Arunachal Pr)	100(Delhi)	12.38
% Schools with Female Teacher	77.16	11.79	52.76(Tripura)	99.51(Kerala)	15.28
Average Number of Teachers per School	5.71	3.7	2.9(Uttarakhand)	21.5(Delhi)	64.8
Teacher-Pupil Ratio	0.04	0.01	0.02(Bihar)	0.07(Mizoram)	34.86
Professionally Trained Teachers	69.11	25.23	19.7(Nagaland)	100(Karnataka)	36.5
Average Number of Instructional Days	206	18.76	168(Delhi)	231(Jharkhand)	9.11
Adjusted Repetition rate(Prim)	93.91	4.01	83.1(Sikkim)	99.3(TN)	4.26
Apparent Survival Rate	76.24	19.28	36(Arunachal Pr)	112.5(Kerala)	25.29
Transition Rate from Primary to UP	85.68	9.98	62.75(UP)	100(Delhi, Mizoram)	11.65
Adjusted Drop-out Rate(Prim)	90.25	6.52	75.7(Nagaland)	98.75(J & K)	7.22
GER(I-VIII)	104.35	22.84	53.97(Goa)	159.31(Arunachal Pr)	21.89
%of girls passed /% of boys passed	1	0.02	0.94(WB)	1.03(Goa)	1.65
% of Passed students/enrolled student	91.12	6.67	70.72(Sikkim)	99.74(Karnataka)	7.32

Source: DISE, calculation done by author

Note : Data corresponds to the year 2007-08.

percentage of non single teacher schools, percentage of schools with female teacher, average number of instructional days, adjusted repetition rate (prim), transition rate from

primary to upper primary, adjusted drop-out rate (prim), percentage of passed students to enrolled student and percentage of girls passed to percentage of boys passed. The second group is where CV ranges from 20-50, indicators in this category are ratio of upper primary to primary, percentage of pucca schools, average classroom-student ratio, teacher-pupil ratio, professionally trained teachers, apparent survival rate and GER (I-VIII). The third category of indicators are where CV is very high indicating high disparity among states, such indicators are availability of schools per 1000 child, average classrooms, percentage of schools having girl's toilet in school, percentage of schools having computer in school and average number of teachers per school.

4.3 Brief Analysis of Variables Used

In this section we will briefly discuss the performance of states in respect of different indicators, which have been used for the construction of dimension indices.

Availability of schools per 1000 child population in the age group of 6-11

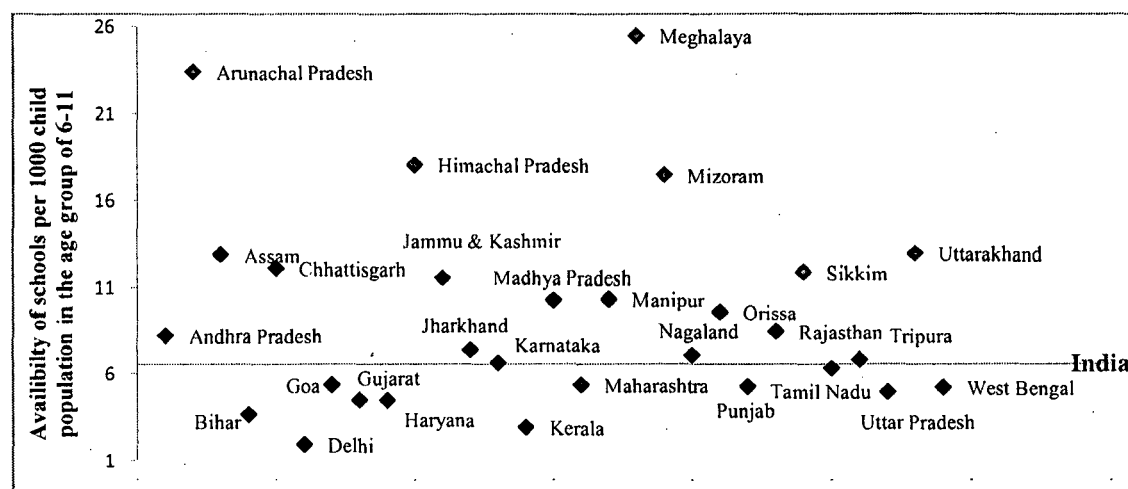
Availability of schools per 1000 child population is lowest in Delhi⁵⁰ and highest in Meghalaya, which is totally unexpected scenario. Baring few exception most of the economically rich states⁵¹ have low availability of schools per 1000 population, whereas most of the poor states have high per capita availability of schools. Normal conception about the availability of schools will be totally opposite of what it is. People would normally think it to be vice versa. From the figure 4.1 it is very much clear that availability of schools per 1000 child population is very diverse among the states. Some of the economically well off states like Delhi, Gujarat, Haryana, Kerala, Punjab, Maharashtra, Tamil Nadu have the availability of schools lower than the national level. Economically poor states like Arunachal Pradesh, Assam, Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Manipur, Mizoram, Meghalaya, Nagaland, Orissa, Rajasthan, Sikkim, Uttaranchal, Tripura etc have availability of schools above the national average of availability of schools per 1000

⁵⁰ It is because the schools in Delhi are of larger size and thus they accommodate more students(see table A.4.3 in appendix).

⁵¹ The rich states here means states which have higher Per Capita Net State Domestic Product(PCNSDP) at Factor Cost. I have considered top 12 states according to the PCNSDP to be rich states. See table A 4.2 in appendix.

child. The only exceptions to this phenomenon are economically rich states Andhra Pradesh & Karnataka, and poor states Bihar & Orissa.

Figure 4.1: Availability of schools per 1000 child population in the age group of 6-11



Source: DISE, figure made by author.

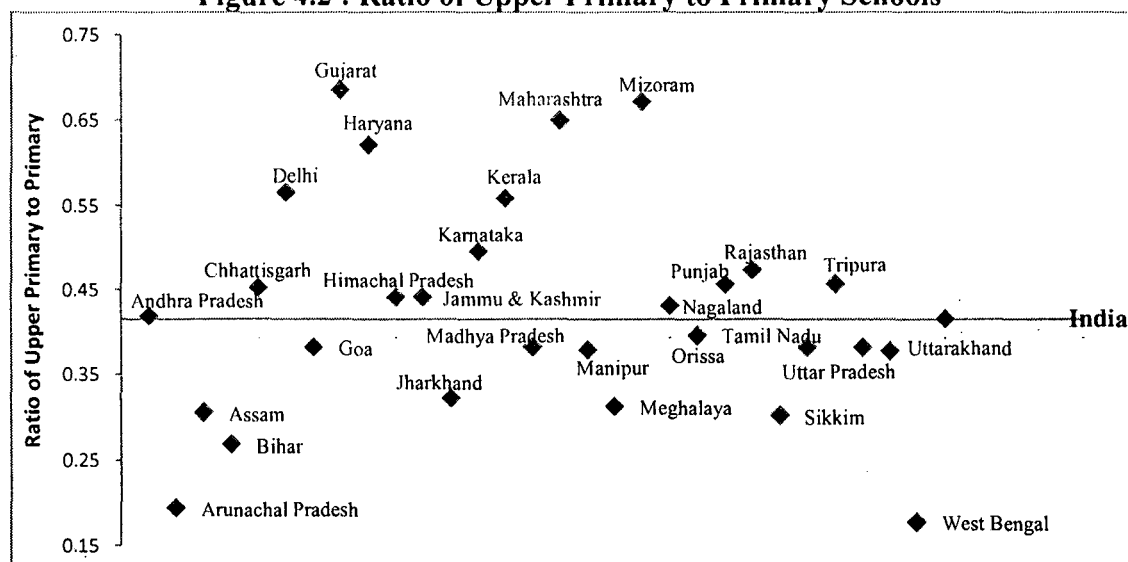
Lesser schools per 1000 child may not necessarily mean that a particular state is having poor infrastructure. This would be clear from the fact that average number of classroom and average student per school (see table A.4.3 in appendix) is highest in Delhi, when availability of schools per 1000 child is lowest. Average number of classrooms are highest in Delhi (18.7) when it is 4.3 at the national level and the lowest is 2.2 for the state of Meghalaya. And average student per school is 514 in Delhi when it is 147 at the national level and 54 in Meghalaya, which is the lowest.

Ratio of Upper Primary to Primary Schools

In the case of ratio of upper primary to primary schools most of the states which performed poorly in the above mentioned variable have done better in this variable (figure 4.2). Economically well off states like Delhi, Gujarat, Haryana, Karnataka, Kerala, Maharashtra and Punjab have ratio of upper primary to primary higher than the national average, which is a good sign; there are many economically poor states also in this group, they are Chhattisgarh, Himachal Pradesh, Jammu & Kashmir, Nagaland, Mizoram, Rajasthan. The states which have ratio of upper primary to primary lower than the national average are Arunachal Pradesh, Bihar, Assam, Goa, Jharkhand, Madhya

Pradesh, Manipur, Meghalaya, Orissa, Tamil Nadu, Sikkim, Uttar Pradesh, Uttrakhand and West Bengal. Andhra Pradesh is the only state which has the ratio of primary to upper primary equal to the national average.

Figure 4.2 : Ratio of Upper Primary to Primary Schools



Source: DISE, figure made by author.

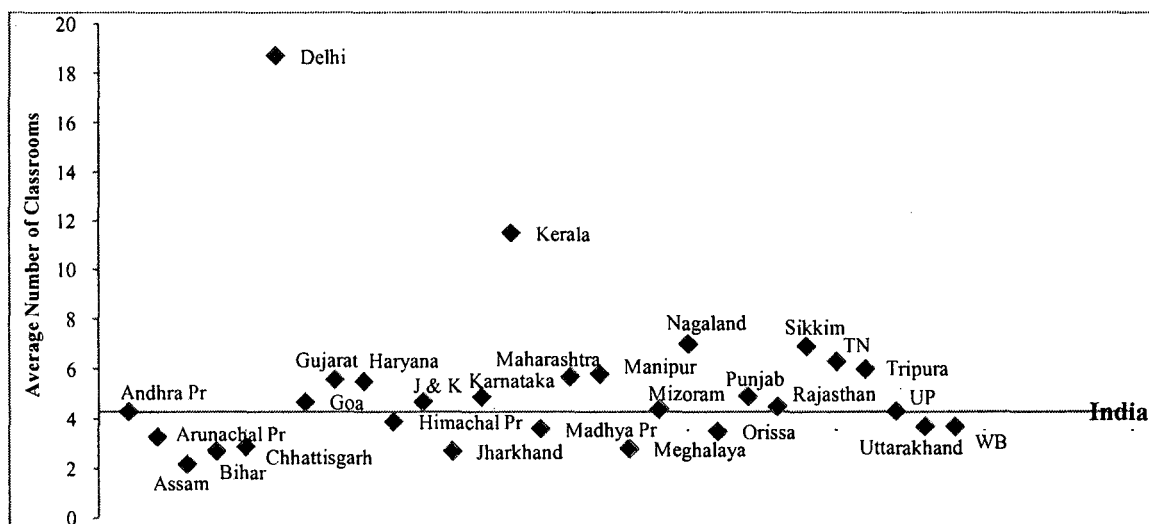
Average Class Room

Adequate number of classroom are very necessary for a enjoyable teaching and learning experience, because in a overcrowded class teacher will not be able to give proper attention to each and every child. In such classroom some children will feel left out. So classrooms should be of adequate number in a school. Average number of class rooms is highest in Delhi and lowest in Assam (figure 4.3). The states were average number of classroom is above national average are Delhi, Kerala, Gujarat, Haryana, Goa, Jammu & Kashmir, Karnataka, Maharashtra, Manipur, Mizoram, Nagaland, Sikkim, Punjab, Rajasthan, Tamil Nadu, Tripura and Uttar Pradesh. And the states which have average classrooms lower than the national average are Arunachal Pradesh, Bihar, Assam, Chhattisgarh, Himachal Pradesh, Jharkhand, Madhya Pradesh, Meghalaya, Orissa, Uttarakhand and West Bengal.

One thing to be noted here is that most of the states which have higher average of classrooms are the same states which have low availability of schools per 1000

population and vice-versa⁵², which tells us that despite having low availability of schools, the existing schools serve a larger population in one group of states and vice-versa in the other group of states. Bihar is the only state which has lower availability of schools as well as lower average of classroom per school.

Figure 4.3 : Average Class Room



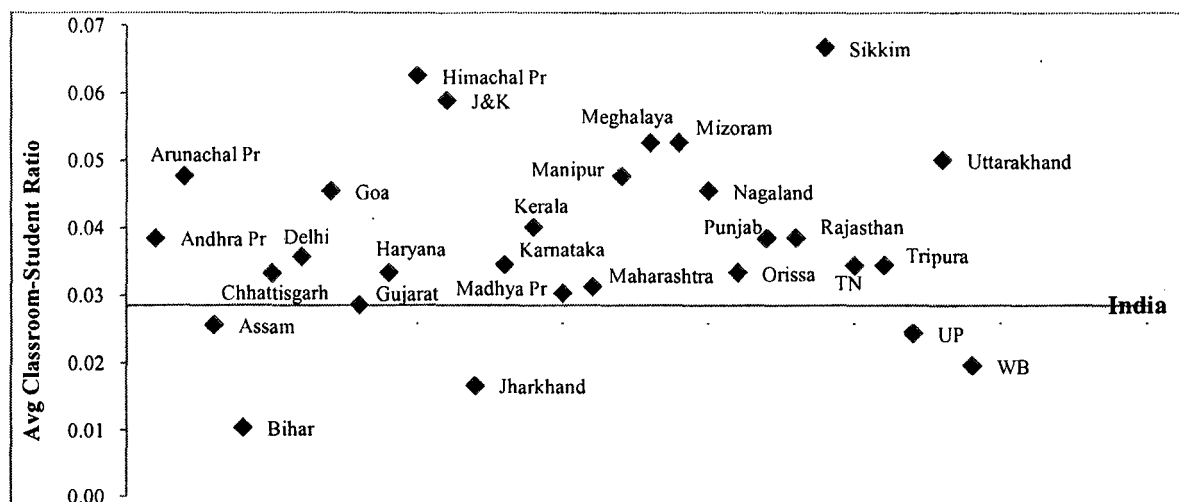
Source: DISE, figure made by author.

Average Classroom Student Ratio

Classroom student ratio will tell us how crowded classrooms in a school are. A crowded classroom does not provide a healthy learning and teaching experience. Higher this ratio in a state lesser crowded classes will be in it and vice-versa. It is highest in Sikkim and lowest in Bihar (figure 4.4). Assam, Bihar, Jharkhand, Uttar Pradesh and West Bengal are the states where this ratio is below national average. Sikkim, Himachal Pradesh, Jammu & Kashmir, Mizoram, Meghalaya, Uttarakhand, Arunachal Pradesh, Manipur, Nagaland, Goa, Kerala, Andhra Pradesh, Rajasthan, Punjab, Delhi, Tamil Nadu, Tripura, Karnataka, Chhattisgarh, Haryana, Orissa, Maharashtra, Madhya Pradesh are the states which have the ratio higher than the national average.

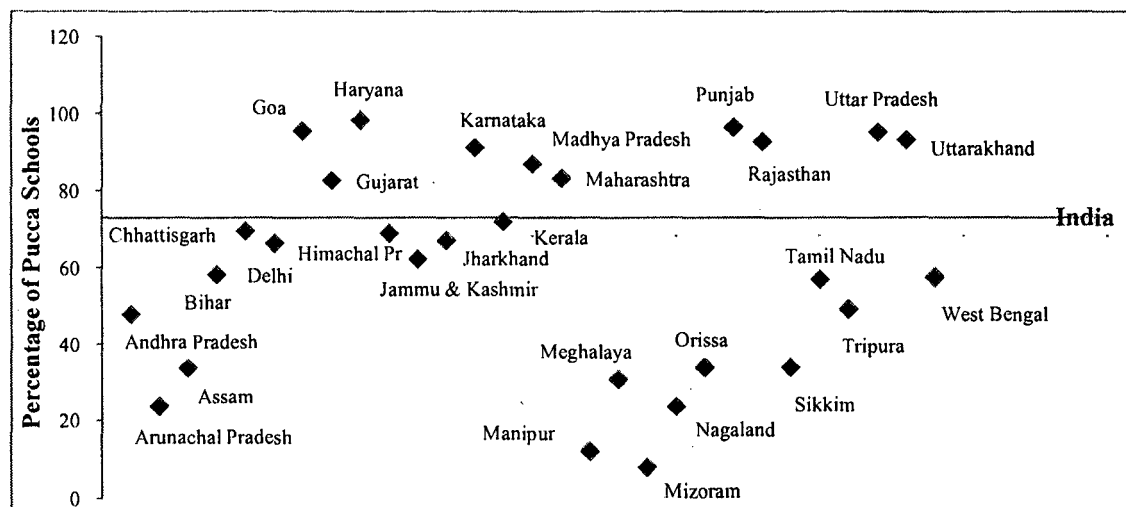
⁵² Karnataka, Goa, Maharashtra, Tamil Nadu, Punjab, Haryana, Gujarat, Kerala and Delhi have low availability of schools per 1000 population but the average classroom is very high in these states. Similarly, Assam, Jharkhand, Meghalaya, Chhattisgarh, Arunachal Pradesh, Orissa, Madhya Pradesh, Uttarakhand and Himachal Pradesh have higher availability of schools per 1000 population but the average classroom is very low in these states.

Figure 4.4 : Average Classroom Student Ratio



Source: DISE, figure made by author.

Figure 4.5 : Percentage of Pucca School



Source: DISE, figure made by author.

Percentage of Pucca School

Though having pucca schools does not give a guarantee that the quality of education imparted in a school is going to be of very high quality, but still having a good infrastructure like pucca school does help in creating a good learning environment. That is why we have taken it as an indicator for the construction of the index. In case of percentage of pucca schools again there are some economically rich states which are

below the national average of percentage of pucca schools, they are Delhi, Andhra Pradesh and Tamil Nadu, whereas there is one poor state Uttarakhand which has higher percentage of pucca schools.

The important thing here to note is that all the North Eastern Indian states have appeared below the national average (figure 4.5). Two of the newly created states also have the percentage of pucca schools below the national level. It is a shame that national capital has only 66% of pucca schools, which is lower than Chhattisgarh (69%) and Jharkhand (67%).

Table 4.2 : Schools according to the type of building and their percentage

	Pucca Schools	Partially Pucca Schools	Kuchcha Schools	Tent Schools	Multiple Type Schools	Schools With No Building
Andhra Pradesh	27823(48%)	1517(3%)	1054(2%)	163(0%)	12465(21%)	15064(26%)
Arunachal Pradesh	1071(24%)	947(21%)	1304(29%)	720(16%)	501(11%)	1(0%)
Assam	22307(34%)	16340(25%)	19942(30%)	600(1%)	6307(9%)	997(1%)
Bihar	39481(58%)	1958(3%)	456(1%)	161(0%)	10451(15%)	15263(23%)
Chhattisgarh	34493(70%)	4610(9%)	682(1%)	14(0%)	4450(9%)	5281(11%)
Delhi	2672(66%)	303(8%)	11(0%)	2(0%)	961(24%)	71(2%)
Goa	1436(96%)	26(2%)	3(0%)	0(0%)	21(1%)	15(1%)
Gujarat	32192(83%)	2413(6%)	72(0%)	2(0%)	3970(10%)	343(1%)
Haryana	17442(98%)	18(0%)	1(0%)	1(0%)	153(1%)	120(1%)
Himachal Pradesh	11869(69%)	1409(8%)	475(3%)	0(0%)	3414(20%)	22(0%)
Jammu & Kashmir	12888(62%)	4104(20%)	1200(6%)	106(1%)	1732(8%)	682(3%)
Jharkhand	28060(67%)	539(1%)	485(1%)	164(0%)	2609(6%)	10020(24%)
Karnataka	51408(91%)	3389(6%)	1023(2%)	225(0%)	13(0%)	375(1%)
Kerala	8843(72%)	202(2%)	6(0%)	9(0%)	3149(26%)	68(1%)
Madhya Pradesh	111905(87%)	6373(5%)	494(0%)	0(0%)	7434(6%)	2792(2%)
Maharashtra	72556(83%)	4357(5%)	782(1%)	35(0%)	8742(10%)	738(1%)
Manipur	477(12%)	1362(34%)	1455(36%)	5(0%)	611(15%)	98(2%)
Meghalaya	3249(31%)	4722(45%)	1335(13%)	63(1%)	343(3%)	850(8%)
Mizoram	221(8%)	1981(71%)	306(11%)	7(0%)	60(2%)	204(7%)
Nagaland	592(23%)	1307(52%)	419(17%)	0(0%)	184(7%)	20(1%)
Orissa	17939(34%)	7810(15%)	746(1%)	20(0%)	24475(46%)	2438(5%)
Punjab	19305(96%)	95(0%)	12(0%)	2(0%)	234(1%)	368(2%)
Rajasthan	95798(93%)	964(1%)	332(0%)	59(0%)	2053(2%)	4062(4%)
Sikkim	388(34%)	216(19%)	78(7%)	0(0%)	408(36%)	55(5%)
Tamil Nadu	30361(57%)	7109(13%)	0(0%)	0(0%)	15797(30%)	40(0%)
Tripura	1914(49%)	498(13%)	212(5%)	2(0%)	1258(32%)	4(0%)
Uttar Pradesh	171315(95%)	1654(1%)	212(0%)	29(0%)	3575(2%)	3063(2%)
Uttarakhand	19177(93%)	414(2%)	45(0%)	14(0%)	542(3%)	399(2%)
West Bengal	40222(58%)	4908(7%)	719(1%)	15(0%)	12710(18%)	11096(16%)
All States	878445(73%)	81757(7%)	33892(3%)	2428(0%)	128920(11%)	74610(6%)

Note : Values in bracket show the percentage of schools.

Source: State Report Card 2007-08, DISE.

After 60 plus years of independence there are still many schools which are either kuccha, or run under the tent or have no building at all. The percentage of kuccha schools

are higher in north eastern states namely Manipur, Nagaland, Assam, Mizoram, Meghalaya, Sikkim and Tripura; Arunachal Pradesh, Himachal Pradesh and Jammu & Kashmir (table 4.2) are other states where percentage of kuccha schools are higher. One thing important to note is that these states are poor states. Whereas economically rich states Delhi, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu have low percentage of kuccha schools. Many poor states like Chhattisgarh, Bihar, Jharkhand, Orissa, and Uttaranchal have low percentage of kuccha schools, which means their respective governments, are trying to create better infrastructure the educational development of their respective state.

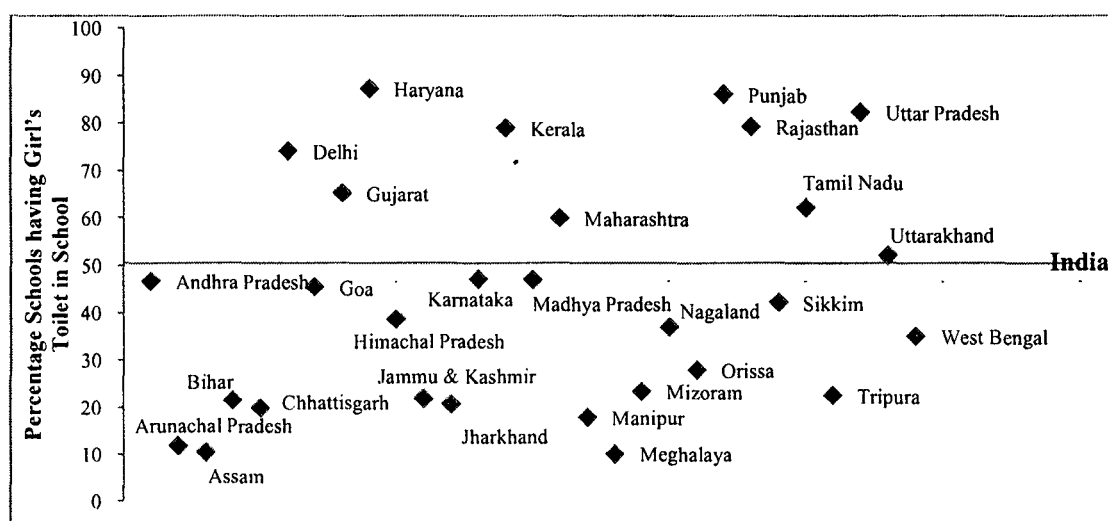
There are many schools in our country which are run under the shed of tent. Though the percentages of such schools are very low in the states, but the fact that they exist, is in itself a big shame to the country. Goa, Himachal Pradesh, Madhya Pradesh, Nagaland, Sikkim and Tamil Nadu are the only states which do not have a single school which is running under the shed of a tent. Percentage of tent school is higher in Arunachal Pradesh.

We can say that education can be imparted without buildings and classrooms but still a healthy environment is necessary condition where children go for education. From the equity point of view schools should have proper school building and other basic facility. The states which have percentage of schools without building higher than the national average are Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Meghalaya, Mizoram and West Bengal. Jharkhand which has the highest percentage of schools with no building has 10,020 such schools in absolute numbers.

Percentage of Schools with separate toilet for girls

Separate toilet facilities for girls are an important consideration in the minds of parents while sending their daughters to school, especially to upper primary school (Panchamukhi and Mehrotra, 2005). That is why separate toilet facility for girls may positively affect the girl enrollment in schools. One of the reasons why female teachers are not willing to be posted in rural schools is that there are no toilet facilities in the schools (Panchamukhi and Mehrotra, 2005). Unavailability of such facility may force many parents from withdrawing their daughters from schools. As far as this particular

Figure 4.6 : Percentage of Schools with separate toilet for girls



Source: DISE, figure made by author.

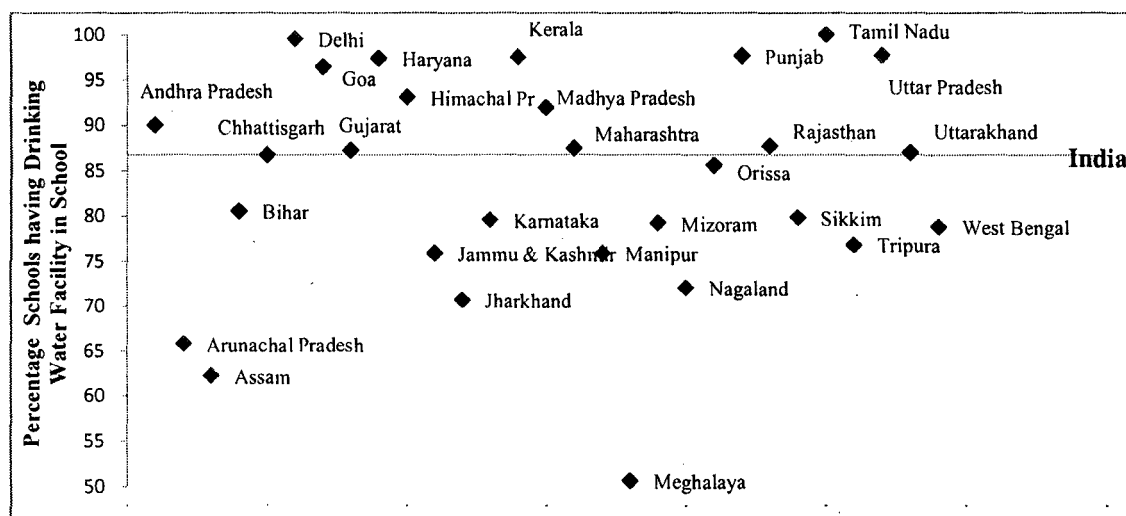
variable is concerned economically rich states Delhi, Haryana, Kerala, Gujarat, Maharashtra, Punjab and Tamil Nadu have better infrastructure; Uttaranchal which is economically poor state has the higher percentage of schools than the national average, which have separate girls toilet (figure 4.6). There are many states where percentage of schools with separate girls toilet is very low, such states are Karnataka, Madhya Pradesh, Andhra Pradesh, Goa, Sikkim, Himachal Pradesh, Nagaland, West Bengal, Orissa, Mizoram, Tripura, Jammu & Kashmir, Bihar, Jharkhand, Chhattisgarh, Manipur, Arunachal Pradesh, Assam, Meghalaya.

Percentage of Schools Having Drinking Water Facility

Drinking water facility is one of the most important facilities which ought to be in schools if the health standards are to be maintained of the children. Tamil Nadu, Delhi, Uttar Pradesh, Punjab, Kerala, Haryana, Goa, Himachal Pradesh, Madhya Pradesh, Andhra Pradesh, Rajasthan, Maharashtra, Gujarat and Uttarakhand are the states which have drinking water facility in schools higher than the national average (figure 4.7). The states which have this facility below national average are Chhattisgarh, Orissa, Bihar, Sikkim, Karnataka, Mizoram, West Bengal, Tripura, Manipur, Jammu & Kashmir, Nagaland, Jharkhand, Arunachal Pradesh, Assam and Meghalaya. In this category Delhi

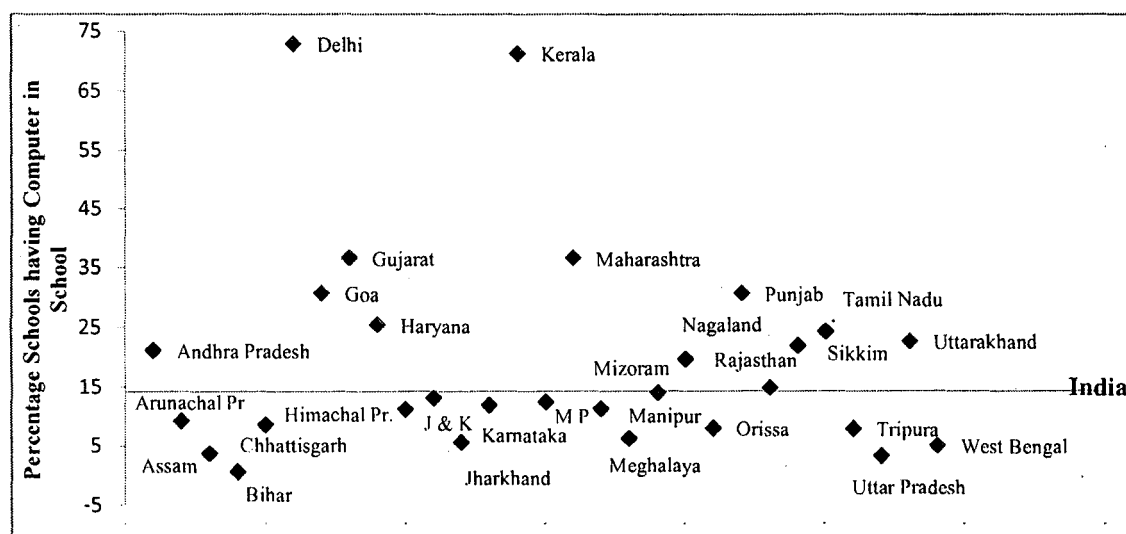
occupies the first place with 100% of schools having drinking water facility whereas Meghalaya occupies the last position with 51% of schools having drinking water facility.

Figure 4.7 : Percentage of Schools Having Drinking Water Facility



Source: DISE, figure made by author.

Figure 4.8 : Percentage of Schools Having computer in Schools



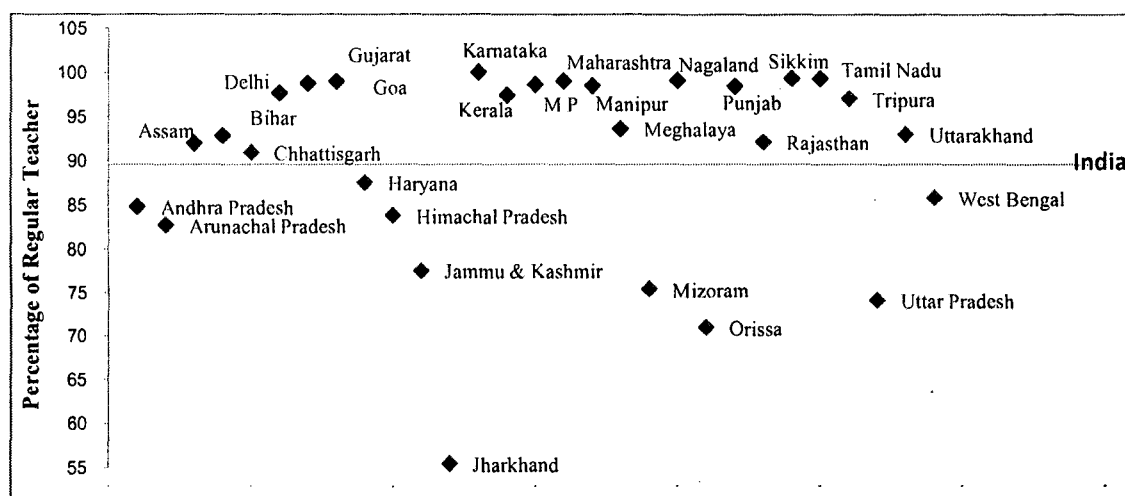
Source: DISE, figure made by author.

Percentage of Schools Having computer in Schools

In today's modern world knowledge of computer is very important if we want to benefit from the development in information and communication technologies. In such a scenario computer education in schools are very important. Any computer education is

futile without the computers in schools, because practice classes are very important. So availability of computers in schools is very basic necessity in today's world. We find huge variation in respect of percentage of schools having computer facility, one the one hand we find that 73% of schools in national capital have computers on the other hand we find that 0.58% of schools have computers in the state of Bihar (figure 4.8). At the national level 14% of schools have computers in school. The states which are above this national average are Delhi, Kerala, Gujarat, Maharashtra, Goa, Punjab, Haryana, Tamil Nadu, Uttarakhand, Sikkim, Andhra Pradesh, Nagaland and Rajasthan. Mizoram, Jammu & Kashmir, Madhya Pradesh, Karnataka, Manipur, Himachal Pradesh, Arunachal Pradesh, Chhattisgarh, Orissa, Tripura, Meghalaya, Jharkhand, West Bengal, Assam, Uttar Pradesh and Bihar are the states which have less than 14% of schools with computers.

Figure 4.9 : Percentage of Regular Teachers



Source: DISE, figure made by author.

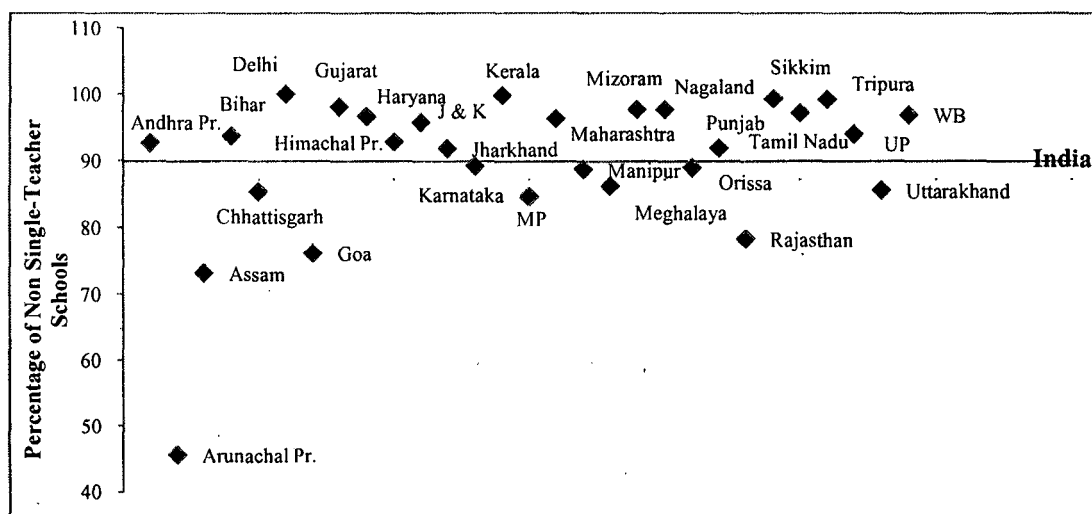
Percentage of Regular Teachers

Many scholars have argued that regular teachers are better than para teachers because para teachers are often recruited without ensuring the accepted norms of qualification and on short-term contracts with lower levels of salary as compared to regular teachers. Though they are sincere about teaching, they are pushed to find supplementary source of income, which affects their level of motivation and thus educational quality (EPW, 2006; Rao, 2009). The recourse to the appointment of para

teachers as an ad-hock measure to minimise the cost has affected the teaching standards in schools (Das, 2007; Govinda, 2008; EPW, 2006; Mehrotra, 2006; Pandey, 2006; Jha, Das, Mohanty & Jha, 2008; Rao, 2009). But the logic of using financial constraint to justify the appointment of para teachers is flawed, as allocations to education can be increased either (i) by reallocating resources from other sectors⁵³, or (ii) by raising more resources by the government for the common pool or specifically for the education sector or (iii) by both (Tilak, 2006a).

So, higher percentage of regular teachers in a state is good for the education system of that particular state. Karnataka has the highest percentage of regular teachers which is 100% and Jharkhand has the lowest which is 55% (figure 4.9). The states which have percentage of regular teachers higher than the national average are Karnataka, Tamil Nadu, Sikkim, Nagaland, Maharashtra, Gujarat, Goa, Madhya Pradesh, Manipur, Punjab, Delhi, Kerala, Tripura, Meghalaya, Uttarakhand, Bihar, Rajasthan, Assam and Chhattisgarh. Haryana, West Bengal, Andhra Pradesh, Himachal Pradesh, Arunachal Pradesh, Jammu & Kashmir, Mizoram, Uttar Pradesh, Orissa and Jharkhand are the states which have percentage of regular teachers lower than the national average.

Figure 4.10 : Percentage of Non-Single Teacher School



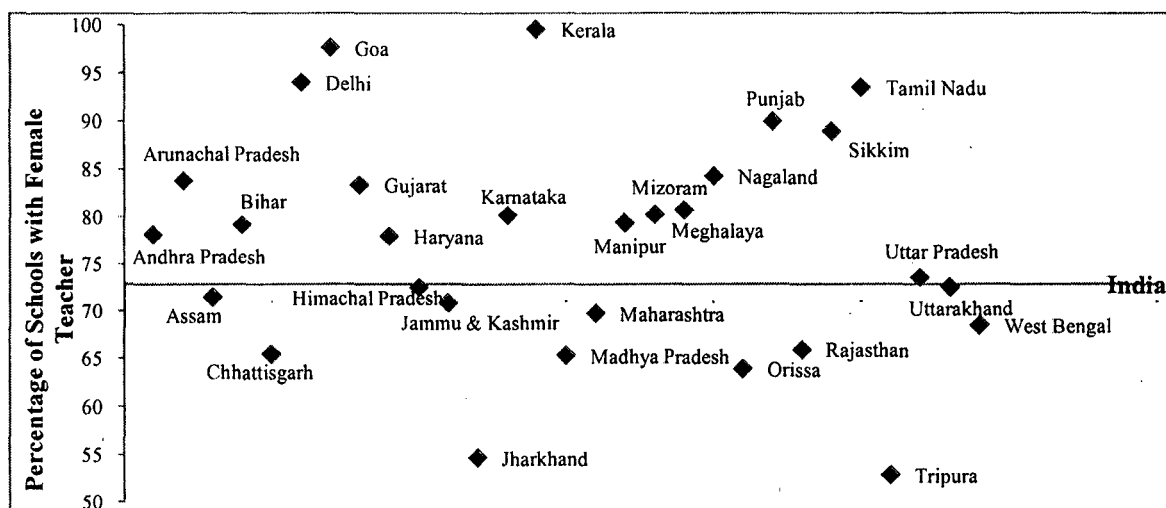
Source: DISE, figure made by author.

⁵³ Reallocation of resources from other sectors should not be viewed as if it takes place at the cost of other sectors; after all almost all other sectors are beneficiaries of investments in education. There is vast potential to generate additional revenues through various measures (Tilak, 2006a).

Percentage of Non-Single Teacher School

It would be a very bad sign that a school has only one teacher. We can imagine the pathetic condition in a school where a single teacher takes the classes for all the grades and sections existing in a school. The percentage of non-single teacher school is lowest in Arunachal Pradesh (54%) and highest in both Delhi & Kerala (0%) (figure 4.10). The states where the percentage of non-single schools is lower than the national average are Arunachal Pradesh, Assam, Goa, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttarakhand, Meghalaya, Manipur, Orissa and Karnataka. Jharkhand, Punjab, Andhra Pradesh, Himachal Pradesh, Bihar, Uttar Pradesh, Jammu & Kashmir, Maharashtra, Haryana, West Bengal, Tamil Nadu, Mizoram, Nagaland, Gujarat, Tripura, Sikkim, Kerala and Delhi are the states where the percentage of non-single teacher school is higher than national average.

Figure 4.11 : Percentage of Schools with Female Teachers



Source: DISE, figure made by author.

Percentage of Schools with Female Teachers

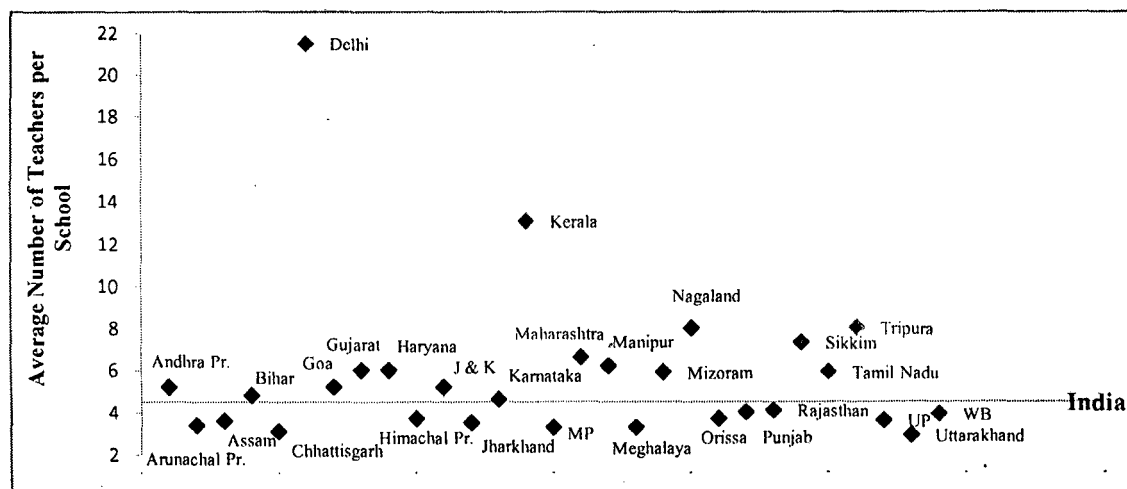
Presence of female teacher in a school may positively affect the enrollments of girls in school, especially in rural areas. Presence of female teachers in schools varies from 100% in Kerala to 53% in Tripura (figure 4.11). The national average of percentage of schools with female teachers is 73%. The states which are above national average are Kerala, Goa, Delhi, Tamil Nadu, Punjab, Sikkim, Nagaland, Arunachal Pradesh, Gujarat,

Mizoram, Meghalaya, Karnataka, Manipur, Bihar, Andhra Pradesh, Haryana and Uttar Pradesh. Uttarakhand, Himachal Pradesh, Assam, Jammu & Kashmir, Maharashtra, West Bengal, Rajasthan, Chhattisgarh, Madhya Pradesh, Orissa, Jharkhand and Tripura are the states which are below national average of schools with female teacher.

Average Number of Teachers Per School

Adequate numbers of teachers are the most important factor for schools and any educational programme. If the number of teachers in a school is not adequate then it puts extra pressure on the teachers in a school. Higher the number of average teachers per school in a state the better it is for the education system. Delhi, Kerala, Nagaland, Tripura, Sikkim, Maharashtra, Manipur, Haryana, Gujarat, Mizoram, Tamil Nadu, Andhra Pradesh, Goa, Jammu & Kashmir, Bihar and Karnataka are the states where average number of teachers per school is higher than the all India level, which is around 5 (figure 4.12). The rest of the states are below the all India level and the states are Rajasthan, Punjab, West Bengal, Himachal Pradesh, Orissa, Uttar Pradesh, Assam, Jharkhand, Arunachal Pradesh, Meghalaya, Madhya Pradesh, Chhattisgarh and Uttarakhand.

Figure 4.12 : Average Number of Teachers Per School

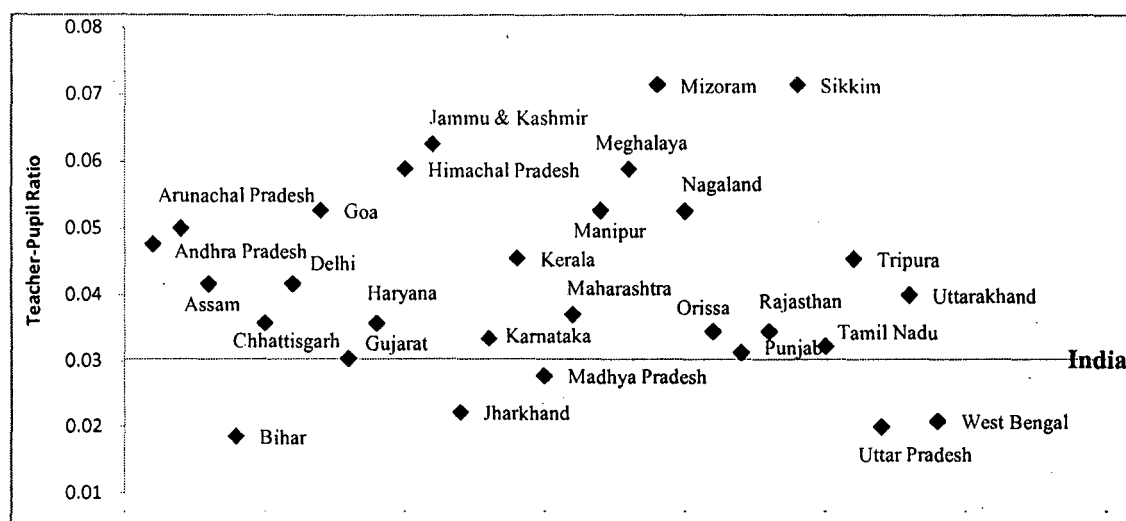


Source: DISE, figure made by author.

Teacher-Pupil Ratio

Teacher-pupil ratio tells us how many students on average are looked after by one teacher. It is clear from the definition itself that higher the value of teacher pupil ratio the better it is for a particular state. National average for teacher pupil ratio is around 0.03 (figure 4.13). Teacher-pupil ratio is higher than the national average in states Sikkim, Mizoram, Jammu & Kashmir, Himachal Pradesh, Meghalaya, Manipur, Nagaland, Goa, Arunachal Pradesh, Andhra Pradesh, Kerala, Tripura, Delhi, Assam, Uttarakhand, Maharashtra, Chhattisgarh, Haryana, Orissa, Rajasthan, Karnataka, Tamil Nadu, Punjab and Gujarat; and it is lower than the national average in the states Madhya Pradesh, Jharkhand, West Bengal, Uttar Pradesh and Bihar.

Figure 4.13 : Teacher-Pupil Ratio



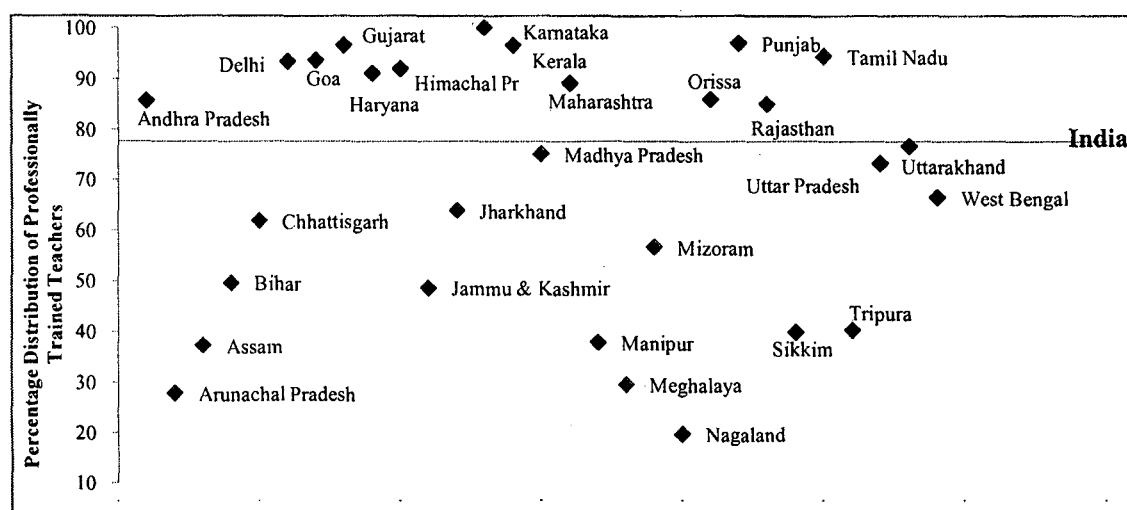
Source: DISE, figure made by author.

Percentage Distribution of Professionally Trained Teachers

Teaching a child i.e. to help a child to read, to write, to solve numerical, and to help her understand scientific concepts, should not be based on trial and error method. Whatever a child learns at this tender age stays with him/her for the rest of his life, so a professionally trained teacher is very important for primary and upper primary schools. National average of professionally trained teachers at the level of elementary education in our country is 78% (figure 4.14). It is highest in Karnataka (100%) and lowest in

Nagaland (20%). The states which are above the national average are Karnataka, Punjab, Gujarat, Kerala, Tamil Nadu, Goa, Delhi, Himachal Pradesh, Haryana, Maharashtra, Orissa, Andhra Pradesh and Rajasthan; except Himachal Pradesh, Orissa all other are economically rich states. And the states where percentage of professionally trained teachers is lower than the national average are Uttarakhand, Madhya Pradesh, Uttar Pradesh, West Bengal, Jharkhand, Chhattisgarh, Mizoram, Bihar, Jammu & Kashmir, Tripura, Sikkim, Manipur, Assam, Meghalaya, Arunachal Pradesh and Nagaland, which are economically poor states.

Figure 4.14 : Percentage Distribution of Professionally Trained Teachers



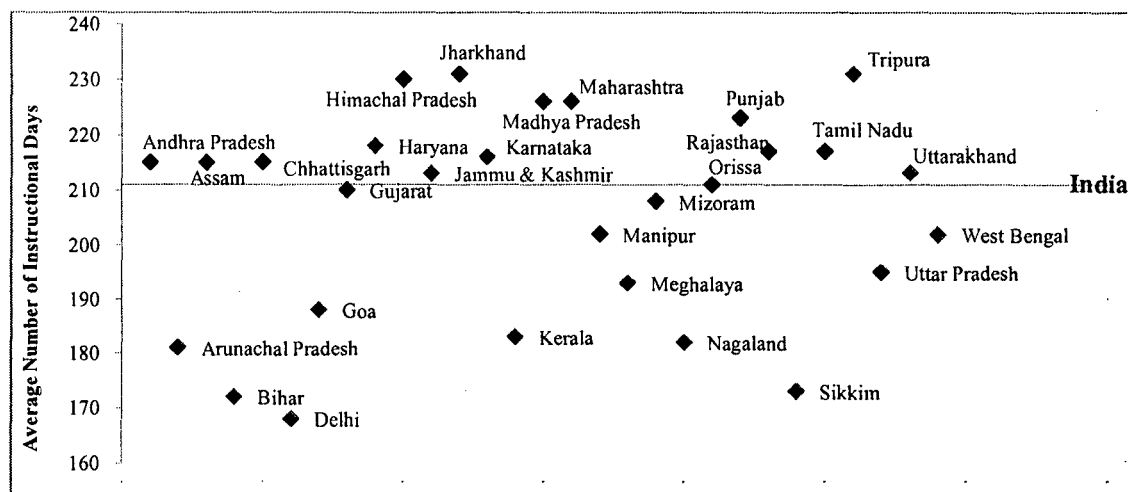
Source: DISE, figure made by author.

Average Number of Instructional Days

When we look at the average instructional days in schools we find that national average is around 211 days (figure 4.15). It is highest for Tripura (241) and the lowest for Delhi(168). With regards to this variable the states do not follow the previous trend of clear divide between economically rich and poor states. The states which are higher than the national average are Tripura, Jharkhand, Himachal Pradesh, Maharashtra, Madhya Pradesh, Punjab, Haryana, Tamil Nadu, Rajasthan, Karnataka, Andhra Pradesh, Assam, Chhattisgarh, Jammu & Kashmir, Uttarakhand and Orissa, which includes both economically rich as well as poor states. And the states which are lower than the national average are Gujarat, Mizoram, West Bengal, Manipur, Uttar Pradesh, Meghalaya, Goa,

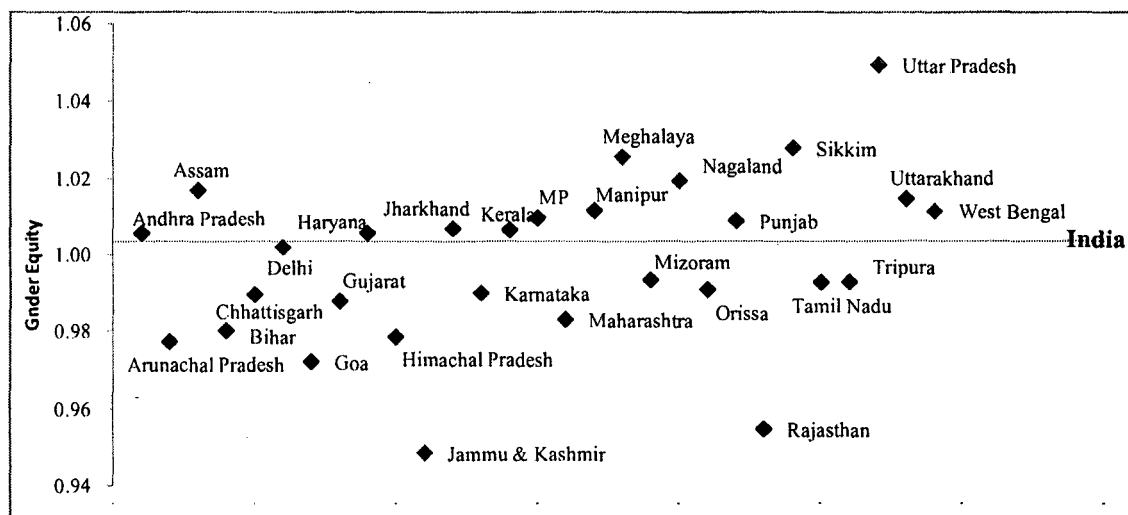
Kerala, Nagaland, Arunachal Pradesh, Sikkim and Bihar, this again has both rich as well as poor states.

Figure 4.15 : Average Number of Instructional Days



Source: DISE, figure made by author.

Figure 4.16 : Gender Equity



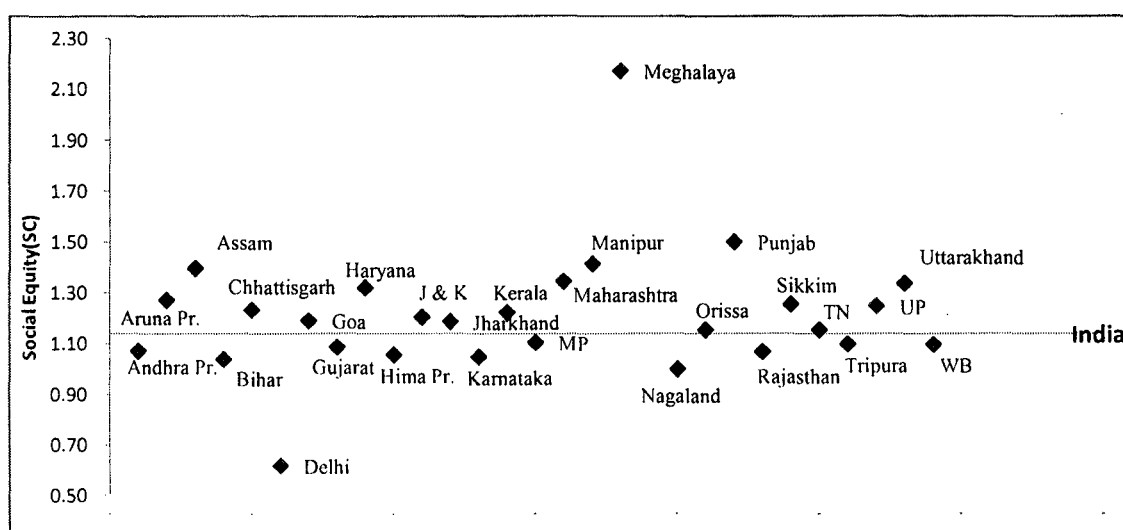
Source: DISE, figure made by author.

Gender Equity

Gender Equity is a ratio of percentage of girls enrollment to classes I-VIII and share of girls in 5-14 population (Census 2001). Higher value of gender equity, shows higher enrollment of girls, which means people in a particular state consider girl's education as important as of boy's education. Girl's education is good for the

improvement of the status of girls in the society. Jammu & Kashmir has the lowest gender equity and Meghalaya has the highest gender equity (figure 4.16). The states which have gender equity higher than the national average are Uttar Pradesh, Sikkim, Meghalaya, Nagaland, Assam, Uttarakhand, Manipur, West Bengal, MP, Punjab, Jharkhand, Kerala, Haryana and Andhra Pradesh. And the states which are below national average are Delhi, Mizoram, Tripura, Tamil Nadu, Orissa, Karnataka, Chhattisgarh, Gujarat, Maharashtra, Bihar, Himachal Pradesh, Arunachal Pradesh, Goa, Rajasthan and Jammu & Kashmir.

Figure 4.17 : Social Equity (SC)



Source: DISE, figure made by author.

Social Equity

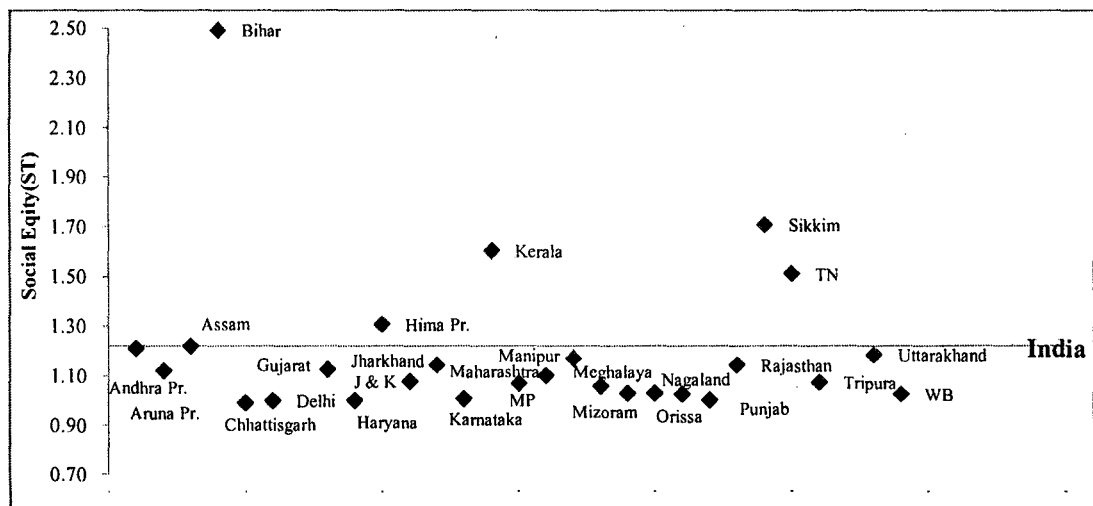
Any educational system which is based on equity is not worth its name until and unless social equity is maintained along with gender and economic equity. That is why it is very essential to check whether such social equity is maintained in the education system or not, that is why we have tried to capture the level of social equity existing in the states. Social equity has been calculated each for scheduled caste (SC) and scheduled tribe (ST) students. In case of social equity for SC, Mizoram has the highest position and national capital Delhi has the lowest position (figure 4.17). The other states which are above national average are Meghalaya, Punjab, Manipur, Assam, Maharashtra, Uttarakhand, Haryana, Arunachal Pradesh, Sikkim, UP, Chhattisgarh, Kerala, Jammu &

Kashmir, Goa, Jharkhand, Orissa and Tamil Nadu. Madhya Pradesh, Tripura, West Bengal, Gujarat, Andhra Pradesh, Rajasthan, Himachal Pradesh, Karnataka, Bihar, Nagaland and Delhi are the states which are below national average.

In case of Social Equity for ST the states which have maintained highest equity is Goa and the state which has the lowest position is Chhattisgarh (figure 4.18). The states which have the scores of social equity higher than the national average are Goa, Uttar Pradesh, Bihar, Sikkim, Kerala, Tamil Nadu and Himachal Pradesh; and the states which are below national level score are Assam, Andhra Pradesh, Uttarakhand, Manipur, Jharkhand, Rajasthan, Gujarat, Arunachal Pradesh, Maharashtra, Jammu & Kashmir, Tripura, Madhya Pradesh, Meghalaya, Mizoram, Nagaland, Orissa, West Bengal, Karnataka, Delhi, Haryana, Punjab and Chhattisgarh.

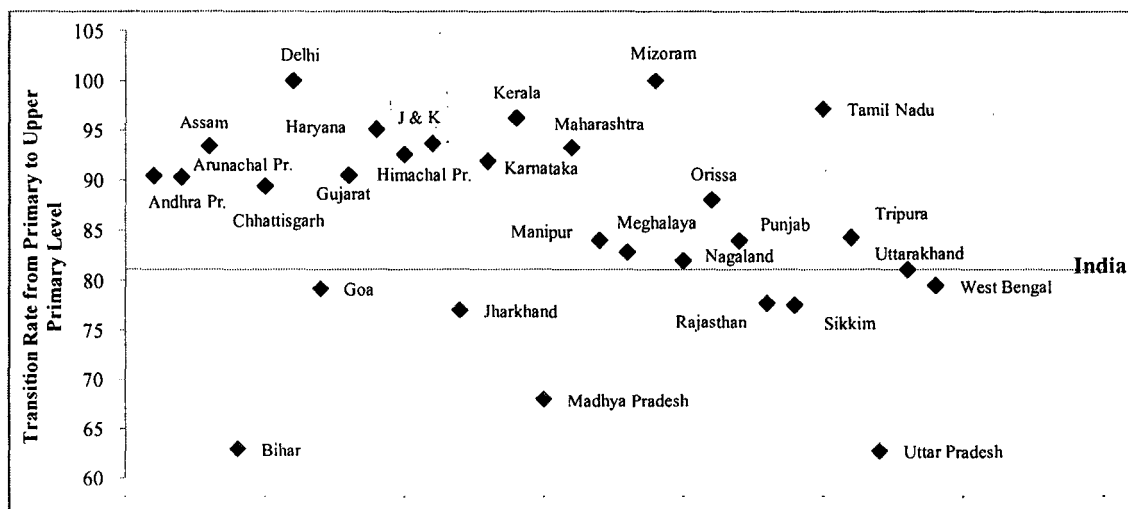
One thing which is very important and needs to be understood is that the equity scores for both SC/ST are very high for many states. This means that there are large numbers of overage students both among SC and ST students. The overage students could be because of two reasons namely; *first*, higher numbers of repeaters and second it could be because the SC/ST students start their student life very late. Whichever may be the main reason of this high equity scores, one thing is clear that both these problems of repeaters and late entry to school life need to be removed.

Figure 4.18 : Social Equity(ST)



Source: DISE, figure made by author.

Figure 4.19 : Transition Rate from Primary to Upper Primary



Source: DISE, figure made by author.

Transition Rate from Primary to Upper Primary

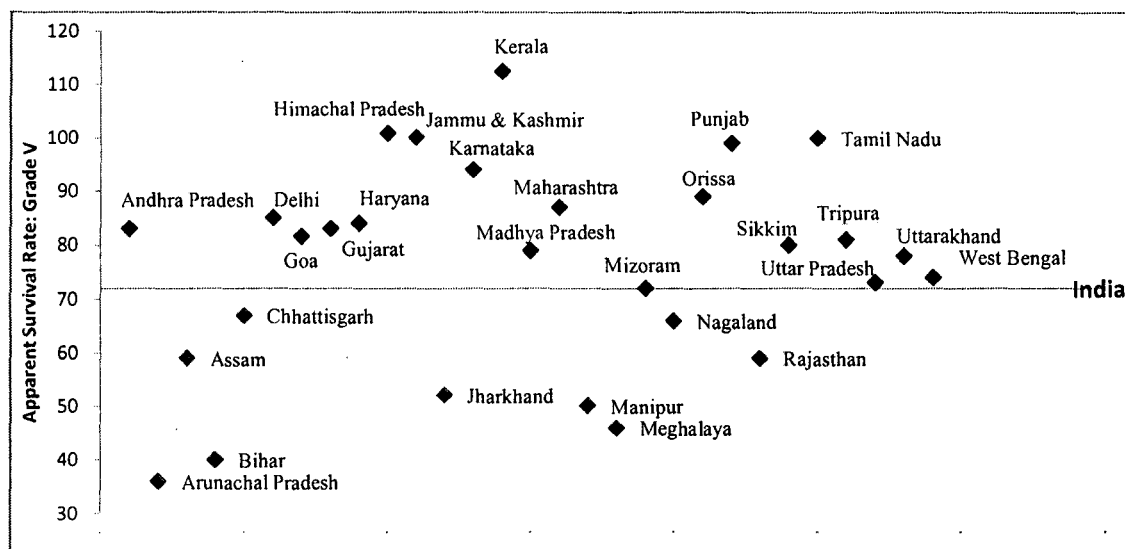
Transition rate from primary to upper primary is one of the indicators which tells us how the students are doing in their studies. The national level average for this variable is around 81 percent (figure 4.19). The states which are above this national average are Andhra Pradesh, Delhi, Mizoram, Tamil Nadu, Kerala, Haryana, Jammu & Kashmir, Assam, Maharashtra, Himachal Pradesh, Karnataka, Gujarat, Arunachal Pradesh, Chhattisgarh, Orissa, Tripura, Manipur, Punjab, Meghalaya and Nagaland, most of these states are economically rich states. The states which are below national level are Uttarakhand, West Bengal, Goa, Rajasthan, Sikkim, Jharkhand, Madhya Pradesh, Bihar and Uttar Pradesh. Mizoram and Delhi occupy the topmost position with transition rate of 100 percent each, whereas Uttar Pradesh has the lowest position with transition rate of 63 percent.

Survival Rate Up to class V

Survival rate tells us what percentage of students enrolled in class-I are going to survive till class-V. Higher survival rate is good for the education system. It tells us that more and more students are staying back to study. The national average for survival rate is 72% (figure 4.20). The states having percentage higher than this national average are Kerala, Himachal Pradesh, Jammu & Kashmir, Tamil Nadu, Punjab, Karnataka, Orissa,

Maharashtra, Delhi, Haryana, Andhra Pradesh, Gujarat, Goa, Tripura, Sikkim, Madhya Pradesh, Uttarakhand, West Bengal, Uttar Pradesh and Mizoram; and the states having a rate below the national level are Chhattisgarh, Nagaland, Assam, Rajasthan, Jharkhand, Manipur, Meghalaya, Bihar and Arunachal Pradesh. Survival rate is highest in Kerala which is 113% and lowest in Arunachal Pradesh which is 36%.

Figure 4.20 : Survival Rate Up to class V



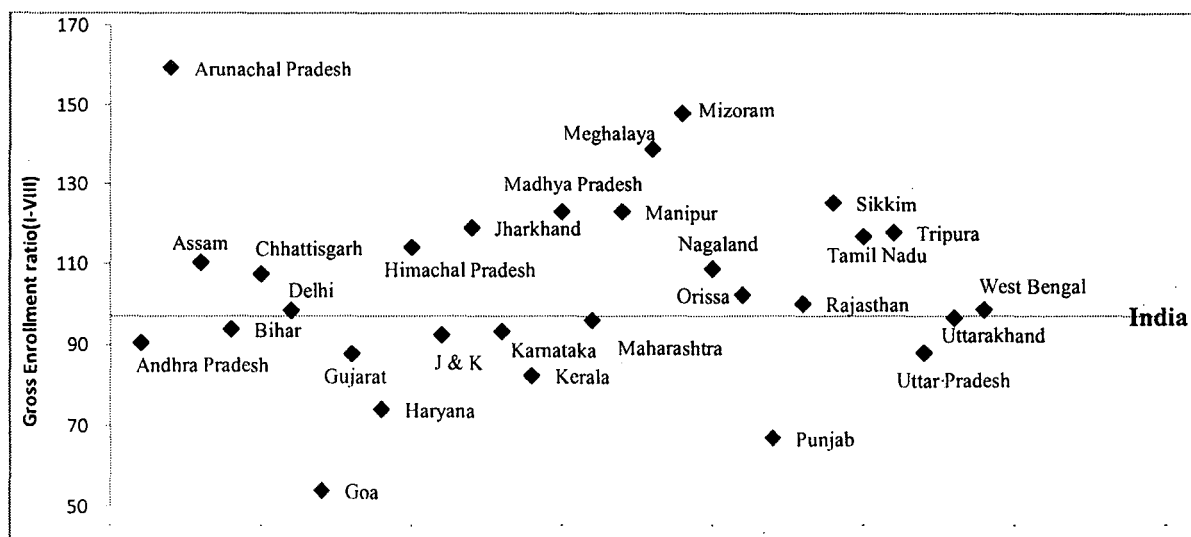
Source: DISE, figure made by author.

Gross Enrolment Rate (I-VIII)

Gross enrolment rate is used to show total enrolment in a specific level of education, regardless of age, expressed as a percentage of the eligible official school-age population corresponding to the same level of education in a given school year. A higher GER tells a higher degree of participation in given level of education. GER being higher than 100 means that large numbers of overage students are getting enrolled. The overage students could be because of two reasons namely; *first*, higher numbers of repeaters and second it could be because the students start their student life very late. Both these problems of repeaters and late entry to school life need to be removed if we want to improve the educational status of states. The national level GER for elementary education is around 97% (figure 4.21). The states which have GER higher than the national average are Arunachal Pradesh, Mizoram, Meghalaya, Sikkim, Manipur, Madhya Pradesh, Jharkhand, Tripura, Tamil Nadu, Himachal Pradesh, Assam, Nagaland, Chhattisgarh,

Orissa, Rajasthan, West Bengal and Delhi; and the states which are below national level GER are Uttarakhand, Maharashtra, Bihar, Karnataka, Jammu & Kashmir, Andhra Pradesh, Uttar Pradesh, Gujarat, Kerala, Haryana, Punjab and Goa. Arunachal Pradesh has the highest GER which is 159% and Goa has the lowest which is 54%.

Figure 4.21 : Gross Enrolment Rate (I-VIII)



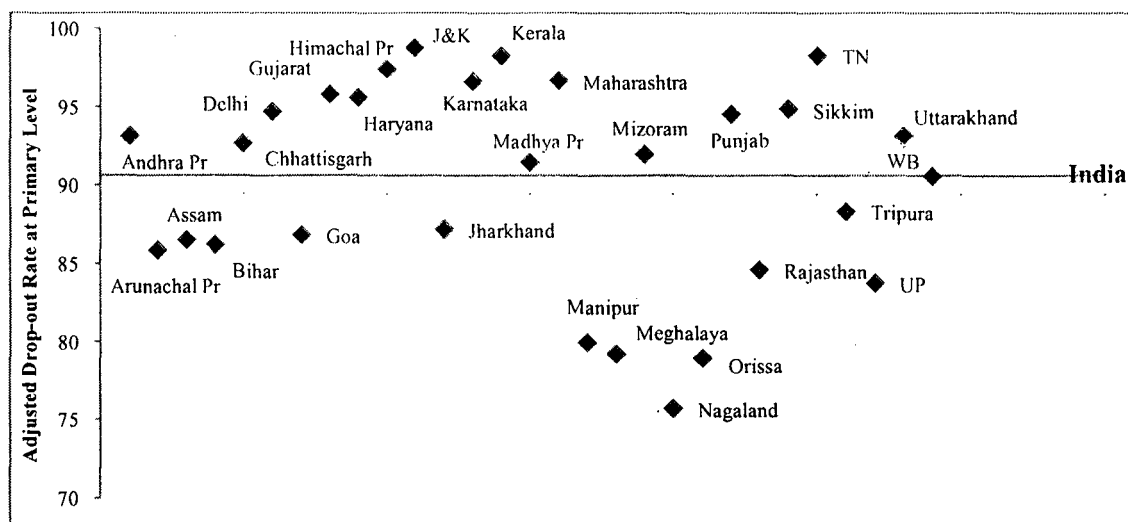
Source: DISE, figure made by author.

Adjusted Drop Out Rate⁵⁴ (Primary)

A phenomenon in which proportion of children ceases to remain enrolled in a schooling system is called dropout rate. We have taken adjusted dropout rate just to make all the variables positive in direction. So, higher value of adjusted dropout rate is good sign for a state. Here drop out rate corresponds to only primary education, as data for upper primary was not available from DISE. Adjusted dropout rate is lowest in Nagaland and it is highest in Jammu & Kashmir (figure 4.22). The national level adjusted drop out rate is 90%. The states in which adjusted dropout rate is lower than the national level are Nagaland, Orissa, Meghalaya, Manipur, Uttar Pradesh, Rajasthan, Arunachal Pradesh, Bihar, Assam, Goa, Jharkhand, Tripura and West Bengal; and the states which are above the national level are Madhya Pradesh, Mizoram, Chhattisgarh, Andhra Pradesh, Uttarakhand, Punjab, Delhi, Sikkim, Haryana, Gujarat, Karnataka, Maharashtra, Himachal Pradesh, Kerala, Tamil Nadu and Jammu & Kashmir.

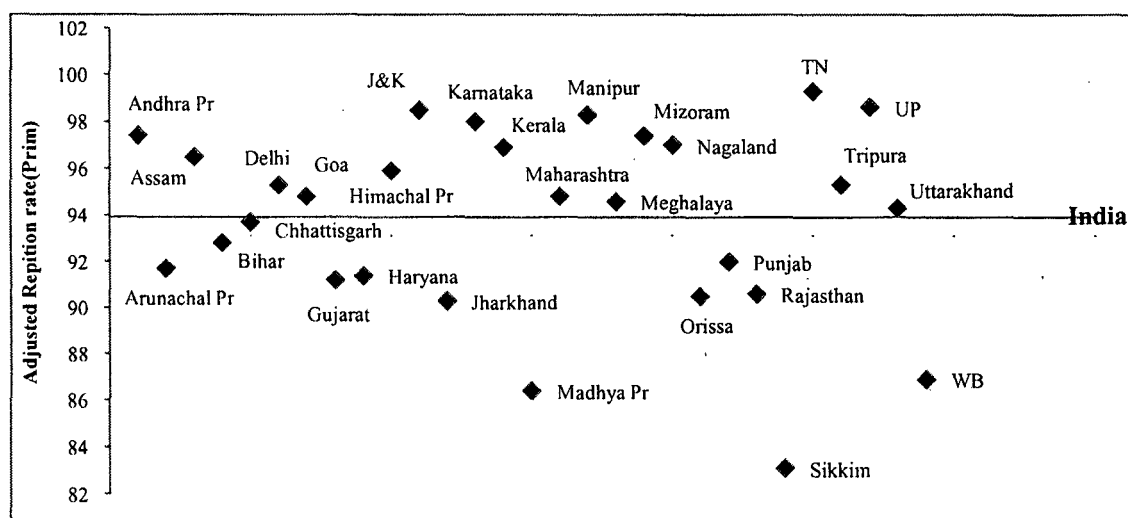
⁵⁴ Adjusted dropout rate = 100 – dropout rate. Drop out data for upper primary level is not available.

Figure 4.22 : Adjusted Drop Out Rate(Primary)



Source: DISE, figure made by author.

Figure 4.23 : Adjusted Repetition Rate(Primary)



Source: DISE, figure made by author.

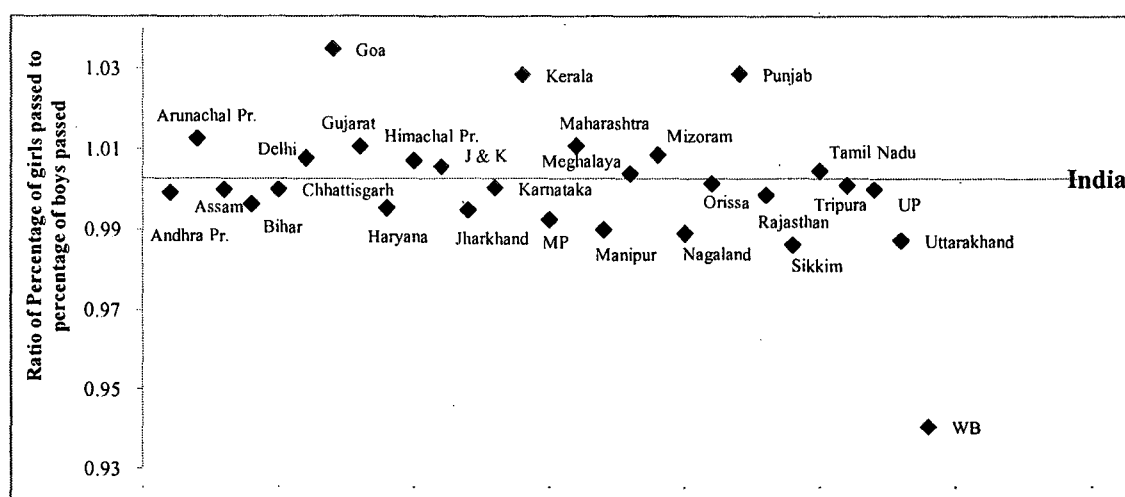
Adjusted Repetition Rate⁵⁵(Primary)

Repetition rate tells us the percentage of repeaters in certain grade in a given year. Repetition rate here corresponds to primary education as it was not available for upper primary for all the states. Here again we have taken adjusted repetition rate just to make this indicator a positive variable. So, higher value of adjusted repetition rate is good sign

⁵⁵ Adjusted Repetition Rate = 100 - repetition rate. Repetition rate data for upper primary level is not available.

for a state. Adjusted repetition rate for primary section in states has varied very much (figure 4.23). Adjusted repetition rate is lowest in the state of Sikkim (83%) and it is highest in the state of Tamil Nadu and Uttar Pradesh (99% in both the states). The national level adjusted repetition rate is around 94%. The states which are below this level are Sikkim, Madhya Pradesh, West Bengal, Jharkhand, Orissa, Rajasthan, Gujarat, Haryana, Arunachal Pradesh, Punjab, Bihar and Chhattisgarh; and the states which are above this level are Uttarakhand, Meghalaya, Goa, Maharashtra, Delhi, Tripura, Himachal Pradesh, Assam, Kerala, Nagaland, Andhra Pradesh, Mizoram, Karnataka, Manipur, Jammu & Kashmir, Uttar Pradesh and Tamil Nadu.

Figure 4.24 : Ratio of Percentage of girls Passed to percentage of boys Passed



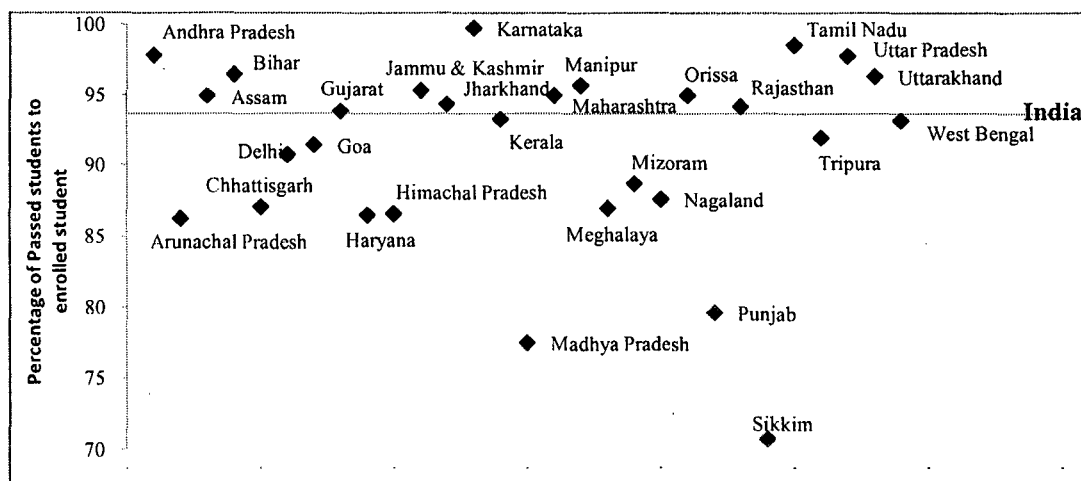
Source: DISE, figure made by author.

Ratio of Percentage of girls Passed to percentage of boys Passed

When we look at the ratio of percentage of girls passed to percentage of boys passed we find that most of the economically rich states have performed better in terms of this particular variable (figure 4.24). It shows that girls are getting better educational support and facility in rich states that is why they have done better than boys. The ratio is highest in Goa and lowest in West Bengal. It is very surprising that a state like West Bengal finds the lowest position. The main rich states which are above national level are Punjab, Kerala, Maharashtra, Gujarat, Delhi and Tamil Nadu. Some of the poor states where the girls have performed better than boys are Arunachal Pradesh, Mizoram,

Himachal Pradesh, Jammu & Kashmir and Meghalaya. It is most of the underdeveloped states where girls have underperformed, most of these states are Orissa, Tripura, Assam, Chhattisgarh, UP, Andhra Pradesh, Rajasthan, Bihar, Jharkhand, MP, Manipur, Nagaland, Uttarakhand, Sikkim and West Bengal.

Figure 4.25: Percentage of Passed Students to Enrolled Student



Source: DISE, figure made by author.

Percentage of Passed Students to Enrolled Student

In case of percentage of passed students to enrolled students rich and poor states are equally distributed above and below national level (figure 4.24). One irony in this indicator is that states like Kerala, Goa, Delhi, Haryana, West Bengal and Punjab are below national level of percentage of passed students to enrolled student; whereas states like Assam, Jammu & Kashmir, Jharkhand, Manipur, Orissa, Rajasthan and Uttar Pradesh are above national average. This could be because of one set of states having high teaching standards and teachers not being very lenient in giving marks and *vice versa* in other set of states. The major concern here are three states Punjab, Madhya Pradesh and Sikkim where percentage of passed student to enrolled student is below 80%. The states which are above national level are Karnataka, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, Bihar, Uttarakhand, Manipur, Jammu & Kashmir, Orissa, Maharashtra, Assam, Jharkhand, Rajasthan and Gujarat. And the states which are below national level are Kerala, West Bengal, Tripura, Goa, Delhi, Mizoram, Nagaland,

Chhattisgarh, Meghalaya, Himachal Pradesh, Haryana, Arunachal Pradesh, Punjab, Madhya Pradesh and Sikkim.

Table 4.3 : Scores of State in Different Indices

	Access		Infrastructure		Teacher		Equity		Output	
	State	Score	State	Score	State	Score	State	Score	State	Score
1	Gujarat	2.00	Delhi	4.29	Delhi	4.24	UP	1.53	Kerala	3.12
2	Maharashtra	1.70	Kerala	3.55	Kerala	3.07	Meghalaya	1.07	J & K	2.30
3	Delhi	1.66	Punjab	2.14	Sikkim	2.54	Sikkim	1.05	Tamil Nadu	2.22
4	Haryana	1.65	Haryana	2.14	Nagaland	1.81	Nagaland	0.78	Karnataka	1.89
5	Kerala	1.50	Gujarat	1.39	Goa	1.68	Assam	0.73	Maharashtra	1.53
6	Karnataka	0.70	UP	1.31	Tamil Nadu	0.78	Mizoram	0.67	Delhi	1.45
7	Punjab	0.66	Maharashtra	1.31	Manipur	0.71	Uttarakhand	0.65	Himachal Pr.	1.43
8	Tripura	0.47	Tamil Nadu	1.27	Bihar	0.56	Manipur	0.56	Punjab	1.41
9	Rajasthan	0.36	Goa	1.18	Meghalaya	0.49	West Bengal	0.54	Andhra Pr.	1.21
10	Mizoram	0.34	Rajasthan	1.09	Gujarat	0.47	Punjab	0.48	Goa	1.14
11	Nagaland	0.30	Uttarakhand	0.56	Mizoram	0.22	MP	0.48	Gujarat	1.03
12	UP	0.29	MP	0.37	Punjab	0.10	Jharkhand	0.39	Haryana	0.90
13	Goa	0.24	Karnataka	0.06	Karnataka	-0.04	Kerala	0.37	Mizoram	0.37
14	Tamil Nadu	0.12	Himachal Pr.	-0.10	Arunachal Pr.	-0.09	Haryana	0.37	Uttarakhand	0.05
15	Andhra Pr.	0.09	Andhra Pr.	-0.17	Andhra Pr.	-0.29	Andhra Pr.	0.34	Tripura	-0.11
16	Bihar	-0.17	Sikkim	-0.36	Haryana	-0.32	Delhi	0.19	Chhattisgarh	-0.14
17	J & K	-0.20	Chhattisgarh	-0.82	Maharashtra	-0.41	Tripura	-0.07	Assam	-0.16
18	Chhattisgarh	-0.20	Nagaland	-0.87	J & K	-0.57	Tamil Nadu	-0.08	Orissa	-0.46
19	Orissa	-0.20	West Bengal	-0.91	Uttarakhand	-0.74	Orissa	-0.13	UP	-0.68
20	Jharkhand	-0.34	Tripura	-1.05	Assam	-0.96	Chhattisgarh	-0.17	Rajasthan	-1.36
21	MP	-0.36	J & K	-1.07	Himachal Pr.	-0.97	Karnataka	-0.17	Manipur	-1.43
22	Manipur	-0.39	Orissa	-1.13	West Bengal	-0.97	Gujarat	-0.24	Nagaland	-1.55
23	Uttarakhand	-0.71	Bihar	-1.32	UP	-1.05	Maharashtra	-0.37	Jharkhand	-1.76
24	West Bengal	-0.86	Jharkhand	-1.52	Tripura	-1.07	Bihar	-0.52	Arunachal Pr.	-2.02
25	Himachal Pr.	-0.99	Mizoram	-1.56	Rajasthan	-1.21	Himachal Pr.	-0.54	West Bengal	-2.04
26	Sikkim	-0.99	Manipur	-1.64	Chhattisgarh	-1.26	Arunachal Pr.	-0.56	Bihar	-2.07
27	Assam	-1.10	Arunachal Pr.	-2.39	MP	-1.39	Rajasthan	-1.30	Sikkim	-2.07
28	Meghalaya	-2.59	Assam	-2.63	Orissa	-1.81	J & K	-1.49	MP	-2.08
29	Arunachal Pr.	-2.99	Meghalaya	-3.10	Jharkhand	-3.52	Goa	-4.54	Meghalaya	-2.14

Source: DISE, calculation done by author

4.4: Composite Index

On the basis of above explained indicators six indices have been calculated, five dimensional indices and one overall educational development index, based on which the states have been ranked. The scores of the states and their respective ranks are given in the table 4.3 below. One important conclusion from this analysis is that many north eastern states have got better scores in comparison to many economically better off states

of the country. This has been very prominent in the case of Teacher and Equity Index; where Manipur, Meghalaya, Mizoram, Nagaland and Sikkim have got a ranking of 11 or less than 11; while states like Punjab, Karnataka, Andhra Pradesh, Haryana and Maharashtra have got a position below 10 in teacher index; and Kerala, Haryana, Andhra Pradesh, Delhi, Tamil Nadu, Karnataka, Gujarat, Maharashtra and Goa have got a place below 10th in case of equity index. Tripura and Mizoram have occupied 8th and 10th position in access index respectively. Mizoram & Tripura have occupied 13th & 18th position, in case of output index.

It is only in the case of equity index and to an extent in case of teacher index economically poor states have outperformed the rich states. First nine states in case of equity index are poor states which are Uttar Pradesh, Meghalaya, Sikkim, Nagaland, Assam, Mizoram, Uttarakhand, Manipur and West Bengal; which are also considered as educationally underdeveloped except West Bengal. In case of teacher index barring first, fifth, sixth and tenth position, all other top ten position is occupied by poor states Sikkim (3rd), Nagaland (4th), Meghalaya (9th), Manipur (7th), Bihar (8th) and Mizoram (11th). In the rest of indices economically rich states have done well. In case of Access index Gujarat, Maharashtra, Delhi, Haryana, Kerala, Karnataka, Punjab and Goa have occupied top 13 positions. In case of infrastructure index economically rich states Delhi, Kerala, Punjab, Haryana, Gujarat, Maharashtra, Tamil Nadu and Goa are among the top 9 states. Again economically rich states Kerala, Tamil Nadu, Karnataka, Maharashtra, Delhi, Punjab, Andhra Pradesh, Goa, Gujarat and Haryana are among the top 11 states in the output index.

Educational development index has been calculated on the basis of five sub indices (Access Index, Infrastructure Index, Teacher Index, Equity Index and Output Index). The composite index can be summarised in the following way:

- 1) The very first thing which comes to our notice is that the difference between the highest rank state and the lowest ranked state is very high, which tells us that the states are at the different levels of educational development.
- 2) Top 10 states according to the ranking of composite index are Delhi (3.48), Kerala (3.41), Goa (1.95), Gujarat (1.83), Maharashtra (1.65), Haryana (1.59), Punjab (1.37), Tamil Nadu (1.34), Karnataka (0.95), and Jammu & Kashmir

(0.41). Baring Jammu & Kashmir all other states are economically rich and developed state.

Table 4.4 : Educational Development Index

Ranking	States	Scores
1	Delhi	3.48
2	Kerala	3.41
3	Goa	1.95
4	Gujarat	1.83
5	Maharashtra	1.65
6	Haryana	1.59
7	Punjab	1.37
8	Tamil Nadu	1.34
9	Karnataka	0.95
10	J & K	0.41
11	Andhra Pr.	0.25
12	Rajasthan	0.03
13	UP	-0.15
14	Himachal Pr.	-0.16
15	Mizoram	-0.28
16	Nagaland	-0.35
17	Tripura	-0.38
18	Uttarakhand	-0.41
19	Chhattisgarh	-0.65
20	Sikkim	-0.83
21	Bihar	-0.94
22	Orissa	-0.97
23	Manipur	-1.08
24	MP	-1.09
25	West Bengal	-1.62
26	Assam	-1.72
27	Jharkhand	-2.03
28	Arunachal Pr.	-2.70
29	Meghalaya	-2.91

Source: DISE, calculation done by author

- 3) States which have got the last ten positions are Chhattisgarh (-0.65), Sikkim (-0.83), Bihar (-0.94), Orissa (-0.97), Manipur (-1.08), Madhya Pradesh (-1.09), West Bengal (-1.62), Assam (-1.72), Jharkhand (-2.03), Arunachal Pradesh (-2.7) and Meghalaya (-2.91). All states are economically poor states and seven of them are hilly state in which five of them are northeastern state.

- 4) Rajasthan has performed better than other BIMARU states whereas Bihar has got the lowest position.

4.5 Conclusion

To conclude we can say that there are good numbers of schools which have single-teacher despite an overall average of four teachers per school, which is a serious cause of concern. Percentage of female teachers needs improvement in some of the states. Regular teachers need to be appointed wherever there is vacancy and the policy of filling up these positions with para teachers or contract teacher needs to be done with. There are many states where primary to upper primary ratio is very high, in such states upper primary schooling needs to be expanded. As far as availability of schools per 1000 child population is concerned, most of the poor hilly states have higher availability and most of the rich and developed states have lower availability of schools. Such strange result is because the few schools which are available are bigger in size in rich states and thus they can accommodate more students. There are many schools which have no building of its own and there are some schools which are run under the shed of tent or have a kuccha building. These schools need to be provided with adequate funds so that these buildings could be upgraded. We can say that education can be imparted without buildings and classrooms but still a healthy environment is needed for education. Proper school building is also needed from the equity point of view. Possibilities to provide additional classrooms to schools having high student-classroom ratio may be explored. The dropout rate is very high especially at the primary level. For some of the states transition rate from primary to upper primary is very low. We need to improve in these areas if we want to achieve the target of universal elementary education.

There are a large number of overage students in the social category of SC/ST, which is evident from the fact that equity scores for both SC/ST are higher than 1 for many states. This could be possible when there are large numbers of overage students both among SC and ST students. The overage students could be because of two reasons namely; *first*, higher numbers of repeaters and *second*, it could be because the SC/ST students start their student life very late. One thing is clear that both these problems of repeaters and late entry to school life need to be removed.

One thing which has come out very prominently from five dimensional indices is that many north eastern states have got better scores in comparison to many economically better off states of the country. This has been very prominent in the case of Teacher and Equity Index. It is only in the case of equity index and to an extent in case of teacher index economically poor states have outperformed the rich states. In the rest of indices (access, infrastructure & output) economically rich states have done well.

From the educational development index it is clear that there is large disparity among the states in the level of educational development as the difference between the composite scores of the first ranked and last ranked states is very high. And the fact that most of the top ranking states are economically better off and the states which have performed badly are economically poorer states, tells that this educational development has something to do with the economic condition or the capacity of a particular state to fund the educational programme. It is this condition which makes the programme like SSA very important, it can fund the low performing states which are mostly economically poor states.

Considering the different level of educational development achieved by the states, it is necessary to fund the states according to the educational need of particular states. So in the next chapter we will try to find whether the expenditure by different states under SSA is in accordance with the requirements of a particular state, as reflected in their status of educational development.

Chapter 5

Chapter 5: Analysis of Funding Under SSA

In the previous chapter we saw that there is huge disparity in terms of educational development across states. It is true that increasing expenditure in education may not necessarily lead to improvement in the status education as finances are necessary but not sufficient condition for overhauling educational disparity across states⁵⁶. But even this sufficient condition can't be overlooked as without it the necessary condition can't be achieved. Expenditure on education is an investment in human beings, an important investment for development, yielding high individual and social returns - economic, cultural and political - some of which are tangible, and many of which are also regarded as externalities⁵⁷, deserving high priority and an activity on which we need to spend more and more (Tilak, 2009b). Thus education is to be treated as priority investment and not as a burden on public exchequer. In addition to that education can help people in improving their economic and social status. So to bring equity in the society, equal educational opportunity needs to be given to everyone.

That is why one of the most critical areas of modern development strategies of public policy towards education is, publicly funded education system, especially primary education. Huge disparity exists in elementary education across regions and social/religious groups, which necessitates higher resource allocation, flexible approaches and higher attention to the districts and pockets identified as educationally backward (Jhingran & Sankar, 2009). In a developing country like India, public expenditure on education has greater significance as it can help bring equity and quality in education while promoting it as public good and as a human right. Though education could be provided both either by the Government or by private players, but if left in the hands of market, market may often overlook the positive externalities associated with improved education and there are serious 'market failures' in the private provisioning for education

⁵⁶ Sufficient conditions could be better teachers, educated parents, proper utilization of financial resources etc.

⁵⁷ Externalities are third party (or spill-over) effects arising either from the production or consumption of goods and services for which no appropriate compensation has been made. It can cause market failure if full social costs and social benefits of consumption and production are not taken into account in the price mechanism. A good like education produces positive externalities, if left in the hands of private market too little of it would be produced as producers and buyers do not take into account the external benefits to others.

(Jha, Das, Mohanty & Jha, 2008). In such cases education system may fail to maximise economic and social welfare and, as a consequence, there is a case for Government intervention in education. That is why public expenditure is one of the most important aspects of public policy. Thus the role of government becomes very important in providing and financing of education.

It is important to note that available evidence from developing countries show that investment in items that have close relationship with the quality of education, such as textbooks, teaching-learning materials and teacher training, yields higher returns than investment in other inputs (Tilak, 2009b). Thus to ensure equity in education, it is very important that allocations to equity-oriented items like scholarships at all levels, free textbooks, noon meals and uniforms, etc., are increased (Tilak, 2009b).

All these considerations have affected the Indian education policies till now and that is why education, primarily primary education is financed by government. Though it has been observed that since early 1990s both Central and State Governments have been coping with forceful calls for fiscal discipline, and ‘the “discipline” has often been highly selective, with the financial axe falling on the relatively “soft” sectors while largesse continued in other domains, where attempts to restrain public expenditure came up against well organized lobbies (Dreze and Sen,1995). It has been observed that central transfers for education have not been equity-oriented, i.e. they have not been found to be contributing to reduction in inter-state disparities, nor have they promoted resource mobilization by the states (Tilak, 2009b). Despite these shortcomings there have been some initiatives by the government which are focused to bring equity in access to education, SSA is one such initiative.

Prior to SSA elementary education was financed by State governments (Mukerjee, 2008). Education continues to be largely funded by state budgets, supplemented by assistance from the union government (Tilak, 2009b). Even with the substantial expenditure through SSA, only 20 percent of the total public expenditure on elementary education is being spent by the Central government (Mukerjee, 2008). Funding under SSA has helped increase the level of spending in appointment and training of teachers, infrastructure, and inputs for enhancing learning outcomes. These are the areas where state governments needed financial help. This is where SSA stepped in as scheme which

can finance the elementary education.

5.1 Objective of the Chapter

The main objective of this chapter is to find whether the per capita allocation, release and expenditure of funds under SSA is in accordance to the educational requirements of a particular state, as reflected in their status of educational development? Since EDI corresponds to the year 2007-08, therefore to make things comparable the data for allocation, release and expenditure has been used for 2008-09; so that it could be seen whether funding has addressed to the needs of states? In this chapter we have first explained the trend in per capita expenditure at the national and state level. We have also looked at the component wise allocation of funds at the national level. Then we have analysed the state wise variation in per capita allocation, release and expenditure. Then through a correlation matrix we have tried find out the relation between different indices and the per capita allocation, release and expenditure. We have also looked at the level of difference between per capita allocation and per capita release and its implication for educationally underdeveloped states which are also economically poor.

Before answering the question posed above, it will be very wise to differentiate between the terms *funds allocated*, *funds released* and actual *expenditure*. 'Funds allocated' represent approved AWP&B, in some cases with some modification, by the project approval board (PAB). Sometimes funds actually released differs from the funds actually approved under AWP&B, thus a separate term 'funds released' is used. As states are not able to expend all the funds released to them, so the actual expenditure may differ from the funds released.

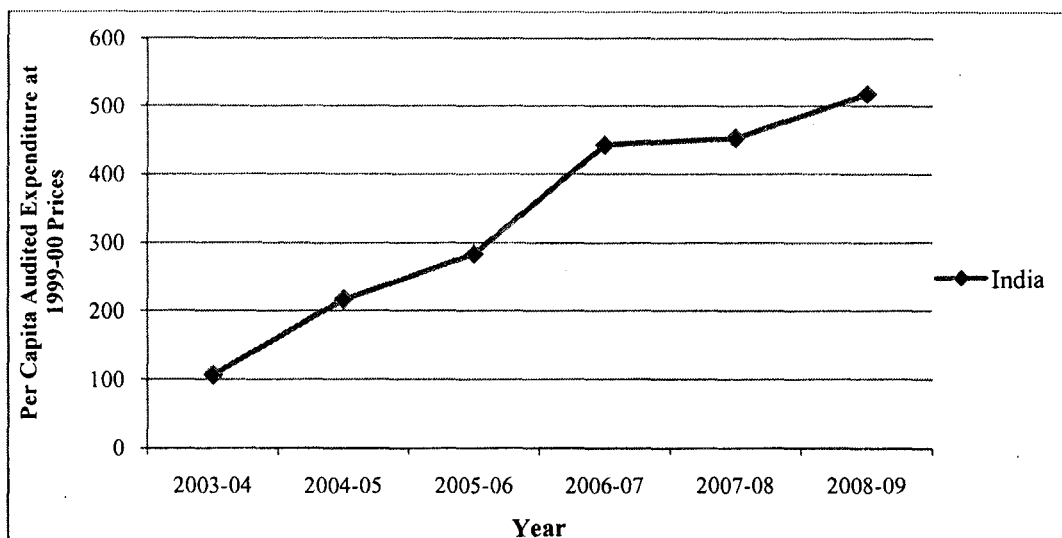
5.2 Trends in National Level Expenditure

The national level trend of audited per capita⁵⁸ expenditure at 1999-00 prices shows that the per capita expenditure on SSA has been increasing since its inception except in the years 2006-07 and 2007-08. In rest of the years the increase has been very high. Per capita expenditure at constant prices was only Rs. 106 in 2003-04, which

⁵⁸ Per capita has been calculated using child population(age 5-14) from Census 2001. Where ever the term 'per capita' has been used it means the same.

increased to almost five times (Rs. 517) in 2008-09. Most of the union government's allocation to elementary education under Sarva Shiksha Abhiyan (SSA) are accounted by revenues received from the education cess, and hence may be regarded as 'cess-driven allocations' (Tilak 2006b).

Figure 5.1 : All India Per Capita Audited Expenditure on SSA at 1999-00 Prices



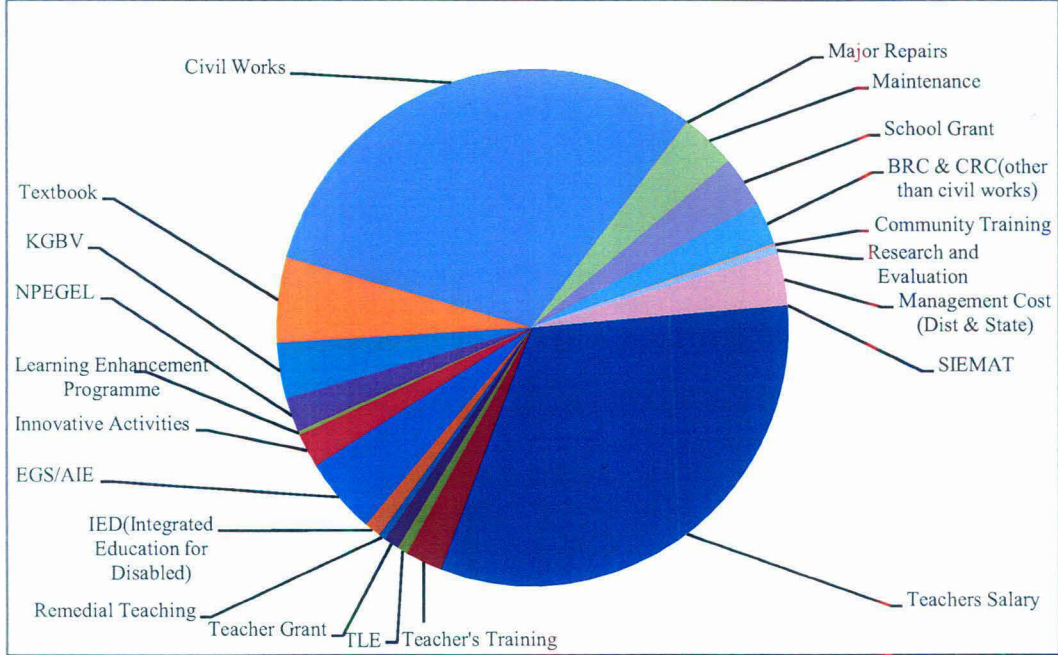
Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Calculation done by author.

5.3 Component Wise Expenditure under SSA for the year 2008-09: A National Overview

The figure 5.2 shows that the larger part of expenditure under the SSA is going to Teacher salary (32.19%) and civil work (30.95%). Both these heads account for around 61% of total expenditure under SSA for the year 2008-09. One thing which is to be noted is that the major chunk is going to teachers' salary, when almost all of the states have taken the route of cost minimization through appointing para teachers, who are paid very minimal amount in comparison of permanent teachers. This shows that if the government appoints fully trained government teachers all over the country, then we are going to need lot more money to be incurred under this head. The second highest expenditure is done on civil works, which is good sign showing that more and more new educational infrastructure is being created. Third component is expenditure on textbooks, which accounts for the 5.34 percent of total expenditure. Expenditure on textbooks is considered

one of the measures to bring equality (Tilak 2009b), so it would be good for education system if this expenditure is increased as our education system is very unequal. Education Guarantee Scheme (EGS) and Alternative & Innovative Education (AIE) have got a share of 4.8 percent in total expenditure. EGS and AIE will be established in the habitations which have a minimum of school age children but do not have primary school within one kilometer. For this, it has been decided that NGOs will be funded through State Implementation Societies.

Figure 5.2: Component Wise Share of Expenditure for 2008-09 for All India



Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Figure made by author.

EGS and AIE will be component of the SSA and would be absorbed in it by the end of the IX Plan. Maintenance and Kasturba Gandhi Balika Vidyalaya (KGBV) have received 3.49 percent and 3.48 percent respectively. School grant has received 3.2 percent share in total expenditure under the SSA for the year 2008-09. School grant is given for replacement of non functional school equipment and for other recurring costs such as consumables etc. 3.19 percent is spent on management cost. BRC and CRC, teacher’s training, NPEGEL and innovative activities⁵⁹ all have received between 2-3 percent shares in total expenditure. Integrated Education of the Disabled (IED) is a

⁵⁹ Innovative intervention could be taken up to increase girls education and education of SC/ST children under SSA. There is provision of up to Rs 15 lakhs for such intervention.

programme for the education of children with special needs; it has 1.4 percent of share in total expenditure in 2008-09 under SSA. Teacher Grant, Teaching Learning Equipment⁶⁰ (TLE), Research and Evaluation, Remedial Teaching⁶¹, Learning Enhancement Programme⁶², Major Repairs and SIEMAT have received a share of less than 1 percent in total expenditure under SSA in the year 2008-09. SIEMAT is an institution to build capacity at the State level. It provides support system of resource persons at the state level. For development of SIEMAT following are the provision (MHRD, 2008): a) one time assistance up to Rs.3 crore, b) States has to agree to sustain, c) Selection criteria for faculty to be rigorous. SIEMAT⁶³ can lend resource support for planning activities to the district when asked; it could provide the capacity building support as per requirement.

We could club expenditure under different heads into four sub groups: a) expenditure on teachers or different schooling arrangements (Teachers Salary, Teacher's Training, TLE , Teacher Grant, Remedial Teaching, IED(Integrated Education for Disabled), EGS/AIE, Innovative Activities, Learning Enhancement Programme, NPEGEL, KGBV), b) Expenditures directly on students (textbook), c) Expenditure on Infrastructure Development (Civil Works, Major Repairs, Maintenance, School Grant), and d) Expenditure on Administration(BRC & CRC other than civil works), Community Training, Research and Evaluation, Management Cost⁶⁴, SIEMAT).

The expenditure under these headings vary, they are as follows a) expenditure on teachers or different schooling arrangements is 50.45 percent, b) Expenditures directly on students is 5.34 per cent, c) Expenditure on Infrastructure Development is 37.68, and d) Expenditure on Administration is 6.52 percent. If we want to improve equity in our education system then we need to increase the share of expenditure which goes directly to students (i.e scholarships, free textbooks etc.).

⁶⁰ TLE will be according to the Local specific context and requirement/need to be determined by the teachers/School Committee. Parents and teachers will be involved in TLE selection and its procurement.

⁶¹ The scheme would allow for the following two kinds of interventions: - (i) For children mainstreamed into formal schools from bridge courses/campus/back to school strategies. (ii) Remedial teaching for children in formal schools.

⁶² It is a programme to enhance learning levels in language, mathematics and science.

⁶³ NCERT/NUEPA/SCERT /TSG-DPEP are the other organisation who could help at the national, State and districts level in major capacity building.

⁶⁴ This includes management cost of both Districts & States.

5.4 Pattern of Funding Across State Under SSA

As we have already discussed earlier, that the main objective of SSA is to make education accessible to each and every child of the country. And considering the fact that different states in our country are at the different level of educational development, it is necessary that the states which are lagging behind in terms of educational development must be given special attention, in terms of financial assistance. In our analysis this educational disparity can be observed with the difference in the score of highest and lowest EDI score of a particular state. The difference in the EDI scores of highest and lowest state in our analysis has been very high, which shows that the states are at a variant level of educational development. Such states should be provided with more funds so that they can increase their level of educational development. So it becomes very necessary to look at the way funding has been done across state.

In this section we will look at state wise per capita allocation, release and expenditure of funds across states; and then analyse the relationship between funding and indices with the help of correlation matrix. Since EDI corresponds to the year 2007-08, therefore to make things comparable the data for allocation, release and expenditure has been used for 2008-09; so that it could be seen whether funding under SSA has been used as a tool to remove existing educational disparity?

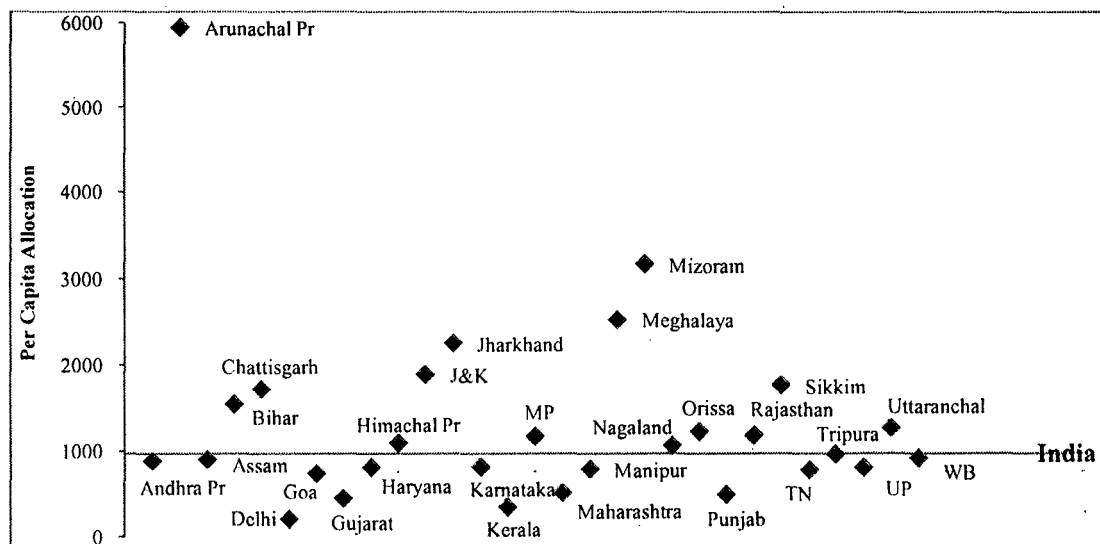
5.4.1 *Per Capita Allocation*

From the figure 5.3 it is clear that per capita allocation has been according to the needs of the states, it is higher for the states which have got lower position in EDI. Such states are Arunachal Pradesh (Rs 5946,28)⁶⁵, Mizoram (Rs 3165,15), Meghalaya (Rs 2531,29), Jharkhand (Rs 2249,27), Jammu & Kashmir (Rs 1882,10), Sikkim (Rs 1757,20), Chattisgarh (Rs 1718,19), Bihar (Rs 1535,21), Uttaranchal (Rs 1261,18), Orissa (Rs 1217,22), Madhya Pradesh (Rs 1160,24), Himachal Pradesh (Rs 1086,14), and Nagaland (Rs 1057,16). Then there are states which have got lower allocation but they have occupied positions higher than 11 in EDI. Such states are Andhra Pradesh (Rs 877,11), Karnataka (Rs 807,9), Haryana (Rs 802,6), Tamil Nadu (Rs 777,8), Goa (Rs 734,3), Maharashtra (Rs 506,5), Punjab (Rs 483,7), Gujarat (Rs 440,4), Kerala (Rs 341,2), Delhi (Rs 197,1). Though there are some exceptions as well, there are some states

⁶⁵ First figure denotes Per capita Total Allocation and the second figure denotes EDI ranking.

which have got lower allocation even when they have lower position in EDI, such states are Tripura (Rs 956,17), West Bengal (Rs 913,25) and Assam (Rs 893,26), Uttar Pradesh (Rs 794,13) and Manipur (Rs 784,23).

Figure 5.3: Per Capita Allocation for 2008-09 at Current Prices



Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Figure made by author.

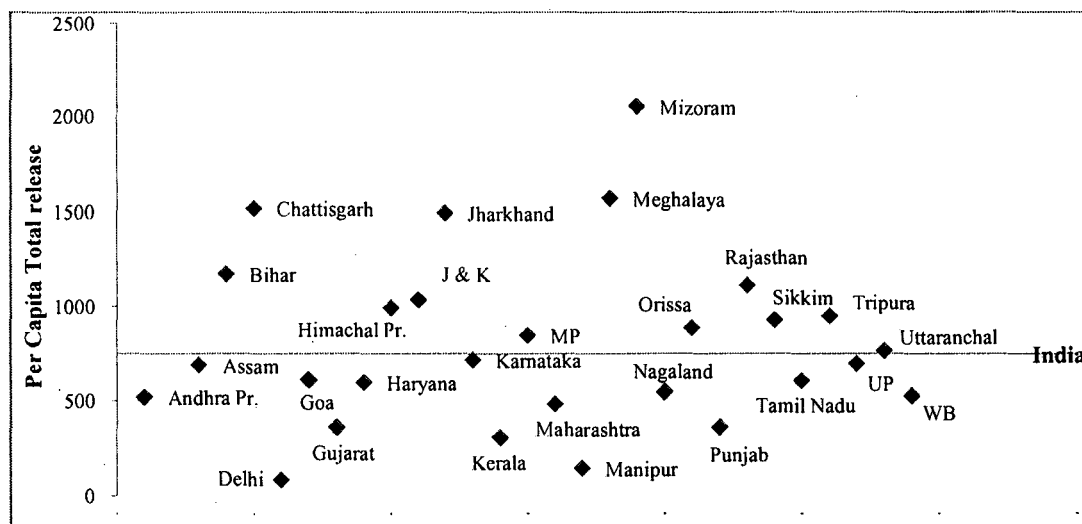
5.4.2 Per Capita Release

Figure 5.4 gives the per capita total release of fund for the year 2008-09. When we compare the funds released to the states we find that here again the funds released have been higher for the states which have performed low in EDI. From the figure 5.4 it will be clear that most of the states where per capita total release is higher than national level have occupied a position lower than 15 in the EDI, which means that the problem of these states is being addressed by giving them financial support which they can use to reduce the gap in EDI scores. Such states are Arunachal Pradesh (Rs 5443.35, 28)⁶⁶, Bihar (Rs.1173.05, 21), Chhattisgarh (Rs.1520.6, 19), Jammu & Kashmir (Rs.1033.86, 10), Jharkhand (Rs.1494.02, 27), Madhya Pradesh (Rs.842.9, 24), Meghalaya (Rs.1570.22, 29), Mizoram (Rs.2053.57, 15), Rajasthan (Rs.1112.9, 12), Sikkim (Rs.926.26, 20), Tripura (Rs.948.03, 17), Uttarakhand (Rs.763.21, 18), Himachal Pradesh (Rs.993.69, 14), Orissa (Rs.888.96, 22) and Uttarakhand (Rs.763.21, 18). The only

⁶⁶ First figure denotes Per capita Total Release and the second figure denotes EDI ranking.

exceptions here are Jammu & Kashmir, Rajasthan and Himachal Pradesh which have a position above 15. The states which have got per capita total release less than national level are the states which have positions higher than the 15 in EDI. These states are Andhra Pradesh (Rs.519.53,11), Goa (Rs.610.39, 3), Haryana (Rs.595.72, 6), Karnataka

Figure 5.4 : Per Capita Total Release for the year 2008-09

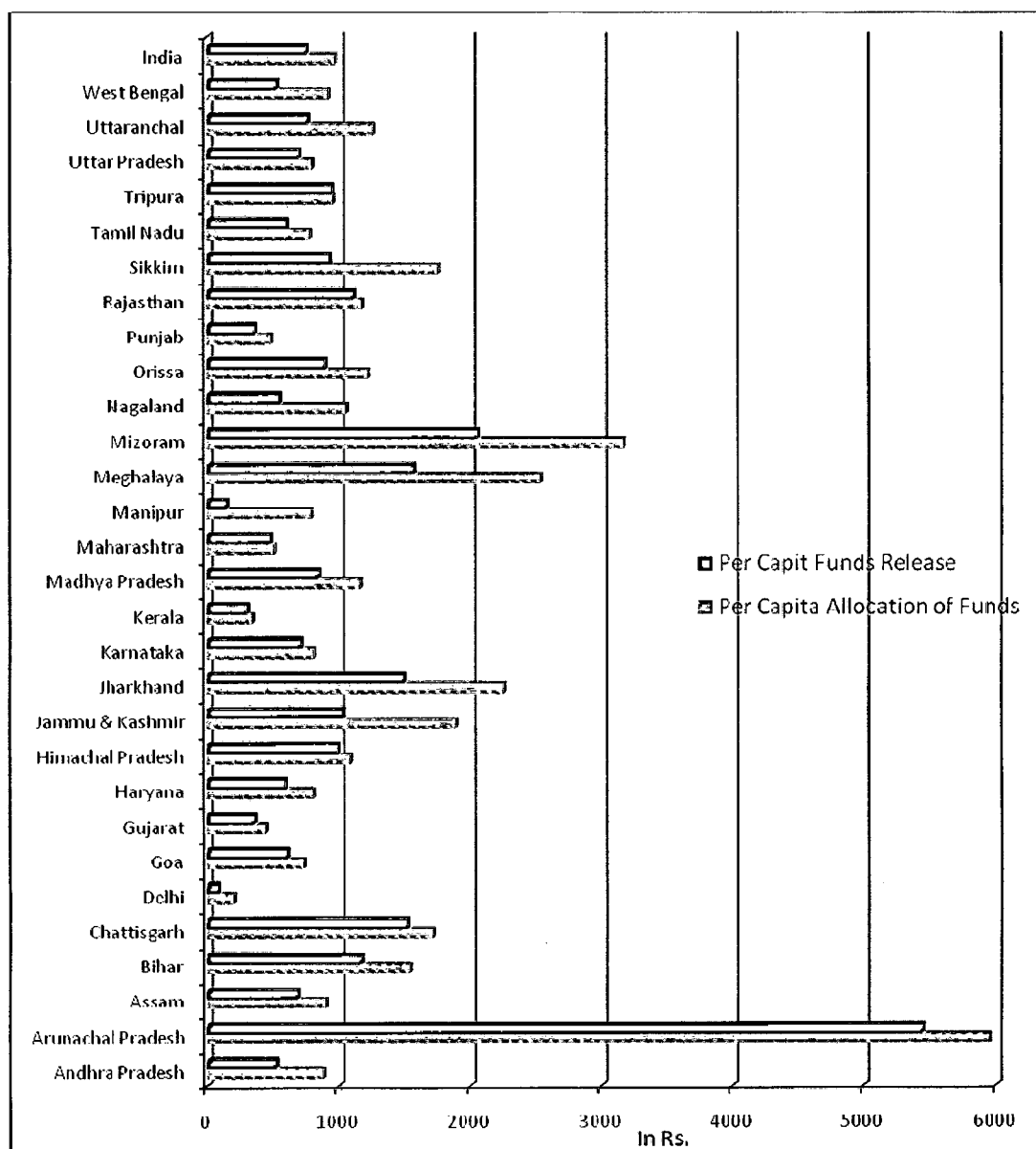


Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Figure made by author.

(Rs.714.84, 9), Tamil Nadu (Rs.606.03, 8), Uttar Pradesh (Rs.693.86, 13), Delhi (Rs.81.19, 1), Gujarat (Rs.358.7,4), Kerala (Rs.305.48,2), Maharashtra (Rs.480.67,5), and Punjab (Rs.359.96,7). The only exceptions(Release) are Assam (Rs.688.27,26), Manipur (Rs.143.08, 23), Nagaland (Rs.545.15, 16), Tripura (Rs.948.03, 17), and West Bengal (Rs.526.72, 25) which have a EDI position of below 15 but still there total per capita release is lower than national level.

From the figure 5.5 it is clear that for all the state the funds released is less than the funds initially approved under AWP&B. In such case it would be difficult for the states to implement the initiatives they wanted to undertake, which is not a very good sign considering the fact that SSA has time bound objectives to achieve. The difference between per capita allocation and release is higher than Rs 300 in the case of Andhra Pradesh, Arunachal Pradesh, Bihar, Jammu & Kashmir, Jharkhand , Madhya Pradesh,

Figure 5.5 : Per Capita Allocation of Funds and Release Under SSA for the Year 2008-09



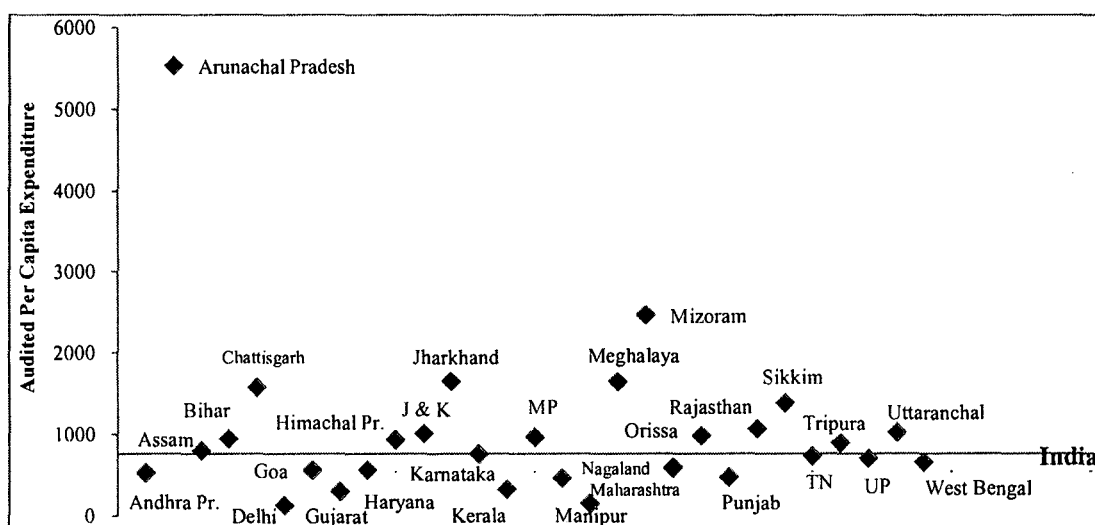
Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Figure made by author.

Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Uttaranchal and West Bengal. Two things which is to be noted is that a) all these states except Andhra Pradesh and Jammu & Kashmir have got a position below 13 in EDI; b) except Tripura all other north eastern states have got less than they were actually allocated under the AWP&B. Considering the fact the these states are already educationally backward such negligence

in terms of allocating funds to states is to be avoided. Except Gujarat, Himachal, Karnataka, Kerala, Maharashtra, Rajasthan and Tripura, the difference between allocation and release is higher than Rs 100. All these states except Himachal Pradesh and Tripura have a position of above 10 in EDI ranking.

If we look exclusively only at the release of funds under SSA we would be thinking that the funds released under SSA is trying to maintain equity, as funds released is higher for the states which have lower EDI scores. The full picture will be clear only after looking at the difference between the funds allocated under the SSA and funds actually released to the states. This difference is very high in the states which have the lowest position in the EDI.

Figure 5.6 : Per Capita Audited expenditure for 2008-09 at Current Prices



Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Figure made by author.

5.4.3 Per Capita Expenditure

Figure 5.6 tells us that the *per capita expenditure*⁶⁷ in states has been higher for all those states which have performed low in Educational Development Index, and it is lower for those states which have occupied higher position in EDI. This is a good sign assuming all these expenditure by the government is leading to some positive development in the status of schools infrastructure, students or teachers. States like Delhi, Kerala, Goa,

⁶⁷ Per capita values have been calculated using the population of 2001 in the age group 5-14 years from Census 2001. Wherever the term per capita has been used means it means the same.

Gujarat, Maharashtra, Haryana, Punjab are the states which have got highest position in EDI but have lower per capita expenditure. Whereas states like Uttaranchal, Chhattisgarh, Sikkim, Bihar, Orissa, Madhya Pradesh, Jharkhand, Arunachal Pradesh, Meghalaya which have got lower positions in EDI but have higher per capita expenditure. The only exception to this is Manipur which has lower per capita expenditure when it has lower EDI score. Arunachal Pradesh has been removed from the figure as it was distorting the figure. The per capita expenditure for Arunachal Pradesh is Rs 3743.18 for the year 2008-09, which is very high in comparison of expenditure in other states.

5.4.4 SSA Funding as a Measure of Removing Educational Disparity:

The table 5.1 gives the correlation matrix between the scores of different indices for the year 2007-08 and per capita allocation, release & expenditures for the year 2008-09. Through this table I have tried to find out whether the expenditures under SSA has been according to the needs reflected by the states in the scores in different indices and EDI.

Table 5.1 : Correlation Matrix

	PcA	PcR	DbAR	PcE	PcEoT	PcEoTx	PcEoIn	PcEoM	EDI	access	infra	tech	equity	output
PcA	1.00													
PcR	0.97	1.00												
DbAR	0.58	0.34	1.00											
PcE	0.98	0.99	0.41	1.00										
PcEoT	0.95	0.98	0.37	0.98	1.00									
PcEoTx	0.64	0.60	0.43	0.60	0.56	1.00								
PcEoIn	0.92	0.95	0.35	0.95	0.88	0.51	1.00							
PcEoM	0.62	0.55	0.53	0.63	0.60	0.45	0.47	1.00						
EDI	-0.62	-0.53	-0.55	-0.55	-0.49	-0.31	-0.62	-0.26	1.00					
access	-0.69	-0.63	-0.52	-0.65	-0.59	-0.39	-0.69	-0.39	0.85	1.00				
infra	-0.60	-0.50	-0.61	-0.50	-0.44	-0.41	-0.55	-0.29	0.90	0.76	1.00			
tech	-0.20	-0.21	-0.03	-0.20	-0.19	0.02	-0.27	0.14	0.56	0.26	0.46	1.00		
equity	0.13	0.13	0.07	0.13	0.17	0.12	0.04	0.13	-0.15	-0.28	-0.12	-0.04	1.00	
output	-0.44	-0.37	-0.43	-0.39	-0.34	-0.19	-0.43	-0.18	0.81	0.60	0.60	0.28	-0.04	1.00

where,

PcA = Per Capita Allocation to States in 2008-09

PcR = Per Capita Release to States in 2008-09

DbAR	= Difference between per capita allocation and release
PcE	= Per Capita Expenditure under SSA by States for the year 2008-09
PcEoT	= Per Capita Expenditure on Teachers by States for the year 2008-09; which include Teachers Salary, TLE, Teacher's Training, Teacher Grant, Remedial Teaching, IED, EGS/AIE, Innovative Activities, Learning Enhancement Programme, NPEGEL and KGBV.
PcEoTx	= Per Capita Expenditure on Textbook by States for the year 2008-09
PcEoIn	= Per Capita Expenditure on infrastructure development by States for the year 2008-09; which include Civil Works, Major Repairs, Maintenance, School Grant, EGS/AIE
PcEoM	= Per Capita Expenditure on Management by States for the year 2008-09; which include BRC & CRC(other than civil works), Community Training, Research and Evaluation, Management Cost (Dist & State), SIEMAT and Innovative Activities
EDI	= Scores of the states in Educational Development Index for the year 2007-08
access	= Scores of the states in Access Index for the year 2007-08
infra	= Score of the states in Infrastructure Index for the year 2007-08
tech	= Score of the states in Teacher Index for the year 2007-08
equity	= Score of the states in Equity Index for the year 2007-08
output	= Score of the states in Output Index for the year 2007-08

From the correlation table 5.1 it is clear that per capita allocation, release and expenditure under SSA is negatively correlated with overall educational development index, access index, infrastructure index, teacher index, and output index; which means all these have been higher in the states which have lower scores in the different indices mentioned above. That is, we can say that allocation, release and expenditure under SSA has been according to the needs of the Indian states as reflected in the scores of the states in the different indices⁶⁸. It is only in the case of equity index that the correlation with

⁶⁸ This result differs from the conclusion of Jhingran & Sankar(Mimeo).

allocation, release and expenditure has been positive. It is because all the educationally backward states have done well in equity index.

The correlation between per capita expenditure and indices is highest in case of access index, which is -0.69. It means that the per capita expenditure has accurately tried to address the problem of access in elementary education. This negative correlation is lowest in case of teacher and teaching index, which is -0.20. This could be because almost all of the states have tried to cut their cost by recruiting para teachers instead of trained permanent teachers. It is only in the case of equity index we find that it has a positive relation with the per capita expenditure. This correlation is true, even in the case of per capita allocation of funds to the states. Barring equity index, per capita expenditure on teacher is again negatively correlated with EDI, access index, infrastructure index, teacher index and output index.

Per capita expenditure on teachers has negative correlation with the teacher index, which is -0.19. It shows that the expenditure on teachers and improvement on teaching level in schools is done according to the need of the different states. Per capita expenditure on textbook has a negative correlation with the output index, showing that textbook expenditure has been higher in the states which have scored low in output index. Provision of free textbook may help improve the different indicators of output index. The correlation between per capita expenditure on infrastructure development and infrastructure index has been negatively correlated and this correlation is very high, which is -0.69 to be exact. This shows that per capita expenditure on infrastructure development has been according to the existing need of the states, which is reflected in the infrastructure index. To conclude this section we can say that per capita expenditures under the SSA have been according to the needs of the respective states.

One area of concern emerging from the correlation table is that the correlation between the 'difference between per capita allocation and release' and different indices is also negative. This tells us that the difference between per capita allocation and per capita fund release was higher in the states which have occupied lower position in indices. This cut in fund allocated is sometimes because many states are not able to utilize funds initially allocated to them. But just because these states are not able to utilise that does

not mean that they need to be punished by cut in fund allocation⁶⁹. We need to improve managerial efficiency not cut in fund allocation. Considering the fact that these states have occupied lower position in indices and then they face a cut in total fund initially allocated to them is problematic. Such trend needs to be avoided, if we want to reduce the existing educational disparity among states.

5.6 Trends in State Wise Per Capita Expenditure Under SSA In 1999-00 Prices

After knowing that the expenditure under the SSA in the financial year 2008-09 has been according to the educational needs of the states, it would be interesting to see what has been the trend in expenditure over the last few years in the states. Has expenditure remained always high in these educationally underdeveloped states? From the table 5.2, one thing which could be seen very prominently is that for almost all the states the per capita expenditure has increased since the first time expenditure started under SSA. There is only one state where the compound annual growth rate (CAGR) in per capita expenditure has fallen which is Manipur. The CAGR has been -17.16 percent in case of Manipur.

Except Delhi, the top eleven states where CAGR in per capita expenditure has been highest are economically less developed states and most of these states are backward in terms of educational infrastructure and outcomes as well; such states are Bihar (85.44), West Bengal (70.96), Jharkhand (67.93), Meghalaya (67.8), Chhattisgarh (67), Arunachal Pradesh (61.46), Sikkim (46.91), Rajasthan (42.59), Delhi (42.09), Jammu & Kashmir (41.8) and Uttar Pradesh (40). Among top 11 states where CAGR in per capita expenditure is high, Delhi, Jammu & Kashmir, Rajasthan and Uttar Pradesh are the only states which have 1st, 10th, 12th and 13th position respectively in EDI. The rest of the states have got a position below 19 in EDI even when the growth in expenditure has remained very high in these states.

One thing which is very prominent is that even after increase in per capita expenditure most of the states have occupied lower positions in EDI⁷⁰. There could be

⁶⁹ Jhingran and Deepa(2009) have said that educationally underdeveloped states needed to be given proportionately higher financial resources to make up for the greater distance they need to cover for achieving universalisation of elementary education.

⁷⁰ This result matches with the conclusion drawn by Shrivastva, Ravi(2005a) that “There is no link between

Table 5.2 : Trends in State Wise Per Capita Expenditure Under SSA In 1999-00 Prices

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	CAGR
Bihar	29.28	118.71	72.85	504.01	592.65	642.04	85.44
West Bengal	30.29	222.26	204.51	375.39	389.01	442.47	70.96
Jharkhand	83.53	326.39	218.13	660.11	833.74	1115.46	67.93
Meghalaya	83.70	271.97	248.41	945.46	1071.10	1113.38	67.80
Chhattisgarh	81.81	468.39	645.59	925.16	949.98	1062.55	67.00
Arunachal Pradesh	341.17	493.32	1452.58	1890.90	2209.98	3743.18	61.46
Sikkim	136.84	439.67	561.70	486.79	443.42	936.43	46.91
Rajasthan	122.16	214.66	393.19	554.81	647.89	720.19	42.59
Delhi	14.66	22.77	48.26	120.80	69.14	84.87	42.09
Jammu & Kashmir	119.04	255.29	409.26	905.40	738.65	682.45	41.80
Uttar Pradesh	88.40	220.12	377.92	427.11	456.95	475.37	40.00
Andhra Pradesh	73.72	158.19	221.46	298.95	186.19	357.41	37.12
Mizoram	360.24	1746.03	2180.88	1702.34	1611.54	1667.19	35.86
Punjab	70.85	145.73	171.86	218.75	167.85	321.89	35.35
Karnataka	118.09	240.29	237.45	403.96	421.92	510.73	34.03
Orissa	160.18	269.78	343.07	578.91	693.41	662.68	32.84
Madhya Pradesh	161.01	316.25	428.78	716.91	561.07	652.45	32.29
Goa	0.00	0.00	171.74	473.79	404.44	379.19	30.22
Tamil Nadu	178.42	261.91	280.01	363.17	383.37	492.32	22.51
Uttaranchal	268.15	371.76	539.15	720.37	627.71	690.17	20.81
Haryana	150.49	177.70	252.22	436.46	315.81	381.99	20.48
Nagaland	164.41	422.34	424.13	547.87	612.97	401.02	19.52
Assam	232.24	268.07	261.00	463.84	571.96	540.91	18.42
Maharashtra	135.47	149.93	235.23	275.46	257.73	308.48	17.89
Kerala	96.23	140.82	148.37	141.68	186.39	216.56	17.61
Tripura	287.51	543.40	886.10	849.57	401.53	601.26	15.90
Gujarat	113.50	136.21	167.29	188.01	179.02	203.14	12.35
Himachal Pradesh	418.74	527.75	590.76	577.01	599.18	627.99	8.44
Manipur	0.00	224.31	203.48	326.47	275.43	105.64	-17.16
All India	105.76	216.35	283.53	442.58	451.61	517.23	37.36

Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Calculation done by author.

Note : For Goa and Manipur the CAGR has been calculated for the years for which data is available

the educational performance of states and the macroeconomic priority given to education expenditure; most educationally poor states seems to do well in terms of the relative priority accorded to education in general and elementary education in particular”.

Though there are some exceptions in our result, growth in expenditure in the states Mizoram, Orissa, Madhya Pradesh, Uttaranchal, Nagaland, Assam and Tripura has been lower in relation to the above mentioned states and they have occupied lower positions in EDI. These states have scored a position below 15th in EDI. CAGR in all these states is below all India level.

two explanations for this; *one*, states are not utilising their fund properly at the ground level, so the delivery mechanism needs to be improved in these states⁷¹; *two*, as most of these states have historically remained educationally backward so there is continuous need for more expenditure, thus growth in expenditure over the years in these states is a good sign which can help reduce the educational disparity among the states (Jhingran and Sankar, 2009). But both these perspective needs to be incorporated if we want to reduce educational disparity among the states. On the one hand it is true that these states have remained educationally deprived so they need to have more funds as their needs are more, but on the other hand we cannot ignore the fact that delivery mechanism in these states needs to be improved, so that the projects exists not only in the files but also in ground reality.

5.8 Conclusion

It is true that investment in education may not necessarily lead to improvement in the status of education in states as finances are necessary but not sufficient condition for overhauling educational disparity across state. But even this sufficient condition can't be overlooked as without it the necessary condition can't be achieved. And even sometimes these financial assistances may fall short of what is actually required. To conclude we can say that funding patter under SSA for the year 2008-09 has been progressive. We can summaries all the results in the following way:

- Per capita allocation, per capita release and per capita expenditure under SSA is done according to the educational needs of the states, which is reflected by the negative correlation between overall educational development index, access index, infrastructure index, teacher index, & output index and per capita allocation, per capita release and per capita expenditure. Funding has been higher for all those states which have performed low in educational development index, and it is lower for the states which have occupied higher position in EDI. Assuming expenditure by under the SSA is leading to some positive development in terms of better schools infrastructure, better educational outcomes or on

⁷¹ With increase in expenditure we might have fulfilled the necessarily condition for the improvement in the education situation, but we might have missed the sufficient conditions like proper management, proper utilization of funds etc.

teachers, then increase in per capita expenditure is a good sign for educationally worse off states.

- There is one problem in the funding pattern under SSA; there is a gap between funds allocated under AWP&B and funds actually released under SSA which is higher in the states which have occupied lower position in indices. AWP&B reflects the financial need of a state, which is prepared by the state itself. So a gap between the funds approved under AWP&B and funds actually released means there is a shortage of funds for states in fulfilling their educational needs. This has also been reflected from the negative correlation between '*difference between per capita allocation & release*' and *different indices*. A cut in total fund initially allocated to the states especially in case of educationally backward states is problematic. Such a trend needs to be avoided, if we want to reduce the existing educational disparity among states. In such a case educationally backward states which are also economically backward may not be able to catch up with the educationally developed states. Which is not a very good thing considering the fact that SSA is a time bound programme with the objective of achieving UEE with lower educational disparity.
- At the national level, the larger part of per capita expenditure has gone to teacher salary. This is when almost all of the states have taken the route of cost minimization through appointing of para teachers. Who are paid very minimal amount in comparison of permanent teachers. This shows that if the government appoints fully trained government teachers all over the country, then we are going to need a lot more money to be incurred under this head. The second highest expenditure is done on civil works, which is a good sign showing that more and more new educational infrastructure is being created. Third component is expenditure on textbooks. We could club expenditure under different heads into four sub groups: a) expenditure on teachers which has a share of 50.45 percent, b) Expenditures directly on students (textbook) which has a share of 5.34 percent, c) Expenditure on Infrastructure Development which has a share of 37.68 percent, and d) Expenditure on Administration which has a share of 6.52.

- When we look at the growth in per capita expenditure prior to 2007-08, it was found that per capita growth is higher for states with lower position in EDI. But growth in expenditure over the years in these states has not produced desirable result, as these states have occupied lower positions in EDI even after higher per capita growth in expenditure, there could be two explanations for that: *one*, states are not utilising their fund properly at the ground level, therefore the delivery mechanism needs to be improved in these states; *two*, as most of these states have historically remained educationally backward therefore there is continuous need for more expenditure, thus growth in expenditure over the years in these states is a good sign which can help reduce the educational disparity among the states. But both these perspective needs to be incorporated if we want to reduce educational disparity among the states. Just because these states are not performing that does not mean that they need to be punished by cut in fund allocation.

Chapter 6 : Conclusion

Sarva Shiksha Abhiyan (SSA) is a framework of programs that clubs all existing programmes of elementary education in the central and centrally sponsored category. It forms the cornerstone of government interventions in basic education for all children. It was launched to support and build on elementary education projects with budget provision to achieve universal elementary education (UEE) and to remove existing inequities in elementary education in terms of access and outcomes. The main objective of the present study is to find out whether SSA has been successful in removing educational disparity⁷² across state at the level of elementary education and whether funding⁷³ pattern under this programme is according to the educational need of a particular state as reflected by their level of educational development.

To meet the objective we have divided it into many parts and tried to find out the answer. We have first tried to find out the level of existing spatial disparity across states in terms of educational infrastructure and educational attainment in elementary education. Two methods have been used to find out educational disparity; *first*, coefficient of variation has been used to find indicator wise disparity across states, *second*, we have then used principal component analysis to rank the states based on different dimension of educational development; access index, infrastructure index, teacher index, outcome index, equity index represent different dimension of educational development and a overall educational development index(EDI). Then we have tried to find out whether the per capita expenditure, per capita allocation and per capita release under SSA have been according to the educational needs of a particular state as reflected by its position in different indices of educational development and overall EDI. To find the answer to this research question we have prepared a correlation matrix between different indices and per capita allocation, release and expenditure under the SSA. We have also looked at the CAGR in per capita expenditure in the states prior to 2007-08 as well to get some more insight related to SSA funding.

The main motive of SSA is to address existing educational inequities in terms of access and outcome but the present study has shown that there exists significant

⁷² Data used to find out educational disparity correspond to the year 2007-08.

⁷³ Data for funding and expenditure correspond to the year 2008-09.

underachievement in this objective. There are good numbers of schools which are single-teacher despite an overall average of four teachers per school, which is a serious cause of concern. Percentage of female teachers needs improvement in some of the states. Regular teachers need to be appointed wherever there is vacancy and the policy of filling up these positions with para teachers or contract teacher needs to be done with. There are many states where primary to upper primary ratio is very high, in such states upper primary schooling needs to be expanded. As far as availability of schools per 1000 child population is concerned it says that most of the poor hilly states have higher availability and most of the rich and developed states have lower availability of schools. Such strange result is because the few schools which are available are bigger in size in rich states and thus they can accommodate more students. There are many schools which have no building of its own and, there are some schools which are run under the shed or tent or have a kuccha building. These schools need to be provided with adequate funds so that these buildings could be upgraded. Possibilities to provide additional classrooms to schools having high student-classroom ratio may be explored. The dropout rate is very high especially at the primary level. For some of the states transition rate from primary to upper primary is very low.

This disparity is also clear from the high coefficient of variation (CV) among the variables. We can put different indicators in three groups on the basis of their CV. Percentage of schools having drinking water facility, percentage of regular teacher, percentage of non single teacher schools, percentage of schools with female teacher, average number of instructional days, adjusted repetition rate (prim), transition rate from primary to upper primary, adjusted drop-out rate (prim), percentage of passed students to enrolled student and percentage of girls passed to percentage of boys passed are the indicators where disparity among states is less as CV in this group is below 20. The second group is where CV ranges from 20-50, indicators in this category are ratio of upper primary to primary, percentage of pucca schools, average classroom-student ratio, teacher-pupil ratio, professionally trained teachers, apparent survival rate and GER (I-VIII). The third category of indicators are where CV is very high indicating high disparity across states, such indicators are availability of schools per 1000 child, average classrooms, percentage of schools having girl's toilet in school, percentage of schools

having computer in school and average number of teachers per school. We need to reduce these disparities if we want to achieve the target of universal elementary education.

From the five dimensional indices and overall educational development index it is clear that states have very unequal level of educational development, which is clear from the fact that the difference between the composite scores of the first ranked and last ranked states is very high. We have found out that there are huge disparity in the availability of educational infrastructure and educational achievements across the states. And the fact that most of the top ranking states in EDI are economically better off and the states which have performed badly are economically poorer states, tells that this educational development has something to do with the economic condition or the capacity of a particular state to fund the educational programme. That is where comes the importance of the programme like SSA, which can help in funding the low performing states which are mostly economically poor states.

Considering the different level of educational development achieved by the states, it is necessary to fund the states according to the educational need of particular states. Thus comes the next important research question whether the expenditure by different states under SSA is in accordance with the requirements of a particular state, as reflected in their status of educational development. If we look at the per capita allocation, release and expenditure we find that it has been higher for all those states which have performed low in educational development index, and it is lower for those states which have occupied higher position in EDI. This has also been reflected in correlation matrix which shows that per capita allocation, release & expenditure under SSA is negatively correlated with overall educational development index, access index, infrastructure index, teacher index, and output index. This means that funding has been done according to the needs of the states as reflected in the scores of the states in dimension indices and EDI. Assuming funding under SSA is leading to some positive development in terms of better schools infrastructure, better educational outcomes or on teachers, then increase in per capita allocation, release & expenditure is a good sign for educationally worse off states.

Though there is one problem in the funding patter under SSA; there is gap between funds allocated under AWP&B and funds actually released under SSA which is

higher for the states which have occupied lower position in indices. AWP&B reflects the financial need of a state, which is prepared by the state itself. So a gap between the funds approved under AWP&B and funds actually released mean there is shortage of funds for states in fulfilling their educational needs. This has also been reflected from the negative correlation between '*difference between per capita allocation & release*' and *different indices*. A cut in total fund initially allocated to the states especially in case of educationally backward states is problematic. Such trend needs to be avoided, if we want to reduce the existing educational disparity among states. In such case educationally backward states which are also economically backward may not be able to catch up with the educationally developed states. Which is not a very good thing considering the fact that SSA is time bound programme with the objective of achieving UEE with lower educational disparity.

When we look at the growth in per capita expenditure prior to 2007-08, we found that it has been growing in the states which have occupied lower position in EDI(2007-08). Even growth in expenditure over the years in these states has not resulted in desirable result, as these states have occupied lower positions in EDI, there could two explanation for that. *One*, states are not utilising their funds properly at the ground level, so the delivery mechanism needs to be improved in these states. *Two*, as most of these states have historically remained educationally backward so there is continuous need for more expenditure. Thus growth in expenditure over the years in these states is a good sign which can help reduce the educational disparity among the states. But both these perspective needs to be incorporated if we want to reduce educational disparity among the states. Just because these states are not performing that does not mean that they need to be punished by cut in fund allocation.

Disaggregated analysis of total spending at the national level under the SSA tells that, the larger part of per capita expenditure has gone to teacher salary. It is when almost all the states have taken the route of cost minimization through appointing para teachers, who are paid very minimal amount in comparison of permanent teachers. This shows that if the government appoints fully trained government teachers all over the country, then we are going to need lot more money to be incurred under this head. The second highest expenditure is done on civil works, which is good sign showing that more and more new

educational infrastructure is being created. Third component is expenditure on textbooks.

To conclude we can say that present analysis does not give us very rosy picture of elementary education in India. A lot more needs to be done if we want achieve UEE. We do not have enough evidence to accept the first hypothesis that SSA has reduced the educational disparity across states. Present study has shown that there still exists educational disparity among the different states, which is evident from the difference between the EDI scores of top and bottom ranked states. From the analysis we can accept the second hypothesis that funding pattern under SSA is according to the educational need of the states. Allocation, release and expenditure under the SSA have addressed the educational needs of the state. But there are some problems as well, there is a huge gap between funds initially approved to states under AWP&B and funds actually released. This difference is highest for the states which have lower EDI position. AWP&B reflects the financial needs of a state prepared by the state itself. So if there exists difference between AWP&B and actual fund release then it may create financial constraint for the states. In such a scenario even if expenditures have been increasing in a particular state they may not be enough for fulfilling their financial needs. So, educationally backward states which are also economically backward may not be able to catch up with the educationally developed states if their financial demands are not fulfilled. The delivery mechanism needs to be improved in the states, especially in educationally backward states.

We must always keep in mind that increasing expenditure in education may not necessarily lead to improvement in the status of education as finances are necessary but not sufficient condition for overhauling educational disparity across states. There are many sufficient conditions which need to be fulfilled such as better teachers, educated parents, and proper utilization of financial resources. But even this sufficient condition can't be overlooked as without it the necessary condition can't be achieved.

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Appendix

Table A.4.1 : Difference between Indicators used and their categorization between this study and NEUPA

Variable Used for the index in Chapter 3	Variables used in EDI index of NEUPA
<p><u>Access</u></p> <ul style="list-style-type: none"> • Availability of Schools per 1000 child population of age group 6-14. • Ratio of Primary to Upper Primary <p><u>Infrastructure</u></p> <ul style="list-style-type: none"> • Percentage of Schools Having Drinking Water Facility • Percentage of Schools with separate toilet for girls • <i>Average Classroom Student Ratio*</i> • <i>Percentage of Pucca School</i> • <i>Percentage schools having Computer</i> • <i>Average Class Room</i> 	<p><u>Access</u></p> <ul style="list-style-type: none"> • Availability of Schools per 1000 Child Population • Ratio of Primary to Upper Primary Schools/Sections (only at Upper Primary stage) • <i>Percentage of Habitations not Served* (corrected with reference to new schools (Government) opened since 2002-03)</i> <p><u>Infrastructure</u></p> <ul style="list-style-type: none"> • School with Drinking Water facility • Schools with Girl's Toilet • <i>Average Student-Classroom Ratio</i> • <i>Schools with Student Classroom Ratio > 60</i> • <i>School with Common Toilet</i>
<p><u>Teachers</u></p> <ul style="list-style-type: none"> • Percentage of Female Teachers • Teachers with Professional Qualification • <i>Teacher Pupil Ratio*</i> • <i>Percentage of Non-Single Teacher School*</i> • <i>Percentage of regular teacher school</i> • <i>Average Teacher Per School</i> • <i>Average no of instructional days</i> 	<p><u>Teachers</u></p> <ul style="list-style-type: none"> • Percentage of Female Teachers • Teachers without Professional Qualification • <i>Pupil-Teacher Ratio</i> • <i>Single-Teacher Schools (in schools with more than 1 student)</i> • <i>School with Pupil-Teacher Ratio>60</i> • <i>Percentage of Schools with < 3 teachers</i>
<p><u>Equity Index</u></p> <ul style="list-style-type: none"> • <i>Gender Equity Index</i> • <i>Social Equity(ST)</i> • <i>Social Equity(ST)</i> 	<p><u>Outcome</u></p> <ul style="list-style-type: none"> • <i>Gender Parity Index in Enrolment</i> • <i>Participation of Scheduled Castes Children: Percent SC Population (2001 Census) - Percentage SC Enrolment</i> • <i>Participation of Scheduled Tribes Children: Percent ST Population (2001 Census) - Percentage ST Enrolment</i>

Outcome

- | | |
|---|--|
| <ul style="list-style-type: none"> • Percentage of Passed students to enrolled student • Gross Enrolment Rate (Primary & Upper Primary) • <i>Adjusted Repetition Rate(Primary)*</i> • <i>Adjusted Average Drop Out Rate(Prim)*</i> • <i>Transition Rate from Primary to Upper Primary</i> • <i>Survival Rate up to class IV</i> • <i>Percentage of girls passed to percentage of boys passed</i> | <ul style="list-style-type: none"> • Percentage of Passed Children to Total Enrolment • Gross Enrolment Ratio – Overall • <i>Repetition Rate</i> • <i>Drop-out Rate</i> • <i>Ratio of Exit Class over Class I Enrolment (only at Primary stage)</i> • <i>Percentage of Appeared Children passing with 60 per cent and more marks</i> |
|---|--|

Note : The variables written in italic denote that they are unique in either of the index.

* These variables are just the opposite of the variables used in the NEUPA.

A 4.2 : Per Capita Net State Domestic Product at Factor Cost (At Constant Prices)

State/ UT	2005-06
Goa	52,201
Delhi	48,885
Haryana	32,975
Maharashtra	28,683
Punjab	28,487
Himachal Pradesh	27,443
Kerala	27,220
Tamil Nadu	25,558
Gujarat	25,487
Karnataka	21,913
Tripura	21,524
Andhra Pradesh	21,334
Sikkim	20,777
Uttarakhand	20,355
West Bengal	20,212
Mizoram	18,616
Meghalaya	18,501
Nagaland	18,318
Arunachal Pradesh	18,081
Jammu & Kashmir	16,086
Rajasthan	15,541
Chhattisgarh	14,694
Manipur	14,559
Assam	14,419
Orissa	13,957
Jharkhand	12,950
Madhya Pradesh	12,567
Uttar Pradesh	10,758
Bihar	6,719
All-India per capita NNP	20,868

Source: RBI

Table A.4.3 : Average Number of Students Per Schools in Different States

	Availability of schools per 1000 child population in the age group of 6-11	Average Number of Classrooms	Average student Per School
Andhra Pradesh	8	4	110
Arunachal Pradesh	23	3	68
Assam	13	2	85
Bihar	4	3	260
Chhattisgarh	12	3	89
Delhi	2	19	515
Goa	5	5	101
Gujarat	4	6	196
Haryana	4	6	166
Himachal Pradesh	18	4	63
Jammu & Kashmir	12	5	80
Jharkhand	7	3	160
Karnataka	7	5	140
Kerala	3	12	284
Madhya Pradesh	10	4	119
Maharashtra	5	6	179
Manipur	10	6	119
Meghalaya	25	3	54
Mizoram	18	4	84
Nagaland	7	7	153
Orissa	10	4	107
Punjab	5	5	128
Rajasthan	8	5	118
Sikkim	12	7	105
Tamil Nadu	6	6	185
Tripura	7	6	173
Uttar Pradesh	5	4	178
Uttarakhand	13	4	74
West Bengal	5	4	190
All States	7	4	148

Source : DISE

Table A .4.4 : Indicators used for the Construction of Indices

(continued...)

State/UT	Availability of schools per 1000 child population in the age group of 6-11 years*	Ratio of Primary to Upper Primary	% Distribution of Schools having Pucca Building	Average Number of Classrooms	Average Student-Classroom Ratio	% Schools having Drinking Water Facility in School
	1	2	3	4	5	6
Andhra Pr.	8	2.39	47.90	4.3	26	90.00
Arunachal Pr.	23	5.16	23.57	3.3	21	65.76
Assam	13	3.27	33.55	2.2	39	62.25
Bihar	4	3.73	58.25	2.7	96	80.55
Chhattisgarh	12	2.21	69.44	2.9	30	86.72
Delhi	2	1.77	66.47	18.7	28	99.54
Goa	5	2.62	95.54	4.7	22	96.47
Gujarat	4	1.46	82.56	5.6	35	87.19
Haryana	4	1.61	98.33	5.5	30	97.40
Himachal Pr.	18	2.27	69.03	3.9	16	93.08
J&K	12	2.27	62.22	4.7	17	75.93
Jharkhand	7	3.1	67.01	2.7	60	70.73
Karnataka	7	2.02	91.10	4.9	29	79.59
Kerala	3	1.79	71.87	11.5	25	97.58
Madhya Pr.	10	2.62	86.75	3.6	33	91.95
Maharashtra	5	1.54	83.17	5.7	32	87.47
Manipur	10	2.64	11.90	5.8	21	75.94
Meghalaya	25	3.2	30.75	2.8	19	50.64
Mizoram	18	1.49	7.94	4.4	19	79.23
Nagaland	7	2.32	23.46	7.0	22	72.06
Orissa	10	2.53	33.83	3.5	30	85.61
Punjab	5	2.19	96.45	4.9	26	97.66
Rajasthan	8	2.11	92.77	4.5	26	87.73
Sikkim	12	3.31	33.83	6.9	15	79.83
TN	6	2.62	56.95	6.3	29	100.00
Tripura	7	2.19	49.23	6.0	29	76.88
UP	5	2.62	95.21	4.3	41	97.70
Uttarakhand	13	2.65	93.13	3.7	20	86.99
WB	5	5.63	57.54	3.7	51	78.83
All States	7	2.41	72.98	4.3	35	86.75

Source: DISE

* 6-14 child population used has been obtained by applying following formula on using DISE data

$$= \frac{(\text{Total Students Enrolled}) \times 100}{\text{GER}}$$

(continued...)

State/UT	% Schools having Common Toilet in School	% Schools having Girl's Toilet in School	% Schools having Computer in School	Teacher		
				Regular Teachers	Para teachers	Total teachers
	7	8	9	10	11	12
Andhra Pr.	61.27	46.75	21.11	440052	78829	518881
Arunachal Pr.	21.73	11.90	9.15	12891	2699	15590
Assam	26.33	10.54	3.69	222746	19457	242203
Bihar	48.52	21.62	0.58	305094	23487	328581
Chhattisgarh	37.63	19.95	8.52	140814	14110	154924
Delhi	90.45	74.15	72.80	99485	2410	101895
Goa	54.96	45.38	30.61	7684	98	7782
Gujarat	70.65	65.26	36.50	232068	2439	234507
Haryana	94.09	87.32	25.29	92650	13196	105846
Himachal Pr.	48.01	38.72	11.14	53239	10292	63531
J&K	37.81	21.99	12.99	83096	24045	107141
Jharkhand	34.71	20.71	5.54	82222	66100	148322
Karnataka	70.41	47.16	11.84	259940	0	259940
Kerala	84.11	78.99	71.20	158016	4180	162196
Madhya Pr.	71.62	46.98	12.36	424456	6092	430548
Maharashtra	75.09	60.02	36.49	569857	5656	575513
Manipur	51.08	18.03	11.32	24422	377	24799
Meghalaya	30.72	10.20	6.24	32450	2202	34652
Mizoram	77.25	23.50	13.94	12332	4025	16357
Nagaland	77.17	37.02	19.66	20176	191	20367
Orissa	50.86	28.04	7.96	127628	52348	179976
Punjab	88.38	86.09	30.61	78485	1269	79754
Rajasthan	36.09	79.32	14.88	389043	33287	422330
Sikkim	88.70	42.26	21.91	8340	56	8396
TN	65.60	62.33	24.28	314620	2101	316721
Tripura	69.11	22.58	7.90	30157	933	31090
UP	91.04	82.36	3.30	477497	166919	644416
Uttarakhand	84.45	52.13	22.64	56194	4233	60427
WB	68.95	35.13	4.99	234912	39011	273923
All States	62.67	50.55	14.25	5011586	580376	5591962

Source: DISE

(continued...)

State/UT	% Single- Teacher Schools	% Schools with Female Teacher	Average Number of Teachers per School	Pupil- Teacher Ratio	Percentage Distribution of Professionally Trained Teachers	Average Number of Instructional Days (In Previous Academic Year)
	13	14	15	16	17	18
Andhra Pr.	7.34	78.11	5.2	21	85.68	215
Arunachal Pr.	54.41	83.84	3.4	20	27.78	181
Assam	26.88	71.43	3.6	24	37.23	215
Bihar	6.37	79.11	4.8	54	49.65	172
Chhattisgarh	14.74	65.46	3.1	28	61.84	215
Delhi	0.00	93.97	21.5	24	93.40	168
Goa	23.82	97.60	5.2	19	93.59	188
Gujarat	1.97	83.39	6.0	33	96.56	210
Haryana	3.44	77.93	6.0	28	91.07	218
Himachal Pr.	7.28	72.43	3.7	17	91.92	230
J&K	4.30	70.84	5.2	16	48.67	213
Jharkhand	8.24	54.63	3.5	45	63.82	231
Karnataka	10.84	80.18	4.6	30	100.00	216
Kerala	0.27	99.51	13.1	22	96.56	183
Madhya Pr.	15.42	65.26	3.3	36	75.08	226
Maharashtra	3.77	69.72	6.6	27	89.12	226
Manipur	11.42	79.41	6.2	19	37.86	202
Meghalaya	13.86	80.25	3.3	17	29.54	193
Mizoram	2.41	80.78	5.9	14	56.62	208
Nagaland	2.38	84.34	8.0	19	19.70	182
Orissa	11.12	63.88	3.7	29	85.89	211
Punjab	8.14	89.97	4.0	32	96.91	223
Rajasthan	21.74	65.93	4.1	29	85.04	217
Sikkim	0.70	88.96	7.3	14	39.82	173
TN	2.83	93.50	5.9	31	94.33	217
Tripura	0.82	52.76	8.0	22	40.25	231
UP	6.07	73.54	3.6	50	73.29	195
Uttarakhand	14.46	72.54	2.9	25	76.69	213
WB	3.23	68.46	3.9	48	66.37	202
All States	10.13	72.88	4.5	33	77.68	211

Source: DISE

(continued...)

State/UT	Enrollment					GER (I-VIII)
	Boys	Girls	Total	SC* (G + B)	ST* (G + B)	
	19	20	21	22	23	
Andhra Pr.	5627014	5411372	11038386	2087359	1064100	90.53
Arunachal Pr.	161767	147704	309471	2104	235043	159.31
Assam	2876366	2826069	5702435	551996	887869	110.31
Bihar	9545785	8117020	17662805	2983248	404478	93.87
Chhattisgarh	2264299	2143723	4408022	673546	1411889	107.45
Delhi	1303239	1138007	2441246	292217	7568	98.43
Goa	79635	72019	151654	3837	11905	53.97
Gujarat	4109903	3552590	7662493	611467	1410665	87.72
Haryana	1584193	1363094	2947287	831430	3831	74.07
Himachal Pr.	571544	512496	1084040	303965	61140	114.00
J&K	897348	763527	1660875	146987	217409	92.39
Jharkhand	3458706	3260966	6719672	1009967	2048828	119.01
Karnataka	4088409	3833859	7922268	1519491	594962	93.27
Kerala	1785879	1739831	3525710	397700	68046	82.42
Madhya Pr.	8003068	7407632	15410700	2710742	3635384	122.93
Maharashtra	8295513	7362584	15658097	2303306	1775628	96.05
Manipur	240673	236008	476681	17542	203447	122.94
Meghalaya	284463	291635	576098	5761	536232	138.85
Mizoram	120534	114584	235118	376	233331	147.88
Nagaland	197749	189288	387037	116	362847	108.69
Orissa	3268980	3071882	6340862	1265636	1607409	102.20
Punjab	1379672	1179286	2558958	1258751	6397	66.95
Rajasthan	6705821	5490814	12196635	2375904	1825836	100.11
Sikkim	59709	61529	121238	8244	43767	125.28
TN	5089296	4753457	9842753	2426239	185044	116.72
Tripura	346788	327285	674073	131175	262551	117.76
UP	16339719	15736664	32076383	8769683	202081	87.99
Uttarakhand	784865	748147	1533012	401343	57795	96.57
WB	6736083	6534908	13270991	3557953	832091	98.62
All States	96441624	88601669	185043293	36694085	20262241	97.10

Source: DISE

* Enrollment for SC/ST has been obtained by applying following formula on DISE data

$$= \frac{(\text{Total Enrolled Student}) * (\text{Percentage of Enrolled SC/ST Student})}{100}$$

(continued...)

State/UT	Repetition rate(Prim)**	Apparent Survival Rate: Grade V**	Transition Rate from Primary to Upper Primary Level	Average Drop-out Rate at Primary Level	Passed Students		
					Boys*	Girls*	Total
	27	28	29	30	34	35	36
Andhra Pr.	2.6	83	90.46	6.88	5505572	5290083	10795656
Arunachal Pr.	8.3	36	90.3	14.18	138651	128192	266843
Assam	3.50	59	93.44	13.51	2730038	2682266	5412304
Bihar	7.20	40	62.92	13.79	9225933	7816684	17042618
Chhattisgarh	6.30	67	89.39	7.35	1971315	1866288	3837603
Delhi	4.70	85	100	5.33	1177946	1036572	2214517
Goa	5.20	82	79.22	13.18	71598	66999	138598
Gujarat	8.80	83	90.49	4.20	3835825	3351292	7187117
Haryana	8.60	84	95.1	4.40	1373090	1176004	2549094
Himachal Pr.	4.10	101	92.58	2.62	493159	445329	938488
J&K	1.50	100	93.69	1.25	852924	729740	1582664
Jharkhand	9.70	52	77.03	12.82	3270797	3068057	6338854
Karnataka	2.00	94	91.91	3.39	4077354	3824546	7901900
Kerala	3.10	113	96.23	1.8	1642124	1645101	3287225
Madhya Pr.	13.60	79	67.95	8.57	6224617	5718582	11943200
Maharashtra	5.20	87	93.27	3.36	7836730	7030200	14866930
Manipur	1.70	50	84.02	19.99	231406	224647	456053
Meghalaya	5.40	46	82.82	20.76	246820	254024	500845
Mizoram	2.60	72	100	8.02	106451	102057	208508
Nagaland	3.00	66	81.99	24.30	174121	164860	338981
Orissa	9.50	89	88	21	3102114	2919412	6021527
Punjab	8.00	99	83.98	5.45	1084293	953268	2037561
Rajasthan	9.40	59	77.70	15.39	6317325	5165494	11482819
Sikkim	16.90	80	77.52	5.17	42525	43220	85745
TN	0.70	100	97.20	1.73	5004264	4695682	9699946
Tripura	4.70	81	84.30	11.66	318623	300991	619614
UP	1.40	73	62.75	16.22	15975650	15384688	31360339
Uttarakhand	5.70	78	81.1	6.88	760504	715766	1476269
WB	13.10	74	79.50	9.41	6464656	5898702	12363358
All States		72	81.13	9.36	90207513	83102122	173309635

Source : DISE

* Number of passed boys/girls has been obtained by applying following formula on DISE

$$\text{data} = \frac{(\text{Enrolled boys or girls students}) \times (\text{Percentage of passed boys or girls})}{100}$$

** For some of the states data was not available in such cases data from previous years have been taken.

Table : A .5.1 : Per Capita⁷⁴ Allocation, Release and Expenditure by State for the year 2008-09

(In Rs.)

	Allocation	Fund Release			Audited Expenditure
		GOI	States	Total	
Andhra Pradesh	877.02	401.00	118.53	519.53	527.99
Arunachal Pradesh	5945.70	5014.88	428.47	5443.35	5529.72
Assam	893.18	616.19	72.08	688.27	799.07
Bihar	1535.17	779.95	393.10	1173.05	948.47
Chattisgarh	1717.66	989.63	530.97	1520.60	1569.68
Delhi	196.62	49.08	32.10	81.19	125.38
Goa	734.44	353.74	256.65	610.39	560.17
Gujarat	440.36	223.97	134.74	358.70	300.09
Haryana	801.88	387.22	208.50	595.72	564.30
Himachal Pradesh	1086.33	645.90	347.79	993.69	927.72
Jammu & Kashmir	1882.28	773.82	260.04	1033.86	1008.17
Jharkhand	2248.70	928.09	565.93	1494.02	1647.85
Karnataka	806.64	433.32	281.52	714.84	754.49
Kerala	340.98	196.23	109.25	305.48	319.92
Madhya Pradesh	1160.49	538.73	304.17	842.90	963.85
Maharashtra	506.48	312.44	168.23	480.67	455.71
Manipur	783.70	64.06	79.02	143.08	156.06
Meghalaya	2531.34	1438.40	131.82	1570.22	1644.76
Mizoram	3165.06	1818.74	234.83	2053.57	2462.91
Nagaland	1057.48	437.89	107.26	545.15	592.41
Orissa	1216.56	568.45	320.52	888.96	978.96
Punjab	482.96	251.55	108.40	359.96	475.52
Rajasthan	1175.57	707.56	405.34	1112.90	1063.92
Sikkim	1756.63	787.01	139.24	926.26	1383.36
Tamil Nadu	777.37	391.09	214.95	606.03	727.30
Tripura	956.22	827.57	120.45	948.03	888.23
Uttar Pradesh	794.32	451.01	242.85	693.86	702.26
Uttaranchal	1260.86	528.64	234.58	763.21	1019.57
West Bengal	913.23	342.47	184.25	526.72	653.65
Total	972.05	498.08	250.81	748.89	764.09

Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt. Calculation done by author.

⁷⁴ Per capita has been calculated using child population(age 5-14) from Census 2001.

**Table : A .5.2 : Trend in National Level Expenditure under SSA
(In Rs.)**

	India
2003-04	105.763
2004-05	216.354
2005-06	283.532
2006-07	442.5841
2007-08	451.6081
2008-09	517.2271

Source: Reply given by MHRD under the Act of RTI. File No – 8-4/2010-EE/3Pt.