CHAPTER - VII
SUMMARY, FINDINGS AND POLICY SUGGESTIONS

6.1 Introduction

Education is a basic component of human capital. In recent a remarkable share of funds is being allocated to increase the educational opportunities in India. After the introduction of SSA, the funds flow has increased considerably. But the utilization of these funds is a question to be addressed in order to understand the efficiency of the system. Given the scarcity of resources it is obligatory on the part of the government to improve the efficiency of resources along with improvement in transparency, accountability and ensuring community participation to achieve the goal of UEE. An attempt is made in the present study to analyze the trends in public expenditure on elementary education at the macro level and transparency and accountability issues at the micro level.

The important objective of this research is to analyze inter-state variation in expenditure on education, educational outcomes and identify the factors responsible for the differential performance. The study also estimated the efficiency of various states in utilization of funds released under SSA.

The overall objective of this study is to estimate the efficiency of the existing system of financing of elementary education with a focus on SSA. The supporting objectives are

1. To analyze the trends in public expenditure on elementary education during 20 years i.e. from 1990-91 to 2010-11.
2. To study the interstate variation in financing of elementary education in India.
3. To examine the relationship between expenditure and outcomes of elementary education.
4. To identify the factors responsible for differential outcomes in elementary education.
5. To analyze the technical efficiency of financing of elementary education under SSA.
6. To understand the accountability and transparency issues at the school level in sample districts.
This study is based on both secondary and primary data. Macro analysis is based on the secondary data collected from various sources and micro analysis is based on survey conducted on three sample districts viz., Udupi, Mysore and Chamarajanagar districts. DEA analysis is carried to estimate the efficiency of respective states. Factors influencing differential efficiencies are estimated with Tobit regression. Transparency and accountability issues at the school level and intra-school variation were analyzed with primary data collected from sample schools. The sample covers 117 schools from three districts.

Review of literature presented in chapter two summarizes the existing literature relating to education administration, trends in educational expenditure and outcomes and accountability, transparency and efficiency issues. Though there are several studies in this area, none of the studies analyzed inter-school variation in transparency and accountability issues in school administration. Therefore the present study attempts to analyze these issues besides estimating the efficiency of different states in education expenditure.

The third chapter reviews the development of education policy in India since 1968 and discusses the recommendations of various committees as education policy plays a very crucial role in promoting education. Several policy initiatives were undertaken for improvement in education in India. Some of the early attempts were in the form of National Policy on Education, 1968 which aimed at a 'radical restructuring' and equalize educational opportunities in order to achieve national integration and greater cultural and economic development. The later policies were reflected in the National Policy on Education 1986. The policy aimed at

1. Universal access and enrolment
2. Universal retention of children up to 14 years of age
3. Substantial improvement in the quality of education to enable all children to achieve essential levels of learning.

In continuation of this, National Policy on Education 1992 and Programme of Action 1986 were introduced. For the first time the inter connections between the problems of low school attendance, poverty and dependence of households on girls involvement in household work. During 1977-78 Non-formal education was
introduced with a focus on out of school children in the age of 06-14 years of age. Operation of Black Board was introduced in 1987 with central assistance to provide minimum essential facilities in all schools. National Literacy Mission was initiated in 1988 to provide adult education facilities. District Primary Education Programme was launched during 1994 with international assistance from international agencies. Mid Day Meal scheme was introduced in 1995 to provide nutrition and encourage school enrollment. Despite all these policies and programmes initiated as part of the policies literacy rate in India didn’t show much progress. To achieve the objective of UEE the GOI introduced SSA in 2002 by combining all the existing programmes during that period. SSA is time bound integrated project in partnership with the states. There is a paradigm shift in school administration introduced under SSA. The strategy adopted was decentralization of education management and encouragement to community participation. SSA aimed at reaching UEE by providing access to education and infrastructure facilities besides improving the quality of education.

Important issues relating to financing of elementary education such as share of education in GDP, allocation under Five Year Plans have been discussed in detail in this chapter. The Expenditure on education in various plans reflects significant changes and the inter-sector competition among different levels of education. The testing of hypothesis shows that there is a significant reduction in the inter-state variation in expenditure on elementary education after the introduction of SSA.

The educational expenditure and educational outcomes across states in India is analyzed in fourth chapter. Before the introduction of SSA there was wider inter-state variation among states in terms of expenditure on education and educational outcomes. The introduction of SSA reduced the regional imbalance and increased the participation of educationally backward regions, states and social groups in the national commitment of UEE. The budgeted expenditure on elementary education at all India level substantially improved.

Multiple regression models are employed to understand the factors influencing educational outcomes across states in India. Enrolment, literacy and poverty are considered as proxy variables for educational outcomes. The results show that literacy, utilization of funds and poverty are found to be significant determinants of the educational outcomes.
The fifth chapter evaluated the technical efficiency in the Indian education system using panel data for 35 states and Union Territories for the period 2006-07 to 2010-11. Besides this, factors influencing the Total Factor Productivity (TFP) and Technically Efficiency (TE) of the states are analyzed. The summary of Malmquist result of Model 1 indicates that mean TFP is 0.834. It indicates that the TFP of inputs at all India level for 5 years period decreased by 17%. The model 2 estimated actual outcomes, targeted outcomes and potential for improvement. The result of Tobit regression model shows that among other variables, the economic status and literacy status are positively associated with TFP, while the size of the population and poverty are negatively associated with TFP. On the other hand economic status of the state has positive association with technical efficiency and size of the state is negatively associated with technical efficiency of the state.

Analysis of issues relating to transparency, accountability and governance are presented in sixth chapter.

6.2 Summary of the Findings

Important findings emerged out of the secondary data analysis and from primary data analysis are presented below.

6.2.1 Findings based Secondary Data Analysis

- Gross Domestic Product, expenditure on education and expenditure on elementary education have increased by more than 10 times during 1990-91 and 2010-11.

- During the pre-liberalization period, the CAG of expenditure on elementary education is higher (16.25) than the CAG of education (15.60) and GDP (15.26). In the post-liberalization period CAG of GDP (14.46) is higher than the growth rate of expenditure on elementary education (11.41) and education (13.84) in general. The overall CAG (1990-91 to 2010-11) in GDP (13.42) is higher than growth rate of expenditure on education (13.22) in general and expenditure on elementary education (12.82) in particular.
Regression model relating expenditure on education and GDP suggested that on an average Rs. one crore increase in GDP leads to Rs. 3.7 lakh increase in general educational expenditure per year. Multiple regression model proved that on an average Rs. one crore increase in total educational expenditure leads to Rs. 21 lakh increase in expenditure on elementary education. On the other hand Rs. one crore increase in GDP increases expenditure on elementary education by Rs. 70,000 per year.

During the first decade CAG of expenditure on elementary education (16.25) grew faster than secondary (15.61) and higher education (14.62). Where as in the second decade the CAG of expenditure on higher education is higher (25.26) than secondary education (15.18) and elementary education (13.19). Considering overall CAG the expenditure on higher education has grown faster than the expenditure on other two levels. The state's share in expenditure on elementary education has declined from 97% to 77.6% during 1990-91 to 2010-11. Simultaneously the centre share has increased from 3.00% to 22.67% during the same period.

Out of 35 states and UTs, 16 states have shown a decrease in share of expenditure on elementary education between 2003-04 and 2010-11. States like A & N, Bihar, Delhi, A.P, Lakshadweep, Nagaland, Rajasthan and U.P. have considerably increased their share in expenditure on elementary education during 2003-04 to 2010-11. The CV of expenditure on elementary education across states has decreased from 32.60% in 2003-04 to 27.09% in 2010-11. The hypothesis testing confirms that the inter-state variation in expenditure on elementary education has decreased after introduction of SSA.

In total national expenditure on elementary education, 36% represents plan expenditure and 64% is non-plan expenditure. States like Uttar Pradesh, Bihar, Rajasthan, Maharashtra, Gujarat, Karnataka, Odisha, Madhya Pradesh and Assam have been allocating consistently higher share in their budget. Though they are educationally and economically backward, they have spent good share on education.
Utilization of funds varies considerably across states. Lakshadweep which utilized only 17.12% in 2005-06 improved to 82.08% by 2009-10. There is a continuous increase in the utilization of funds in subsequent years compared to the initial year of SSA. The CV of utilization of fund decreased from 45.2% to 22.23% during 2005-06 to 2009-10 periods. The hypothesis testing of utilization of funds and economic status indicates that economic status of the state does not have significant influence on the utilization of funds.

Expenditure on quantitative items increased from Rs. 13016.28 in 2005-06 to 40441.56 by 2010-11. The range was very high in 2005-06 and it reduced in subsequent years. Similarly expenditure on qualitative improvement of the education increased from 12180.09 to 16991.90. The increase is low compared to the expenditure on the items which improves the quantitative requirements of the elementary schools. The range also decreased substantially. Management expenditure increased from 849.70 to 1589.83 between 2005-06 and 2010-11.

The SD value of enrolment, qualitative expenditure have increased while the SD value of dropout, GPI, quantitative and management cost have shown fluctuation over a period of time. It indicates the regional disparity or interstate variation in terms of the providing service is not decreasing.

The hypothesis testing of factors influencing the dropout rate shows that literacy, poverty and expenditure on education are negatively associated with dropout rate. However the influence of literacy rate and poverty levels is significant and the influence of expenditure on education is not significant.

Educational outcomes measured interms of enrolment and GPI appear to be positively associated with literacy rate and utilization of funds; whereas poverty (0.36) is negatively associated with enrolment and GPI.

The summary of Malmquist result of Model 1 indicates 0.834 of Total Factor Productivity (TFP) of resources in elementary education. It indicates that on an average the overall productivity of the system is decreased at 16 per cent during the five years period. The analysis shows that only in six out of 35 states and UTs (17 per cent), the Total Factor Productivity (TFP) increased
between 2006-07 and 2010-11. The states with positive TFP are A & N, Dadra and Nagar Haveli, Chhattisgarh, Himachal Pradesh and Manipur. Positive TFP denotes improvement in productivity of inputs in these states.

- States such as Haryana, Punjab, Tripura, Mizoram and Uttarakhand have near to unity (efficiency frontier). These states have to concentrate on effective utilization of available resources for better educational outcomes. While states like Lakshadweep, Jharkhand, Diu and Daman have very less TFP and poor educational outcomes of these states suggest that technological changes are needed to produce good outcomes. Further, states such as Kerala, T.N., Pondicherry, Arunachal Pradesh and Andhra Pradesh have to concentrate more on utilization of their resources. The states which already have better performance have shown a decrease in TFP after the introduction of SSA. States like Bihar, Uttar Pradesh, and West Bengal are far way from unity score.

- The Tobit analysis with total productivity as dependent variable suggests that independent variables such as GSDP and literacy rate have positive influence on the productivity. It shows that the states which have better economic status and higher literacy rate have achieved greater productivity of the resources. On the other hand density of population and poverty are negatively associated with productivity of the state, which indicates the states which have higher density of population and poor economic condition have low productivity of the resources.

- The Tobit regression model of technical efficiency suggests that increase in GSDP is likely to increase the technical efficiency while density of population is likely to reduce technical efficiency.

- States such as Assam, Chandigarh, Goa, Haryana, Himachal Pradesh, J & K, Jharkhand, Karnataka, M.P, Nagaland, Orissa, Pondicherry, Punjab, Tripura and Uttarakhand states could significantly improve their outcomes while using same level of inputs, because all these state are below the frontier (inefficient in utilization of funds.)
Results of Model II shows that Bihar should invest further expenditure to increase its outcomes because Bihar was found to be efficient state in available resource, but inefficient in outcomes. In this state there is no scope for improvement with given current level of inputs. The model shows the average technical efficiency is 0.96, indicating that the average inefficiency across states is only four per cent. This indicates that with the given resources majority of the states and UTs have reached the maximum attainable levels of outcomes and to improve the outcomes the only way is increasing the allocations. Five states (14%) are at a Scale Efficiency of 100 per cent implying thereby that they had the Most Productive Scale Size (MPSS) at the given level of inputs. The remaining 30 (86 per cent) states were found to be scale inefficient, with a mean SE score of 25 per cent (SD =19 per cent). This implies that on an average the scale-inefficient states could reduce their input size by 75 per cent without affecting their current output levels. Sixteen states in model 2 are inefficient and are located below the frontier line. These inefficient states could potentially reduce their current input endowment by nine per cent while producing same level of outputs.

**6.2.2 Findings based Primary Data Analysis**

- It is observed that more female HMs are working in rural schools compared to male HMs. More number of HMs with the qualification of SSLC+TCH are found in Mysore and Chamarajanagar districts, whereas Udupi district has 55.6% of HMs with PUC+TCH qualification. Majority of the HMs in Chamarajanagar district have less than 10 years of experience as HMs whereas Udupi district has highest number of HMs with 10 to 20 years of experience as HM. Same is the case with Mysore and majority of the HMs are in the group of 10 to 20 years.

- Ninety nine per cent of teachers said that trainings are very useful in teaching. Only very small numbers of teachers, i.e. one from Chamarajanagar district and one from Mysore district said that training is not useful.

- Most of the teachers (67.9%) used TLM money for purchasing teaching aids and drawing materials. It is important to observe that around 90% of teachers
in all districts said that TLM has a positive impact on their teaching by increasing their teaching quality and reducing their burden and inconvenience in teaching. As against this only 7.3% of teachers said TLM based teaching is not useful. Around 38.0% of teachers are unhappy with Rs. 500, and they expressed that an amount in the range of 1000 to 2000 per academic year would be more meaningful.

- It is observed that around 97% of teachers in all districts expressed the need for computers training and computer based teaching.

- Teacher shortage is more in rural schools (52.4%) in Mysore and urban schools (75.0%) in Udupi district. In case of excess of teachers, the numbers of urban schools are more in Mysore district but C.H. Nagar districts shows equal share of excess teachers in urban and rural schools.

- It is important to observe that more than 39% TLM was allocated through cash, followed by 38% through Cheques and 23% by money transfer to concern teachers' bank account.

- It appears that majority of SDMC members (55%) have completed only elementary education. Only in Udupi district 48 percent have studied up to high school. The share of illiterates is high in SDMCs of Chamarajanagara schools. It was observed that 10.1% in SDMC members in Chamarajanagar and around 7% of SDMC members in Mysore district are illiterate and none of the SDMC members in Udupi district are illiterate and 48 percent studied up to high school.

- Udupi district has highest number of members (81%), who have received proper SDMC training. SDMC training helps the members to understand their rights and duties, functioning of education system, release of funds, functions of HMs and Teachers. This enables their effective participation in the committee and school management.

- It is important to observe that out of 1053 SDMC members 437 (41.5 percent) are housewives and 318 (30.2%) are agriculturists.
The data reveals that the schools in Udupi district are more frequently visited by BEO whereas DEO visits were less in this district. About 77.8% of rural schools in Mysore district were visited by DEO. It is observed that compared to BRPs, the CRPs visited more frequently both urban and rural schools in all districts except in Mysore (rural schools). The BRPs frequently visit urban schools than rural schools.

The data reveals that in 88% of schools, SDMCs meet frequently (about ten times per academic year) in all the three districts. While 100% of rural schools in Udupi district reported meeting of ten times, only 90.0% of schools in Chamarajanagar district reported ten meetings. In 16.6% of rural schools and 10% of urban schools HMs have reported non cooperation of SDMC members in financial matters. One out of 12 rural schools in Chamarajanagar districts reported that SDMC members expect commission in civil works. Three schools out of 38 rural schools and 2 schools out of 39 in urban schools in Mysore district and one school out of 12 rural schools in Chamarajanagar have reported that SDMC member are not supporting in financial matters relating to the expenditure on the school activities. However HMs in 74.8% of urban schools and 74.1% of rural schools opined that SDMC members are interested in school performance and participate very actively in school functions.

Among the issues discussed in the meetings civil work is the most priority issue for all SDMCs where 82.9% of SDMCs gave top priority to civil work. Next is admission or increasing enrolment of the school (60.7%) and around 50% of SDMCs discussed about school progress in all three districts. It is also observed that compared to rural schools, more number of urban schools received contributions from donors.

More number of rural schools (56.9 %) has experienced delay in receiving school funds. It is disturbing to observe that both rural (80.0%) and urban schools (75.0%) of Chamarajanagar district experienced delay in receiving funds. Compared to urban schools more number of rural schools in all districts have experienced delay in receiving SSA funds. While in Chamarajanagar 66.7 % of rural schools experience delay of more than two
months, around 62.5 % of rural schools in Udupi districts experienced maximum two months delay.

- Compared to urban schools, more number of HMs (29.3 %) in rural schools visited higher authority for releasing funds. Compared to Mysore and Udupi districts, more number of schools HMs in Chamarajanagar both in urban (50.0%) and in rural (33.3%) visited higher officials for releasing funds.

- It is observed that most the contractors (an average 97 %) for civil work were selected through SDMC committee, which is strictly followed by SSA norms. It can be said that there is transparency in selection contractors by SDMC members in order to complete the civil work. 95% of HMs in both rural and urban schools used cheques as main mode of payment to the contractors. Civil work in most of the schools (an average 67%) in three districts is approved by the SSA engineer, while 26% of schools reported that the quality of civil work is not good.

6.3 Policy Suggestions

- Despite enormous increase in expenditure on education it is still far away from recommended 6 per cent of GDP. It is important to increase expenditure on education so that it leads to expenditure on elementary education.

- It is observed that 64 per cent of expenditure is non-plan expenditure. In order to increase the quality of infrastructure efforts should be made to increase plan expenditure.

- A positive association between teacher facility and educational outcomes was observed. But the sample survey revealed shortage of teachers in several schools. It is important to increase the appointment of teachers immediately.

- The study revealed a positive association between the literacy levels in general and the technical efficiency of the educational spending. Therefore it is important to concentrate on improving the literacy status through various measures.
The study revealed that poverty is negatively associated with productivity of the state. This reinforces the need to reduce poverty. It is important to reduce the level of poverty to increase the productivity of the resources utilization.

Based on the study it is observed that the present system of allocating money according to the prescribed norms applicable to all states does not lead to efficient allocation of resources. For example in some states there is a possibility of attaining the same outcomes with reduced expenditure. It is important to initiate a nationwide study to understand the reasons based on primary data and differential allocations are to be made based on the states specific requirements. Greater flexibility in spending money according to the local requirements is essential. This also brings synergy in different development programmes at the micro level.

Data from sample districts showed that there is delay in sanction of funds leading to delay in activities to be undertaken. This needs to be addressed immediately.

It is observed that SDMCs are playing an important role in ensuring accountability and transparency in majority of the schools. However, the structure of SDMC needs to be modified giving more representation to teachers and parents.

Majority of the teachers expressed the need for computer training to help them in teaching. When the economy is moving towards e-governance, introduction of computer based education at the elementary level proves to be productive in long run. Therefore training programmes are to be arranged for teachers.

Under the present system HM and president of SDMC are co-signatories' for management of the funds at the schools level due to inherent conflicts between the role of HM and the elected president, some of the HMs reported frictions in discharging their roles. Therefore it is important to have much more clarity in the roles and responsibility.
The system of TLM introduced under SSA proved to be very useful. Many teachers expressed that this has helped in preparing teaching and learning materials. But according to them there are two main problems. One is very low amount of money and the other one is the process of accounting this small amount. However, assistance under TLM is removed from the 2013-14. But since this is very useful in improving quality of teaching this has to be re-introduced with an increase in the amount per teacher to Rs. 1000 to Rs. 2000 per year.