PUBLIC EXPENDITURE ON HIGHER EDUCATION IN KERALA:
A COMPARATIVE STUDY OF PRE AND POST LIBERALISATION PERIOD

Thesis
Submitted to the University of Calicut
for the award of the Degree of

DOCTOR OF PHILOSOPHY IN ECONOMICS

By

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Under the Guidance of

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DECLARATION OF REVISION

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I hereby certify that this is the revised version of the thesis entitled '**Public Expenditure on Higher Education in Kerala: A Comparative Study of Pre and Post Liberalisation period"** submitted by Nasiya V K under my guidance after incorporating the necessary corrections/ suggestions made by the adjudicators.

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DECLARATION

I, Nasiya V.K, hereby declare that this Ph.D thesis entitled, ***"Public Expenditure on Higher Education In Kerala: A Comparative Study of Pre and Post Liberalisation Period",*** is a bonafide record of research work done by me for the fulfillment of the award of the degree of Doctor of Philosophy, under the guidance and supervision of Dr. C. KRISHNAN, Former Associate Professor, Department of Economics, Government College Kodenchery. I also declare that this thesis has not been submitted earlier for the award of any degree, diploma, fellowship or any other similar title.

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This is to certify that the thesis entitled **"Public Expenditure on Higher Education In Kerala: A Comparative Study of Pre and Post Liberalisation Period"** being submitted by **Mrs. NASIYA V K** for the award of the degree of Doctor of Philosophy in Economics, to Department of Economics, Government College Kodanchery, is a record of bonafide research work carried out by her under my supervision. It is also further certified that the thesis is free from plagiarism after having checked using Ouriginal and no sentence equation, diagram, table, paragraph or section has been copied from previous work verbatim except at a very minimum level with due acknowledgement of the original sources. The contents of this thesis, in full or in part, have not been submitted to any other institute or University for the award of any degree or diploma.

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ABSTRACT

The present study mainly focussed on the growth and pattern of public expenditure on education in general and higher education in particular in India and Kerala during pre and post reform periods. A detailed review of available literature on government financing reveals that there does not exist an in–depth study regarding the impact of economic reforms on public education expenditure particularly that of higher education in Kerala. In this context, the study examines whether there exists a structural break in the trend and pattern of expenditure on education particularly higher education in the post liberalisation period. The study also analysed the relationship between the GSDP and public expenditure on education particularly higher education in India and Kerala. For analysing the objectives, the researcher examined secondary data for 44 years from 1975/76 to 2018/19, from various budgetary reports of the state and central governments and other sources. Usual statistical tools and econometric techniques were applied in the context of examining our objectives. More specifically, hypotheses were tested by using Chow's Break Point Analysis and correlation and regression techniques along with Unit Root test, Man Whitney U test, Durbin-Watson test, 't' test and F test.

It is found that the proportion of expenditure on higher education in total education expenditure in India and Kerala has been declining over the years. It is also observed that the proportion of government expenditure on higher education in the GSDP of Kerala has been coming down during the last few decades. This was further accentuated with the introduction of new economic policy in 1991 and the government has been encouraging participation of private agents in sectors that hitherto have been public monopolies. Categorically, the study finds a structural break in the trend and pattern of public expenditure on higher education in India and Kerala during the period since the introduction of reforms in 1991. It shows that the dominant role of government in financing higher education sector has come to an end and, at present, expansion of the sector does not rely heavily on public funds. The role reversal in funding higher education has taken place due to the reform measure of privatization of public institutions and promotion of private institutions in the sector.

Key words: Public expenditure, Higher education, Liberalisation, GSDP, Plan and Non-plan expenditure.

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ABBREVIATIONS

AAGR	Average Annual Growth Rate
ADF	Augmented Dickey Fuller
AP	Andhra Pradesh
AS	Assam
B.Com	Bachelor of Commerce
B.ED	Bachelor of Education
BA	Bachelor of Arts
BH	Bihar
BSc	Bachelor of Science
CABE	Central Advisory Board of Education
CAGR	Compound Annual Growth Rate
CBGA	Centre for Budget and Governance Accountability
CDS	Centre for Development Studies
DEA	Data envelop analysis
DF	Degree of Freedom
DPEP	District Primary Education Programme
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GOI	Government of India
GOK	Government of Kerala
Govt.	Government
GSDP	Gross State Domestic Product
GU	Gujarat
HDI	Human Development Index
HP	Himachal Pradesh
HR	Haryana
IIT	Indian Institutes of Technology
ITI	Industrial Training Institute
J&K	Jammu and Kashmir
KA	Karnataka
KE	Kerala
KSPB	Kerala State Planning Board

MES	Muslim Educational Society
MH	Maharashtra
MHRD	Ministry of Human Resource Development
MP	Madhya Pradesh
NGO	Non-governmental organizations
NPRE	Non Plan RevenueExpenditure
NSS	Nair Service Society
NSSO	National Sample Survey Office
OECD	Organisation for Economic Co-operation and Development
OR	Orissa
PN	Punjab
PPP	Public Private Partnership
RE	Revenue Expenditure
RJ	Rajasthan
SC	Scheduled Caste
SNDPY	Sree Narayana Dharma ParipalanaYogam
TFP	Total Factor Productivity
TN	Tamil Nadu
UGC	University Grants Commission
UP	Uttar Pradesh
WB	West Bengal

CHAPTER - I
INTRODUCTION

Education plays an important role in socio economic development of a country. Education is instrumental in raising the productivity of workers in the economy. The development of a country is primarily determined by the endowed natural resources and quality of the human resources. The quality of human resources depends on the level of knowledge, skill and attitudes. These parameters are determined by the quality of educational system at lower and higher levels. In the development and spread of knowledge the role of higher education is crucial. Education is, in a logical approach, a life-long-continuous exercise. It starts from the elementary stage at schools which lead one to the portals of higher education without a break. Inevitably, therefore, the quality of higher education depends certainly on the quality of school education. Higher Education plays a significant role in the growth of a nation. Higher education has made a significant contribution to economic development, social progress and political democracy. The skill and quality of the people greatly depend on the education that is imparted to them at different levels of education. In the 21st century, higher education is very important in the context of a fast growing knowledge economy.

Kerala, a tiny State in India has historically been ahead of other states in respect of literacy and it is the only major state in the country that achieved 'total literacy' or in which more than 90 per cent of the adult population is literate. For instance, in 1991 the literacy rate in Kerala was 89.81 per cent compared to only 52.21 per cent at all-India level, which increased to 90.86 per cent as against 64.84 per cent for India in 2001. The corresponding figure in 2011 was 93.91 per cent in Kerala and 74.04 per cent for the country (Census of India, Various Years). Among the several states in India, Kerala occupies an enviable position in terms of several indicators of social and human development. In fact, in terms of human development Kerala ranks fairly well in comparison with some of the advanced countries of the world. It stands as the most literate state and as a state that provides elementary education to all the eligible children. Kerala‟s education performance

has been so impressive that it could receive the distinctive acclamation as the „Kerala model"; and some recommend *Keralization* of the whole education system in India.

The international and national level studies conclude that education investment and achievements are necessary for the growth and development of an economy. It is empirically proved that people are a type of economic asset and that increased investment in health, skills and knowledge provide an increase in their human capital investment, thereby enhancing their earning capacity and income level, which in turn contribute significantly to the economic liberation of the weaker sections of Kerala (Velayudhan, 2010). Educational development in Kerala contributed significantly to the complex processes of technology dissemination, individual earnings, reduction of poverty, development of healthy families, gender equality, creation and sharing of values, responsibilities of citizenship and quality of life. According to Dreze and Sen (1996), Kerala"s experience powerfully brings out the dialectical relationship between educational progress and social change: the spread of education helps to overcome traditional inequalities of castes and gender. Kerala made an early start down that road, in the nineteenth century, leading to wide–ranging social achievements later. Education elevated the self–esteem of the most oppressed and is one of the reasons for loosening the rigid social structure and greater civic involvement ranging from more participation in political decision making to more parental involvement in local schools. Unlike other States of India, people in Kerala are more politically conscious and are active in the democratic process indicating the significant role of education (Franke and Chasin, 1992). Education empowers women, who influences birth and mortality rate in Kerala.

The birth rate in Kerala shows a rapid decline before the intensification of family planning programme and the impact of this fall has already begun to be felt in the growth rate of primary school enrolment (Nair, 1974, 1994). There is no reason other than the influence of education for better performance in demographic changes of Kerala (Velayudhan, 2010). Educational development helped economic development of Kerala by increasing economic efficiency, improving quality of life and producing both public and private benefits. The repressed groups and

untouchables passionately sought the opportunities of education as a means of liberation from caste disabilities since social situation in Kerala was wretched during the late eighteenth and early nineteenth century (Tharakan, 1984). In short, Kerala experience reveals that education improves capabilities of individuals and becomes a catalyst for all the closely interrelated economic, social, cultural and demographic changes, creating socio– economic conditions for economic growth.

The structure of higher education in Kerala is not different from that of the country as a whole. This state has laid high emphasis on quantitative expansion in terms of number of institutions, students and teachers. Deterioration of standards is the main criticism levelled against the system of higher education in Kerala. The report on higher education by the state High Level Committee on Education and Employment (1984) has identified many causes for the falling of standards in the sphere of higher education in the state. Among these, overcrowding in the institutions of higher education owing to unrestricted admission has been the root cause for the phenomenon.

In fact, Kerala lags behind in the field of higher education not only in qualitative terms but also in quantitative terms. The demand for enrolment in higher education is higher in Kerala due to high unemployment and the resultant low opportunity cost of higher education. It may be noted that the successive rounds of National Sample Survey have confirmed the highest incidence of unemployment in Kerala among the states in India. But there exists a wrong impression that higher education in Kerala has expanded well.

Education is one of the important services provided with the help of the government and it has grown rapidly both in terms of public expenditure and the number of persons educated. The magnitude of the required expenditure will necessitate involvement of both public and private funds. Educational systems are almost everywhere largely owned and operated by the state. However due to resource constraints, expanding expenditure on higher education is a major challenge. In the era of liberalisation, privatisation and globalisation, several reforms are being proposed on financing higher education. Such reforms are argued to be

necessary due to dwindling resource base relating to state finances. Kerala is also influenced by these reform policies. However as a proportion of the total government expenditure (budget), the allocation to higher education was quite high compared to many other states and the national average, at least in the initial period after independence. It is interesting to find that the universities in Kerala are found to be generating a sizeable part of their expenditures from the students in the form of various fees. Though there has been some decline in the recent years, universities like the University of Kerala and the University of Calicut are found to be generating more than 25 per cent of their revenues in the form of fees. In India, public spending accounts for a large portion of education spending. Though higher education spending in India expanded dramatically during 1947-1991, the proportion of financial allocation to the sector was slashed in the post-reform period, and this sector suffered significantly as a result. The percentage share of spending on higher education in India lies much below the Central Advisory Board of Education (CABE) committee's guideline of one percent of GDP for higher education.

Till the introduction of reforms in 1991, general education dominated over technical education and therefore the system got delinked with the production base of the state. The higher education is not adapted to the needs of Kerala's economy. Restructuring, diversification and modernisation did not take place due to many reasons including financial. In the absence of fresh inputs, the academic programmes are getting obsolete and are becoming incapable of catering to the requirements of the economy in the modern context of knowledge intensive production and services. Large quantum of funds are required in Kerala for diversification of courses, improvement of quality and enhancement in the intake capacity of technical education. While the demand for more investment is on the increase, the allocation of funds is on the decrease partly due to the fiscal crisis of the state government.

Expenditure on Higher Education in Kerala

There are conflicting views among educationists about the relative importance of school versus higher education. However it is widely believed that the single most important indicator of a country‟s future may well be the state of its

higher education. Despite the key role assigned to higher education, however the developments in this field have been extremely uneven. Educational systems are almost everywhere largely owned and operated by the state. Economists can provide something like investment criteria for education, in the same way that they pronounce on appropriate scale and composition of the rest of the public sector. Kerala was perhaps the last state to accept the principle of self-financing but it too joined the other states from the eighties rather haltingly but this mode of financing was implemented on a large scale in engineering education in the state from 1993. The principle was extended to medical education in 1994. There has been no study yet to assess the impact of this mode of financing in the State. Realising the fact that the benefits emanating from education are many, government and the people of the state spent a lot on education. Improving the higher education system is vital for the state‟s progress as it contributes to employment, income generation, dissemination of knowledge and skills, export of labour, etc. In addition to these, it may also act as an effective instrument in ensuring equity and social justice.

It can be found that the budgetary allocation for educational sector has been increasing over the period of time at the lower levels of education. But the provision of higher education to the society especially the backward sections needs more serious attention. During the last two decades the system of state financing of higher education has come under severe strains. With the wave of liberalization sweeping the country since 1991, privatization of higher education is being advocated generally. In all likelihood public expenditure on higher education is to be reduced, at least in relative terms, with greater reliance of its financing on private shoulders. The quandary of such a situation may be much more for the highly developed and educated State like Kerala. Higher education age specific population is increasing fast and public support is relatively on a decline. Kerala therefore appears to be an appropriate State for the study of public expenditure on higher education under the present setting. Under these circumstances it is considered that a study on public expenditure on higher education is of great importance.

Review of Literature of Expenditure on Education

This section carries an overview of related studies on public expenditure on education and its development. The review mainly focuses on the relationship between education and economic development, educational financing and government role, and the nature of public expenditure on education and equity.

Sebak Kumar Jana and Adwaita Maiti (2019) examined state-by-state disparities in public higher education spending in India using several metrics such as per capita and per student higher education spending in terms of plan and non-expenditure, revenue and capital expenditure. In several states, the elasticity of higher-education expenditure to gross state domestic product (GSDP) was less than unity. It also advised that India's central and state governments develop strategies to increase funding for higher education.

Sandhya Dubey (2019) analyses the impact of educational finance on higher education access in India by using fixed-effect models. It is found that there is a negative relationship between public spending on elementary education and access to higher education. More money spent on secondary and higher education has a good impact on college access. It is also discovered that there is a negative association between per-student higher education expenditure and access to higher education. For India's high-income states, the relationship is even more unfavourable. This is mostly due to the growing privatisation of higher education in order to meet expanding demand for higher education on the one hand, and the steady loss of public funding from higher education on the other. It is also discovered that educational funding has a minor impact on college access for scheduled castes and scheduled tribes. This study also reveals that while increased economic growth improves overall college access, it does not do so for scheduled castes and scheduled tribes. Finally, a statistically negligible relationship has been shown between scholarship spending and access to higher education.

Sudhanshu Bhushan (2019) in his paper "Contesting the Present in the Evolution of Public Higher Education" examines the public nature of higher education implying an equitable access at a nominal price. He argues that higher

education should be funded by the government and is produced not for the sake of profit. In recent years, government has been relying more on promoting privatisation and market friendly principles such as competition, ranking and loan based financing. It has been introducing measures of accountability upon teachers as well as the institutions of higher education. This paper criticizes the current practices and explains how it will badly effect the pathway for public higher education in the future.

Jandhyala B.G. Tilak (2018) in his book "Education and Development in India: Critical Issues in Public Policy and Development" presents a critical review of some of the major issues that are of interest to researchers, policymakers and planners in developing as well as advanced countries including India. It provides an in-depth review of some of the major development policy issues in education in general, and in India in particular, over the past 2-3 decades. Based on the best available and reliable research evidence, both quantitative and qualitative, the author critically elucidates the critical policy issues in India such as educational deprivation, equity, efficiency, household economy, economic growth, human capital, state finances, external aid, development cooperation, private higher education, the role of the state, households and markets and the nature and quality of education statistics. The study also examines interrelations between education and poverty, low level of outcomes in elementary education, effects of structural adjustment policies and approaches on education, south-south cooperation in education, etc. It also critically discusses changes in policies relating to financing higher education, external assistance for education, and how the growth of private higher education is affecting society at large. The dichotomy between public policy and action is also highlighted. The study in general reveals that while the importance of education is being increasingly recognized, the state does not seem to be as willing to foot the bill for education as the households and even the private sector.

Jandhyala B. G. Tilak (2018) in the study titled "The Dilemma of Reforms in Financing Higher Education in India" finds the higher education systems all over the world are increasingly starved of financial resources. India is not an exception. The recent trends in financing of higher education in India are indeed

disturbing. Quite a few important proposals are being made in this context by national governments and international organizations. International experience will be of considerable importance in formulating new policies. In this paper few selected proposals are described, the national and international experience on the same is contrasted with each proposal, and the necessary lessons are drawn. It is shown that the suggestions that are being made for developing countries do not have empirical validity if the practices of the developed countries are taken to provide any guidance.

Harry J. Holzer (2018) in his paper "A Race to the Top in Public Higher Education to Improve Education and Employment among the Poor" addresses the problems faced by the students in the community colleges and the little labour market value of courses they received. To address this problem, he proposed a federal policy designed to improve the academic and employment outcomes for low-income or minority college students. The proposal is a "Race to the Top" for the nation"s community colleges. Through such a policy, the federal government would provide badly needed and carefully targeted additional resources to these colleges, in ways that are designed to increase credential attainment in high-wage fields in the job market among poor students. The states in which these resources are provided would also need to embrace greater accountability in terms of how they subsidize their colleges, among other reforms, to ensure that they encourage better performance in education and employment outcomes among their disadvantaged students. Subsequent earnings for low-income students, those attending community colleges need greater funding, as well as stronger incentives for those funds to be used effectively for such students. A federal competitive race to the top program for community colleges, modeled in some ways after the Obama administration policy for public K–12 schools, would provide both funding and incentives. In the proposal outlined, community colleges would get additional funding from the federal government through competitive grants to their states. To get the funds, states would have to implement accountability schemes through performance-based funding of higher education. State would clearly need to develop data systems and analytical capabilities to measure and reward such outcomes. Evaluation evidence over time

would indicate more clearly what works in the realm of accountability and new expenditures that successfully raises the educational attainment and earnings of disadvantaged students.

Tahir Hussain Ansari and Mohd Azam Khan (2018) in their paper "An Analysis of Public Expenditure on Education in India" examine the level, trends, growth and intra-sectoral allocation of public expenditure on education. Taking period from 2001-02 to 2014-15, they analyzed the expenditure on education at various levels, in aggregate as well as separately for the centre and the state‟s government. The paper explores the trends on planned and non-planned expenditure on education. The analysis shows that percentage share of State government expenditure on education has declined and the share of the central government has increased. The share of public expenditure on education has been less than 5 percent as a proportion of GDP. They suggested that the government (centre and state) should focus on education from the quality point of view along with budget allocations in order to enhance human resource development in the country

Prasant Kumar Behera and Rashmita Khatei (2018) in their study "An Analysis of Public Finance on Education Sector in India" examined the trend and pattern of public expenditure of central, state and union territories on education sector of India. The research focused on the central government's budgetary provision for education under India's several five-year plans. They discovered that after 2001, the role and responsibility for financing education in the hands of the Centre dropped and the State rose due to the policy impact of decentralisation.They discovered that after 2001, the role and responsibility for financing education in the hands of the Centre dropped and the State rose due to the policy impact of decentralisation. It also demonstrates that, in comparison to secondary, higher, and technical education, government financing for primary education has risen to the top of the priority list throughout time. Since 2001, the aggregate public investment on education by both the federal and state governments has been around three to four percent of GDP. They advocated that education spending in India be increased beyond 6% of GDP and that per capita education spending be increased as well.

Gayithri Karnam (2018) in her study "Public Expenditure in India: Some Issues and Concerns" analysed the broad trends in the central government expenditure and its composition especially during the economic reform phase and the emerging issues. Analysis of the deficit trends of the central government highlights a major fiscal concern relating to the composition of fiscal deficit, wherein the revenue deficit constitutes a predominant and largely uncontained share leaving very little room for capital investments, a dire concern for a country struggling with infrastructure inadequacies. Issues concerning dwindling capital expenditure, small and inadequate allocations to social and economic infrastructure, the poor quality of spending, poor translation of outlays into outcomes and inadequate corrective measures emerge from the discussion on the public expenditure.

Anindya Biswas and Sarbajit Chaudhuri (2018) in their work "Skill Formation, Public Expenditure on Education and Wage Inequality: Theory and Evidence" argued that there should be provision for public assistance for skill acquisition for improving relative wage inequality in the future. Empirical observations on some prominent small OECD countries, however, indicate that the relationship between wage inequality and public spending on education is not necessarily unambiguous. A panel data analysis of 13 small developed countries from 2000 to 2011 supports the theory that the relationship between wage inequality and public expenditure could indeed be ambiguous. This finding questions the desirability of providing subsidy on education at least from the perspective of reduction in earnings inequality among the different sections of the working population

David Kamar Imana (2017) in his study titled ―The Determinants of Public Education Expenditures: An Empirical Analysis of Changing Patterns and Growth of Public Expenditure on Education in Kenya" examined several factors that affected growth of public expenditure on education sector. The study finds noticeable rise in public expenditure on education sector in Kenya since 1980, but still the actual amount of money spent on education sector is less than what is required. Therefore, the government should not only increase financial allocation but

should also find reliable sources of funding education sector. In addition, the government should carry out reviews in all schools syllabuses in order to meet current changing job demands and maintaining quality education.

Richardson Kojo *et.al* (2017) in their study "Distributional impact of public expenditure on human development in Nigeria" tried to develop and apply a distributional impact assessment methodology to empirically analyze distributional impact of public expenditure on human development using data from 20 states in Nigeria. For robustness of the analysis, expenditure on education, health, agriculture, rural development, energy, housing, environmental protection and portable water resources are employed as predictors of human development. The result reveals that expenditure on education, health, agriculture, rural development and water resources has positive marginal impact on human development. In contrast, the marginal impact of energy, housing and environmental protection is negative. It is also found that if human development is to appreciate considerably, then it is portentous to stress expenditure on education, health, agriculture, rural development, energy, etc.

Michael Tharakan (2017) attempted to go back to the decisive point when private funding replaced public funding for education. It also investigates the reasons for such a shift in preference. Even after the preference for private funding became clear, there were dissenting voices. The logic of the dissenting arguments is also discussed. The study assesses three important experiments undertaken in the State of Kerala during 2006 and 2011 in favour of a publically funded and socially responsive educational system. They were (i) working out a formula for equitable distribution of government grants to universities on the basis of performance and needs, (ii) steps towards social preparation for higher education with focused merit-cum-means scholarships and (iii) an attempt at clustering of colleges with diverse capacities which can eventually turn into decentralized and flexible universities or university like formations at the district level.

Shivani Jaswal (2016) in her article ―Efficient Education Sector in Kerala: Lesson to be Learnt by Other Indian States" highlights the key factors that make

Kerala‟s education sector a success story and puts forward various lessons that other states across India may learn to induce growth in their educational structures thereby aiding Indian growth. She pointed out that the growth of Indian economy is positively correlated with the growth of its education sector. In India promotion of quality education has been at the heart of growth policies. Vivid education structures can be spotted across India. On one hand where state like Kerala holds a strong education base, other states like Orissa and Andhra Pradesh show poor performance in their education sector. Kerala is an astonishing success story. In contrast to the rest of India and most other low-income countries, people in Kerala enjoy education and health at levels close to those in the West. Women in Kerala are generally far better off than women in the rest of India, and people at all levels of society have greater access to education – as well as a greater say in their governance – than can be found in any other Indian state. Public provisioning of education facilities has long been the basis of Kerala's acclaimed development achievements. As it is well documented, historically, all the social reform and political movements in Kerala have encouraged school education as an effective tool against caste, gender and class discrimination. Kerala accepted early enough that "mass literacy required mass schooling" and today holds the stature of universal literacy rate. Kerala, therefore, surged ahead of many other States in human development indicators. By the early 1980s, enrolment at the primary level was near universal, with virtually no gender gap. Also, significantly, even as early as 1957, 41 per cent of the school teachers in Kerala were women, a factor that must have encouraged many parents to send their girls to school (Frontline, 2011). The trend has continued, and at present 71.28 per cent of school teachers are women. Public spending on education in Kerala was the highest in the country and more than 80 per cent of it was on school education (Frontline, 2011). All these factors clearly show that the development of Kerala‟s education system has been a success story due to the availability of sound infrastructure, social value of the society and effective role of state. If any other Indian states like Orissa, Andhra Pradesh, Sikkim and many more wish to set up a sound education system like Kerala, they will first have to ensure significant

infrastructural development accompanied by strong role played by the state governments to ensure that education is accessible to all.

Tasleem Araf (2016) in her study examines the level, trends, growth and intra-sectoral allocation of public expenditure on education in India. The primary focus of the study is to find the amount of money spent by Centre, State and union territories government on education and to examine the changing patterns of public expenditure on education. Analysis shows that percentage share of State government has declined and the share of central government has increased. Further the share of plan expenditure has increased while the non-plan share declined. No major trends have been found on revenue and capital account expenditure. Capital account expenditure is marginal in total expenditure. Above all she finds that the actual amount of money spent on education sector is less than the required amount.

Tarkeshwar Pandey (2016) in his study titled "Higher Education Expenditure in India" points out that education is one of the most empowering tools for an individual. It lays the foundation for a better life. It prepares trained workers at all levels to manage capital, technology services and administration at every sector in the economy. Education provides the economy with requisite qualification and skilled manpower for the economic development. It not only provides skills and qualification to new generation but also creates in their minds the awareness of environmental and social realities and therefore helps in attaining for them a better living standard. It is the foundation which helps the economy to grow and stabilise the resources for the betterment of the society. He found that over the years there has been drastic increase in the expenditure incurred on education, and it is due to the fact that both private and public sources of finances are used simultaneously for meeting the needs of the knowledge based economy.

Ghosh Dastidar, Sayantan and Chatterji (2015) in their study "Public expenditure in different education sectors and economic growth: The Indian experience" examine the empirical relationship between public primary, secondary and tertiary education expenditure and economic growth of India using time series econometric analysis for the period 1951-2011. The analysis indicates that education

expenditures positively affect GDP growth from 1980 onwards when the country started to shift from a state-led growth model towards a pro-business regime. They argued that the labour market characteristics and the institutional structure were responsible for the lack of effectiveness of education spending prior to 1980s. Before the 1980s, the public sector was the principal operator in the Indian economy; private sector participation was minimal and bureaucratic jobs were the most attractive jobs which were unproductive and highly rent-seeking. Such a situation discouraged proper utilisation of the skilled work force and hence the education expenditure did not exhibit the desired growth effects. With the onset of reforms, industrial and service sectors expanded creating more job opportunities and thus there was better utilisation of the educated labour pool. The study finds that education expenditure is a necessary but not sufficient condition for growth. Along with quantity, quality is equally important. Even though education expenditure starts to influence growth positively during the post-liberalization era, however the effect seems to be quite low which probably reflects the poor quality of the Indian public education system, especially at the school level. Therefore, besides increasing expenditure level the government has to undertake necessary reforms to upgrade the quality of the system. Otherwise, the effectiveness of the education spending will continue to be low.

Anuneeta Mitra (2015) in her paper "Public Spending in Higher Education in India: A Benefit Incidence Analysis" attempted to build an empirical ground for supporting the increased role of public funding in higher education. Using 2004–2005 constant price, several indicators such as the proportion of GDP/GSDP spent on higher education and the trend of per capita public expenditure on higher education were estimated from 1990–1991 to 2009–2010. The estimates are carried out on a national level as well as in each of the 15 major states. This research also examines the distribution of higher education subsidies to see if it is progressive or regressive across five quintile categories.Although the results at the national level suggest a pro-rich subsidy distribution at the higher education level, a state-by-state analysis reveals a variety of results, some of which deviate from the national norm, necessitating appropriate policy reflections.

Nicholas W. Hillman, David A. Tandberg, Jacob P. K. Gross (2014) in their work titled "Performance Funding in Higher Education: Do Financial Incentives Impact College Completions?" pointed out that in 2000, the Pennsylvania State System of Higher Education introduced a performance based funding model aimed at increasing degree productivity among the state‟s public colleges. They examined how the new policy affected undergraduate degree completions. Using a difference-in-differences estimation strategy, results suggest the policy has not systematically increased degree completions within the state. Their study also encourages state policymakers and higher education officials in other performance funding states to consider the merits of linking state funding to degree completions by asking if there are other solutions to the college completion problem. Perhaps budgets are too blunt of an instrument for improving college completions and state officials could examine alternative policy instruments for achieving their desired education goals. Regardless, it is important to weigh the evidence and identify strategies for improving existing performance-based funding policies in order to begin making positive impacts on college completions. With limited evidence of the policy‟s effect; they conclude that this was an ineffective funding model in terms of its ability to increase college completions.

Sumithra, Vishnu Vardhan and C. Aruna (2014) in their paper titled ―Public Expenditure and Scheduled Community Enrolment in Higher Education: A Comparison across Indian States" examined the enrolment of scheduled caste (SC) students across various states in the country and the expenditure by each state and its effect on SC enrolment. The secondary data is the main source for analysis and data envelop analysis (DEA) is used to explain the expenditure and enrolment pattern. The data pertain to public expenditure and SC enrolment for the period 2004–2010. The study found that out of 25 states, the smaller state Sikkim is performing relatively better than the larger states which suggest the need for state-specific strategies in addressing the issues of expansion of higher education.

Smita Anand (2014) in the study titled "Inter-State Variations in Public Spending on Higher Education in India" analyzed the trends and pattern of public expenditure on higher and technical education amongst major states in India. Income

profile of a person varies with the level of education and acquired knowledge. Institutions imparting higher education therefore play a central role in producing quality and efficient workforce. The level of expenditure by government reveals the relative importance accorded to the sector. Education in India, as in most of the countries of the world, is mostly a state-sponsored activity. India has seen significant variations in the level of education funding and the priorities assigned to various sub-sectors of education throughout the previous six decades. After independence, total expenditure on higher and technical education climbed dramatically. Despite this increase, there is a mismatch in the country between demand for higher education services and availability. According to the report, tertiary education spending in general, and technical education investment in particular, is well below the anticipated level in all major states. In terms of the amount of money spent on these sub sectors, there is a significant discrepancy between states. In most states, lower per capita higher education spending has a direct impact on the quality of higher education. The country is still distant from the Kothari Commission's and the New Education Policy's recommendations.

Monalisa Bal1 (2014) in her paper "Ideology and Higher Education Policy - A Historical Perspective and the Way Forward" brings out the historical perspective of ideology and its impact on education both globally and in India She strongly advocates abdicating ideological fixation if India wishes to significantly ramp up its Human Development Index (HDI) and be the prime Asian power of 20th Century. She pointed out that ideologies have played a significant role in the evolution of knowledge and economic growth globally. From the free market dictum of Adam Smith to the Marxian ideology of dialectal materialism, the world after the Second World War has witnessed US hegemony through its emphasis on Total Factor Productivity (TFP), innovation and public private partnership. In this paper she attempts to study the educational policy in India in pre-colonial and post-colonial era and its impact on access, equity and excellence, The last decade is marked by increasing stridency for larger private sector role, freedom from regulatory control in a mosaic of Public Private Partnership (PPP).

Martin Carnoy and Rafiq Dossani (2013) in their study "Goals and governance of higher education in India" explore the evolution of the Indian State's role in governance, and the implications this has for goal setting. They find that the Indian government's activist role in governance marked a change from the colonial period. They suggest, was not due to changes in the relative influence of different stakeholder groups. It was instead due to new national developmental goals, particularly industrialization. Fairly quickly after independence, they find that higher education governance came to be exercised in different ways between the centre and the states. Control over the system's governance was to later become an arena of contest between the national (central) government and the provinces (states), leading to disagreements on strategies such as on funding and regulation. In later phases, particularly in the third phase that began in 1984 and continues to the present, the disagreements intensified because educational priorities started changing due to the changes in the relative influence of stakeholder groups and new forces such as globalization.

Layan, P J Sabu (2013) in his study titled "Dynamics of household expenditure on education: a comparative study on rural and urban areas of Kerala" examines the determinants of household expenditure on education in India and Kerala. Economic reforms have a crucial role in increasing the share of household expenditure on education in India. The study uses the secondary as well as primary data sources. The variables such as gross domestic product, per capita income, public expenditure on education, education loan disbursal, personal disposable income and the number of recognized educational institutions and household variables are found to be significant in determining the household expenditure on education in Kerala. He found that there was clear rural and urban disparity with respect to household expenditure on education in India. However, this disparity is comparatively low in Kerala when compared to other major states in India. Besides this, household expenditure on higher education is high in rural households when compared to their urban counterparts.

Iffat Saher (2013) from his thesis titled "Trends in Growth and Financing of Higher Education In India" narrated that the importance of higher education to

economic and social development and the correlation between economic development and the development of higher education in the knowledge based economy are almost universally accepted. Higher education trains people to take up different economic roles in society and spurs technological innovation that drives economic growth. It is important that the country‟s capacity in higher education is aligned to the demand for skills from the economy, which would include the demand for teachers from the education system itself. It was also felt that this system of education would help to remove the backwardness of Indians in the contemporary world and enable them to achieve material progress as well. India is a developing country and it requires resources for promoting economic growth and development. Education plays very important role in the development of the country. Although highest percentage of budgetary expenditure went to elementary education, per-pupil expenditure was higher for higher education because of the nature of higher educational expenditure.

Nair K. N. and P. R. Gopinathan Nair (2012) in their book titled "Higher Education in Kerala: Micro-Level Perspectives" mentions about the important problems that the higher education in Kerala is at present confronting. The state government has been in recent years showing an increasing tendency towards withdrawing from the sector, thus abdicating its primary responsibility and of encouraging privatisation and crass commercialization. This book examines the questions of access, equity and equality in the higher education sector of the State, principles highlighted in the National Policy on Education, 1986, in the context of the current trends and tendencies. In the face of steady withdrawal of the government from the financing of education in general and of higher education in particular, a mushrooming of the unaided, self-financing institution has set in Kerala during the past few decades. Self- financing institutions have appeared in all faculties- Arts, Humanities and General Sciences, Engineering, Technology and Medicine and several paramedical courses. The confrontation between the State government and the managements of self-financing institutions on questions of tuition fees, admission procedure and community reservation is getting murkier by the day. The studies included in this book discuss issues relating to barriers to

professional education, wastage of Engineering courses and Arts and Science courses, the deterioration of standards and the gender dimension involved. The issues discussed are substantiated with data collected through meticulous case studies. The findings are significant and revealing of the diversity and magnitude of the problems involved.

Sunil Mani and M Arun (2012) in their study "Liberalization of Technical Education in Kerala: Has Higher Enrolment Led to a Larger Supply of Engineers?" pointed out that there had been a significant increase in the college seats available in undergraduate engineering degree programmes in Kerala. This has happened by licensing a number of privately-owned engineering colleges. Consequently, enrolment in engineering increased from about 2,800 in 1991 to about 28,000 in 2008. After a careful analysis of a unique data set, this study reaches the conclusion that actual out-turn rates have been steadily declining, especially since 2004. This decline is observed at the aggregate level, across different branches and also across different colleges. It then hypothesizes about the probable causes for this steady decline in out-turn rates and concludes with the larger implications of this state of affairs.

The conflict between the management of self-financing colleges and the government has now become an everyday affair. The casualty is the technical education system in Kerala. It is evident that there are no shortcuts to meeting the need of technical human resource in the state. Liberalisation of education has not brought in the expected benefits. It is clear that many students who gain admission to engineering colleges do not have the basic capability, which can be built only by improving school education. The case of teaching capability is similar. The private sector cannot be expected to invest in higher education. It is unfortunate that the government is driven by pressure from the management and the middle class and not by realities and social development goals as far as technical education in the state is concerned.

J D Singh (2011) in his paper "Higher Education in India – Issues, Challenges and Suggestions" argues that the recent calls for reform may provoke a

fundamental change in higher education. This change may not occur as a direct response to calls for greater transparency and accountability, but rather because of the opportunity to reflect on the purpose of higher education, the role of colleges and universities in the new millennium, and emerging scientific research on how people learn. The study also examines the impact of fundamental change from the policy level to the institutional level and to the everyday lives of college and university administrators, faculty and students. Now the time has come to create a second wave of institution building and of excellence in the fields of education, research and capability building. We need higher educated people who are skilled and who can drive our economy forward. When India can provide skilled people to the outside world then we can transfer our country from a developing nation to a developed nation very easily and quickly.

Praveena Kodoth (2010) in her study "Globalization and higher education in Kerala: access, equity and quality" examines some of the significant constraints facing the undergraduate arts and science segment of higher education provided by the government and the private aided colleges in the context of crucial ongoing changes. The study was envisaged as an effort to map some of the basic dimensions of constraints and possibility. The study found that adequate facilities, availability of regular teachers and the quality of teaching are key factors in the provision of quality higher education. However, the problems faced by colleges are underpinned by the broader regulatory environment and by an unwieldy system. The problems in the current regulatory environment are linked to the external socio-economic and political factors, which shape the nature of the stakes that political parties or religious or caste associations have in the management or functioning of higher education. Thus, if the nature of politics on a campus is influenced by the stakes of political parties, lower stakes provide greater opportunities for the administration to foster an environment that is conductive to learning and to the production of knowledge. Thus, though remotely located government colleges suffer on account of poor basic facilities and unavailability of teachers they are still able to maintain greater discipline within the college and greater motivation among students and teachers. In the case of religious or caste associations, then nature of the

management differs according to the nature of the stakes it has in higher education. Thus, caste associations tend to be disinterested in the higher education process but are interested in the social and political clout it allows them to wield. Further, the vested interests of the political parties render it difficult for governments to shape and enforce regulation that would for instance make recruitment and admission procedures transparent. Instead, rival political groups focus on problems selectively in a way that is motivated to weaken one or other sector. The casualty in the process is a policy environment that would provide incentives to deliver quality higher education while also ensuring regulations that prevent profiteering or the use of education to dispense patronage. In this context, the current reforms are marred by the suspicion it has generated among the reputed private aided colleges that they are yet another effort to enable political interference in their affairs.

Ajith Kumar and K K George (2009) in their study "Kerala's Education System: From Inclusion to Exclusion?" examines the recent shifts in Kerala's education system from an inclusive to an exclusive one. The pendulum seems to be swinging from one extreme to the other, from a highly subsidized and a largely state-sponsored and state-supported system to a mostly self-financing system, a euphemism for a student-financed commercial system. This paper also examines the economic, social and political forces that led to this shift, almost tectonic in scale. It also examines the long-term consequences of such a shift to Kerala's economy and society.

Hong *et al* (2009) investigated the impact of public goods such as education on the per capita income and poverty reduction in India. Results show that the government expenditure on education and health has a large and positive significant impact on per capita income with substantial reduction in the poverty of the nation. The study concludes that other development expenditure also have significant positive effects on growth. However, it is only about one half of the share of spending on education and health.

Richard, Mussa (2009) investigated the factors that influenced the parental spending on children‟s primary education in Malawi. The study found that the level

of household income both in rural and urban areas had positively and significantly affected participation as well as expenditure on education decisions. The study proved that the elasticity of spending on education of rural households is more sensitive to the changes in income compared to their urban counterparts.

Kumar and George (2009) analyzed the impact of the mushroom growth of self– financing colleges in Kerala. They found that the reach of self–financing professional institutions is limited to only five to ten percent of the households in the state. They concluded that the influence of commercialization and communalization entered into the educational system has far reaching long term problems to the whole of Kerala society.

Anuradha De and Tanuka Endow (2008) in their paper titled ―Public Expenditure on Education in India: Recent Trends and Outcomes" examines major trends in public financing of education in India, including expenditures by the central and state governments, local bodies and the NGO sector. They looked at the amount and composition of public education spending, as well as the procedures for resource sharing, allocation, and usage, both in the aggregate and separately for the federal government and the states. They discovered that, whereas spending increased in real terms throughout the 1990s, it has remained stagnant since then. The share of public expenditure on education as a percentage of GDP has been less than 4%. However, the mix and modes of expenditure have changed dramatically. Education was once the responsibility of individual states, but in 1976 it was transferred to both the federal and state governments. According to the findings, the centre has become increasingly influential in state education funding. Centrally sponsored programmes, which are partially funded by foreign aid, have been an important aspect of center-state transfers. Expenditure trends in seven states are investigated to see if spending has an impact on educational outcomes. It shows that recent increases in education spending have improved access for less developed countries, yet retention and learning outcomes remain low.

Ghosh *et al* (2008) studied the impact of the composition of government spending on long run real growth on a panel data of 15 countries including India

over the period between 1972 and 1999. They found that the current expenditure is more productive than capital expenditure because of non–optimum level of capital spending. The study concluded that the expenditure on health and education had a negative impact on the growth rate mainly by the distorted incentive structure, bureaucratic inefficiencies and corruption inherent in these economies. The study added that existing projects rather than new projects are better to enhance the productivity with a given infrastructure.

James (2008) studied the contribution of age structure to the change in the economic growth in India. The study has found that, there is a clear, positive and significant relationship between age structure and economic growth. The study suggests that the educational achievements and health conditions of the people are far from the desirable position. The study concludes that the government should improve the health and educational conditions which can reap the real benefits of demographic dividend[1] to the country.

Ved Prakash (2007) in his study "Trends in Growth and Financing of Higher Education in India" addressed the challenges faced by the Indian higher education system in the face of a resource crunch. He attempts to provide an overview of trends in higher education expansion among states, gender, and social categories. He also discusses trends in higher education financing and the resources required to reach the aim of dedicating 6% of GDP to education. It claims that without adequate policy interventions in school education, initiatives at the higher educational level that discriminate against girls, SCs, and STs will be ineffective.He believes that the booming economy has elevated the aspirations of individuals from all walks of life, and that the system must respond by expanding access to meet these objectives. The economy also requires a huge number of highly educated workers. Unfortunately, public higher education expansion has halted at a time when it should have been accelerated to promote access. These trends must be reversed, and the government must step forward to establish new institutions while also strengthening current ones.

Quantitative expansion and qualitative improvement of higher education

should command highest priority in the policy discourse. It is important to note that the conventional system alone cannot do this job. Necessary convergence between conventional and distance modes has to be ensured besides bringing about qualitative improvement in all programmes of higher education.

Matsushita *et al* (2006) measured the contribution of education to the real per capita GDP in Australia over the period between 1969 and 2003. They found that the contribution of secondary enrolment to economic growth is negative because of their further schooling while the net outcomes were positively influenced by economic growth. The result shows that 13.7 percent of the annual growth in real GDP per capita is because of the quality of the labour force. The study concludes that secondary and higher education with a proper mix of vocational education are the important determinants of growth.

Anindita Chakrabarti and Rama Joglekar (2006) in their study "Determinants of Expenditure on Education: An Empirical Analysis Using State Level Data" examines the patterns and changes in the allocation of government funds for education, particularly higher education, over a span of two decades from 1980-81 to 1999-2000 across the 15 major states of the country before and after the introduction of the new economic policies. Contrary to general perceptions, education expenditure at all levels has been significantly lower after liberalisation vis-a-vis the pre-economic reform era. This is particularly detrimental for the vulnerable sections of the population particularly for females and backward social groups. It is evident that privatisation exerts a negative significant impact on expenditure on higher education. They focused on analyzing if there exists a structural break in pattern of expenditure during the pre- and post-economic reforms. Economic reform has certainly affected public expenditure on social sector in general and that on education sector in particular. Particular interest was to assess the income effect and that induced by liberalisation and commercialisation of higher education. States with a higher proportion of population belonging to SC, ST and with higher female to male ratio are found to incur significantly lower expenditure on education.

Jandhyala BG Tilak (2006) in his paper "On Allocating 6 Percent of GDP to Education" found under investment in education as one of the main reasons for failure in realising our educational goals and targets. The goal of investing resources equivalent to 6% of gross domestic product for education is achievable if political will exists. Education funding can be expanded by reallocating resources from other sectors, generating additional funds for the common pool of government finances, or a combination of the two. However, when it comes to allocating and reallocating resources in favour of education, a generous attitude is required.

George and Parvathy Sunaina (2005) in their study ―Dynamics of Change in Kerala‟s Education System: The Socio-economic and Political Dimensions" mentioned the dynamics of change in the educational sector of Kerala in the broad context of the dynamics of its economy, society and polity. It deals with the political and social forces, which have been impacting upon the State‟s educational system. The paper begins with a brief overview of the developments in the State‟s education, its distinguishing characteristics and the major issues, which have cropped up in recent years. The paper examines the trends in the educational finances of the State. It discusses some aspects of Kerala economy and society, which have a direct influence on the State‟s education system. Growth in State Domestic Product, structural changes in the economy, growth in employment and unemployment, international migration, demographic changes and State‟s fiscal crisis are some of the areas covered under this head. They found that the share of education in the State‟s budget has reached an all-time low precisely when the State Domestic Product has been recording all-time high growth rates. The vacuum created by the withdrawal of the State is now being filled by unaided self-financing institutions, especially in the professional educational sector. There is a paradigm shift in the State‟s education from an all-inclusive system attempting to reach education to all social and economic groups to an exclusive system, limiting access to the upper echelons of society. The pendulum seems to be swinging from one extreme to the other, from a highly subsidized and state sponsored system to a total student financing system. This shift in approach has the potential of undermining the

very Kerala Model of Development and is likely to have far-reaching adverse social and economic consequences.

Andreas Bergh and Guenther Fink (2004) in their study "Higher Education: Does Public Expenditure Increase Enrollment?" studies the impact of public education spending on student enrolment in tertiary education. It finds that public spending on basic and secondary education has a beneficial impact on tertiary enrolment rates, whereas the generosity of higher education subsidies has no meaningful impact on enrolment. The findings are robust to a variety of criteria, and they raise major issues about the distribution of public education resources within countries, which appears to be skewed toward higher education, particularly in less developed countries.

Salim (2004) analyzed the magnitude of entry barriers in the professional education in Kerala. He found that the parental costs are substantially higher for the joined students than for others. He argued that the lower income households with annual income of less than fifty thousand rupees secured only 14 percent of the seats in professional education. He found that against the mounting private costs, students of higher education got a meager help from the state as incentives.

Jandhyala B G Tilak (2001) in his paper‖ Higher Education and Development in Kerala" addressed the issue that despite high levels of literacy, social and human development, why could Kerala not transform itself into a prosperous developed state. It is argued here that the principal reason for this is the neglect of higher education in the state. Universal elementary education is a worthy goal and is necessary for development of the societies; but it does not provide the wherewithal necessary for economic growth. While reviewing the higher education scene in Kerala, this short paper examines some general premises, which are questionable, but are widely in circulation, and form the basis for policy formulation, relating to „over" expansion of higher education and financing of higher education.

Allen Roy, B. Kamaiah and M. GovindaRao (2000) in their study "Educational Expenditure of Large States: A Normative View" used the pooled data

for 15 large Indian states over the period 1992-93 to 1997-98 to estimate the normative (average) levels of expenditure on primary, secondary and higher education. The real spending on educational services in low-income states is shown to be less than their 'needs.' This study shows that India's existing fiscal equalisation mechanism has failed to compensate for the poorer states' revenue and cost challenges. As a result, their findings are consistent with the widely held belief that in terms of social sectors, rich governments spend more and poor ones spend less. The lone exception is Orissa, where higher education spending is much greater than the national average.

Shariff and Ghosh (2000) analyzed the various aspects and dimensions of public expenditure on education in India. They found that public expenditure on education as a percent of GNP declined from 4.1 percent to 3.8 percent during the period from 1990 to 1996. The decline in the share of elementary education was seen coupled with the reduction of per–pupil expenditure especially in low income states. The study recommended that central government should expand its role in contributing resources to poor states in the context of structural adjustment programmes.

Ahmad, Nighat (1999) in the study on "Economics of Higher Education in the State of Uttar Pradesh" analyses costs and financing of higher education. It evaluates the contribution of education to economic growth, then examines the impact of education on labour productivity, occupational mobility, income distribution, etc. It also deals with the financial aspects of educational system and analyses the costs of education and the methods of financing these costs. More specifically, the study aims at analyzing: (i) the placement of higher education in the scheme of plan priorities in Uttar Pradesh, (ii) costs of higher education, sources of finance and their relative significance in higher education in Uttar Pradesh, (iii) public expenditure on higher education in aggregated and disaggregated form, (iv) the process of budgetary allotment of funds and the procedure of grants-in-aid, (v) projection of financial requirements for higher education in Uttar Pradesh for the next 10 years and (vi) a blue print of alternative schemes of resource mobilization.

Mathew (1996) in his study "Financial Aspects of Privatisation of Higher Education: Issues and Options" argues that privatisation of higher education essentially means increasing reliance on private sources of educational finance in place of ever-increasing government subsidies. Given this, cost recovery becomes a major instrument of privatisation of education. He found that higher education offers ample opportunities for participation by both private and public sectors. The inadequacies or rigidities arising from exclusive reliance on either sector or any one form of private initiative can and should be corrected by diversifying the mode of financing. Whether individual institutions of higher education are formally classified as public/private or not, the most sensible option under the prevailing conditions in India is not only to broaden the financial base of higher education, but also to restructure higher education in terms of courses and content in order to make it more relevant (without, of course, neglecting basic sciences and research). Under no circumstances, however, the entire cost of providing higher education should be recovered from the immediate beneficiaries, which is exactly what the self-financing colleges seek to accomplish. Instead the students, supporting such as alumni, industry, philanthropists, foundations, trusts and endowments should be involved in financing education.

Jandhyala B. G. Tilak (1993) in his paper "Budgetary Reforms and Subsidies in Higher Education" attempts to show that (i) Rao's estimate on recovery rate in higher education is far from correct, (ii) Rao's plea for economic pricing of sectors like education is not based on sound principles of public finance, (iii) Rao's suggestion regarding the desirable level of recovery rate is neither desirable nor feasible in the broad socio- economic framework, and (iv) there are probably more efficient cost recovery strategy alternatives than the one suggested by Rao. The study questions Rao‟s finding on 1.7 percent cost recovery in higher education in India as unreliable estimate. It points to the necessity of more reliable estimates on the extent to which cost recovery can be made.

Salim (1993) analysed the institutional and private costs of higher education and the extent of its subsidisation according to the socio-economic status of the students. The major findings of the study were (i) The burden of the

government for providing technical education was much higher than in general education and its burden for a post-graduate student was much higher than that o£ a degree student (ii) The capital cost which had been the most neglected category in the study of educational costing, constituted a significant part 35 of the institutional cost of education, (iii) The private cost per student in technical education was only slightly higher at the degree level and substantially lower at the post- graduate level than that of general education, (iv) Higher education was heavily subsidized by the government and this policy had only aggravated the inequalities.

Daniel T. Layzell (1992) in his article ―Doing More with Less: The "New" Realities of Higher Education Finance" mentioned that Policymakers and the public increasingly view colleges and universities as organizations with infinite desires in a world of finite resources. A lengthy "wish list" is not necessarily bad in and of itself. From higher education's perspective, there are always more useful things to be done. This leads to a situation where the net total of academic program offerings continues to escalate and where fiscal and political difficulties begin. Unfortunately, higher education can no longer afford to be all things to all people. Instead, colleges and universities need to focus on doing better what they already do well. In the short run, they must set institutional priorities and make value judgments about specific programs, allocating resources to invigorate the high quality programs. In the long run, they must identify entire areas to be either fostered or eliminated.

Mathew (1990) in his study "Financing College Education in the Private Sector in Kerala" attempts an evaluation of the various sources of funds, both public and private, for the financing of private colleges in Kerala and the changes in the pattern and trends of financing over time. In the context of the generally held opinion that the phenomenal growth in the number of colleges during the last three decades has been accompanied by a qualitative deterioration in standards, the paper also discusses the relationship between the manner of financing and academic standards as judged by the professional qualifications of the teaching staff and examination results.

Ansari (1986) explored the relationship between the expenditure on

education and economic development in India. He finds that on an average an increase in the national income by `100 have led to an increase in total expenditure on education by 3.7 during the study period. The result suggests that the magnitude of additional expenditure on education associated with each unit of increment in national income has declined during the period under consideration. The study has also revealed that the growth of expenditure on education is largely determined by the increase in real income.

Ramanujam M.S, Manocha L and Bala M (1978) studied the pattern of expenditure and per student cost of degree and diploma courses. The objectives o£ their study were (i) to help the engineering colleges and polytechnics appreciate their relative patterns of expenditure(ii) to attempt a comparative analysis of the patterns of recurring expenditure at two different points of time (iii) to estimate the level of quality of each institution taken up for the study and (iv) to analyse the determinants of the pattern of per student expenditure. The study found that: (i) Expenditure on training constituted a major portion of the total expenditure of all engineering colleges. This was followed by expenditure on supporting services and that on welfare services. Further, salaries and allowances of all categories of staff accounted for nearly 65 per cent of the total expenditure.(ii) Per student expenditure estimates relating to undergraduate and post- graduate classes were very close to those observed in the case of llTs. Estimates of per student expenditure of undergraduate classes in the IITs were found to be far above those in the case of engineering colleges where predominantly undergraduate classes were organised.(iii) A relatively more stable pattern of per student expenditure was observed in government polytechnics than in non-government polytechnics.

Shah, K.R (1969) Examined the this study were (i) financial resources entering education in India (ii)the allocation of funds between various levels and types of education(iii) the performance of various levels and types of education (iv) the financing of education by public and private sectors (v) the growth of educational expenditure over the period 1950-51 to 1960-61 and (vi) the role of the private sector and the government in the financing of education according to level and type of education as well as according to institutions by management. The main

findings of the study were (i) The public sector had spent 2.9 per cent of the national income on education in 1965-66 and including private personal expenditure, the proportion came up to 4.5 per cent (ii) Total recorded educational expenditure in India increased by 204 percent in current prices over the decade1950-60 (iii) The share of elementary education in the total direct expenditure on education declined whereas that of secondary and higher education Increased over the decade and a half (iv) The direct expenditure, per pupil, of elementary schools declined by about eight per cent in real terms whereas that of secondary schools remained more or less unchanged and that of the college level showed an increase of 7.3 per cent (v) In 1965-66, the government share in the recorded educational expenditure was as high as 77.5 per cent (vi) The recorded direct expenditure per pupil in government schools, general and professional, and in government professional colleges, was higher than similar private aided institutions.

Research Gap

The above review on education particularly its expenditure and financing, reveals that there exists no comprehensive study on public expenditure on higher education in Kerala during the pre and post reform period. Hence there is a necessity of a study for analyzing the pattern of public expenditure on education in Kerala, the structural shift in government expenditure on higher education in Kerala during the reform period and the share of higher education expenditure in the SDP of Kerala. The present study makes a humble attempt to fill this gap.

Statement of the Problem

The proportion of expenditure on higher education in total education expenditure in Kerala has been declining over the years. It is also felt that the proportion of government expenditure on higher education in the GSDP of Kerala has been coming down during the last few decades. This was further accentuated with the introduction of new economic policy in 1991 and the government has been encouraging participation of private agents in sectors that hitherto have been public monopolies. This study mainly examines the role of government in spending on education particularly higher education. A priori, there is a structural break in the

trend and pattern of public expenditure on higher education in Kerala during the period since the introduction of reforms in 1991. A detailed review of available literature on government financing reveals that there does not exist an in–depth study regarding the impact of economic reforms on the education sector particularly higher education financing in Kerala. In this context, the study examines whether there exists a structural break in pattern of expenditure on education particularly higher education in the post liberalisation period. More specifically, a humble attempt is made at examining public expenditure on education with the following objectives.

Objectives

1. To discuss the development of higher education in Kerala since 1956
2. To examine the trend and pattern of public expenditure on higher education in Kerala and India
3. To find whether there exists a structural shift in government expenditure on higher education in Kerala and India during the reform period
4. To analyse the relationship between the GSDP and public expenditure on education

Hypothesis

1. There is no significant difference in the pattern of expenditure on higher education between pre and post reform periods
2. There is no structural shift in government expenditure on Kerala‟s higher education in the pre and post liberalisation period.
3. There is no significant relationship between the GSDP and public expenditure on higher education.

Methodology

Theoretical Perspective

Researcher considers education as an investment and expenditure on education in a country is basically the government responsibility. Education plays an

important role in the improvement of social sector in an economy. Education is treated as a public good and it is included in the concurrent list of Indian constitution, both Central and State governments have the responsibility to maintain quantity, quality, access and equity in education. Expenditure on education is a type of human capital investment because it will raise the skill and productivity of peoples and the economy can utilise this for economic growth and development. Utilising funds for education sector is an important determinant for the improvement of qualitative and skilled human resources in any country. For enhancing the human capacity, there is a need to promote higher education for better utilization of human resources. "As far as the higher education is concerned, it should be linked with the development of human resources and formation of human capital. In the present situation, it is observed that alleviation of poverty, giving the right direction to the youth etc. can be ensured through developing proper manpower planning which will enhance the scope of employability of our human resources" (Ritimoni Bordoloi,2012). Analysis of public expenditure on education is undertaken in this context.

Multiple approaches to education have been emerging since the distant past. Although it is difficult to think of any consensus on this issue, efforts can be made to understand the various points of view in order to evolve a strategy in line with the commonly agreed objective of human welfare and its relevance to the needs of the changing times. The development and improvement of human resources in our country requires limitless flow of funds. There are many sources for financing education like public and private funds but only through public funding the education was accessed by all sections and all parts of the country. Public sector funding includes expenditure incurred by the central government, state governments and union territories and local bodies. For the betterment of human resource development and the economic growth, the government both at the central and state levels must play an active role in the higher level of education. In our country we can see that the state governments spend a larger part of education expenditure rather than the central government.

Public expenditure is considered to be the main economic instrument in the

hands of governments to infuse the well-being of citizens of a country. Keynes has given more emphasis on the role of government and the fiscal policy in the growth and development of a country. According to Keynes through fiscal policy government fulfils the objectives like economic growth, price stability and productive utilisation of resources. The two important instruments of fiscal policy are public expenditure and public revenue; among them public expenditure plays an important role in the stabilisation policies of the government. The variation in public expenditure is not just a fact to ensure economic stability but also to generate and accelerate economic growth and also promote employment. Public expenditure can also be used to improve the income distribution and allocation of resources directly in the desired area and also to influence the composition of national product. Government can affect welfare with the help of public expenditure like expenditure in social security or in health and education. Analysis of public expenditure on education is made with this perspective in mind.

Components of public expenditure on any sector are divided as plan and non-plan expenditure, and revenue and capital expenditure. Plan expenditure refers to the expenditure, which is meant for the programmes and schemes that are planned for annual and five year plans. Plan expenditure is mainly incurred for the creation of assets and other infrastructure. But, non-plan expenditure is incurred on operating and maintaining existing infrastructure. Another classification of public expenditure is expenditure on capital account and revenue account. Capital expenditure is developmental in nature and made for the development of the society and economy. The grants under revenue account are made for giving salaries to public service holders etc. In India bulk of resources spent on education are on revenue account and small amount is spent on capital account. Capital expenditure and loans for education are quite meagre in comparison with the expenditure under revenue account.

Data and Tools

This study uses secondary data obtained from various published and unpublished sources. In order to analyse the trend and pattern of public expenditure

on higher education in Kerala and India, accounts from the annual budget estimates of the state and Central governments for pre and post reform periods were collected. Sources like Analysis of Public Expenditure on Education by Ministry of Human Resource Development and the Economic Reviews of Kerala State Planning Board were extensively tapped. Data were also collected from the publications of Directorate of Collegiate Education, annual reports of UGC and other secondary sources. Data were collected for the 45 year period from 1975/76 to 2019/20. Researcher was not able to obtain some data for a few years in between 1975/76 - 2019/20. However the general features in public expenditure could be identified, in spite of this gap in data on public expenditure. The period from 1975/76 to 1990/91 was termed as pre-reform period and the period from 1991/92 was identified as post reform or reform period. Expenditure on education by its levels and sub sectors from primary to higher education and among the states was discussed in detail. This is to find the focus of the Central and state governments to different levels of education particularly higher education. Expenditure data were analysed for the major states in general and between All India and Kerala in particular. Data were properly classified so as to serve the purpose of research. Usual statistical tools and regression techniques were applied in the context of examining our objectives. More specifically, hypotheses were tested by using Chow‟s Break Point Analysis, correlation and regression techniques along with Unit Root test, Man Whitney U test, Durbin-Watson test, „t‟test and F test. Null Hypothesis is tested against its alternative. Hypothesis about the difference in growth of public expenditure on education was tested by using non parametric tests with the mean ranks in expenditure. Both Mann-Whitney U and Wilcoxon W tests were applied by using mean ranks in expenditure.

Significance of the Study

Higher percentage of government expenditure on education shows high government priority for education relative to other public investments. To assess government's emphasis on education relative to its investments in other sectors, an analysis of government expenditure is worthwhile. This indicator is useful to assess the extent of government priority for education over time in India in comparison

with its states and other countries. On the whole, it is expected that the study would be useful to the policy makers in framing suitable policies in their attempt to reform higher education for ensuring access, equity and quality of higher education.

Scheme of the Study

The study is divided into seven chapters. Chapter 1 introduces the problem with the research review and research gap, objectives of the study, hypotheses, methodology and relevance of the study. Chapter 2 illustrates the development of higher education in Kerala during pre and post liberalisation periods. It also discusses the growth of higher education in terms of number of institutions, faculties and enrolment. Chapter 3 analyses the trend and pattern of government expenditure on higher education by the centre and states of India in general and Kerala in particular. Chapter 4 discusses the structural shift in public expenditure on higher education in India and Kerala during the reform period. It also gives a brief account of the factors determining the decline in public expenditure on higher education in Kerala. Chapter 5 examines the relation between the GDP and public expenditure on education. Chapter 6 summarises major findings and draws conclusion.

CHAPTER II

DEVELOPMENT OF HIGHER EDUCATION IN KERALA

The present chapter focuses on development of higher education in Kerala during pre and post liberalization periods. It also discusses the growth of higher education in terms of number of institutions, faculties and enrolment. The chapter is divided into two sections. First section focuses on Kerala higher education before the introduction of reforms in 1991 in terms of introduction of universities and colleges in different parts of Kerala. Second section deals with higher education in the post reform period in terms of number of institutions, student enrolment and teachers.

Development of Higher Education in Kerala during Pre- Liberalisation Period

Institutions of higher learning had existed in Kerala as early as 1813(See Mathew, 1991:20-31). Throughout the 19th century the government played the leading role in the growth of higher education. The earliest among the colleges was the Syrian College (now in the name CMS College) at Kottayam established in 1813 - as a Seminary - by Pulikottil Ittoop Ramban with the help of the Travancore Government. The institution was upgraded into a second grade college in 1892. In 1836 the government of Travancore started an English School (His Highness the Maharaja's Free School) in Trivandrum which was upgraded into a college and named Maharaja's College (Aiya, Vol.II, 1906:447) in 1867. The girls‟ school established by the government in Trivandrum in 1864 was raised to a second grade college in 1896. These two colleges are now known as the University College and the College for Women respectively. The government Sanskrit College was started in 1889 at Trivandrum. The English school at Nagercoil (now in Tamil Nadu) founded by Rev. Mead in 1818 was upgraded into a second grade college in 1893. Thus at the end of the 19th century, Travancore had five institutions of higher learning, three government and two private.

In 1845, an Elementary English school was founded in the state of Kochi in

1845 and it was upgraded to the status of a second-grade college in 1875, offering degree courses through Madras University. It was further upgraded to a first-grade college by name Maharaja's College in 1925. In this year, St. Theresa's College for women was founded in 1925. In 1927, it was designated as a first-grade college. Despite the fact that these universities were founded by Christian missionaries, the Kochi government provided generous financial support.

In Malabar, the oldest among the colleges was the Zamorins' Guruvayurappan College established in 1879 which had also been started as a school in 1877(Innes, 1908:283). The Palakkad Rate School was founded in 1866, which became a second-grade college in 1888 under the supervision of the local municipality. In 1919 the Madras Government took over the college and renamed as Government Victoria College. It was upgraded to a first-grade college in 1925. The Brennen College, Tellicherry established originally as a school in 1862 (with Rs.12,000 left over by E Brennen, Master Attendant at Tellicherry), was raised to a college in 1890. Though the management of the school was under the Basel Mission, it was taken over by government in 1872 and later upgraded into a second grade college (Sreedhara Menon, 1988:636). The first private college by name St.Thomas College was founded in Thrissur in 1919. In all, by the turn of the 19th century there were eight Arts and Science colleges in Kerala. Of these only two (CMS college and Guruvayurappan College) were in the private sector. Besides these eight, there were four colleges - one each in Sanskrit, Ayurveda, Law and Teachers' training, all in the Travancore area.

Like in the 19th century, the expansion of higher education continued to be slow during 1900-1947. The government of Travancore constituted a university committee in 1917 which submitted its report with the reasons for the establishment of a university in our state but the committee could not complete the process of establishment of university because of the changing political situations of the state. In March 1920 the committee was dispersed with the government order. In 1923, a new committee was formed under the chairmanship of Krishna Aiyangar. The committee put forward the idea of a university for the Malayalam speaking people with headquarters in Trivandrum and the regional centers in Cochin and Malabar.

In 1932, another Education Committee under the chairmanship of R.M. Statham was appointed to enquire into the status of higher education in the state and advice the Government with regard to the reforms to be introduced by it. The committee was not in favour of establishing a University immediately due to the requirement of huge capital investment for the same. But the recommendations included various aspects to be taken into consideration in the event of the establishment of a new University. In 1937 the Travancore Government appointed C.V. Chandrasekharan, the Director of Public Instruction, as Special Officer to prepare a note on the proposed University. The personal relationship between the Diwan Sir C.P. RamaswamyAiyar and the Prime Minister of Madras state C. Rajagopalachary, helped to get rid of the obstacles. Their hard work was succeeded when Maharaja issued a royal announcement in November 1937 for establishing the Travancore University. During the period 1900-1947, 14 Arts and Science colleges came into being. But in contrast to the earlier period during which only two out of the eight colleges were in the private sector, the corresponding proportion for 1900-1947 was 11 out of 14. Thus the private sector got the upper hand (Mathew, 1991:24).

With the attainment of independence, the pent-up aspirations of the people had resulted in the phenomenal growth of educational institutions and enrolment in the state. In this process of expansion, it was University education which grew more rapidly than school education. The growth in University education has been perhaps the fastest and the most pronounced in Kerala. The ever-growing demand for higher education persuaded the government to seek ways and means to meet the demands of the student population. These efforts resulted in the opening of more colleges, introduction of the shift system, sanctioning of more seats, starting of new courses and introduction of correspondence courses and private registration (Salim, 2002). The period also witnessed the introduction of direct payment to teachers in the private colleges of Kerala. During 1956-68 as many as 76 colleges were established. Interestingly, out of the 93 colleges established during 1948-68 only four were in the government sector.

In 1957, the Kerala government established a few government-run colleges

and allowed private organisations to open colleges. In 1964, the private sector launched 42 colleges, with Malabar accounting for over half of them. As a result, the volume of work at Kerala University expanded dramatically. The construction of a new university in Malabar was seen as necessary in this environment. Calicut University was formed as a result of an Ordinance issued by the Governor of the State in 1968.The University's territorial authority was limited to the five northern districts of Kerala from Kannur to Thrissur (The districts of Kasaragod and Wayanad were included only later). The Kerala University disaffiliated the colleges located in these districts. Trichur's Kerala Agricultural University was founded in the early 1970s. The University of Cochin was established in 1971 with the goal of advancing science and technology. The Mahatma Gandhi University, with its headquarters in Kottayam, was formed in 1983 by an Ordinance promulgated by the Governor. The Kerala Legislature passed the M.G. University Act in 1985. The new university has authority over the districts of Kerala. These were once under the control of Kerala University. Between 1969 and 1987, 52 new colleges (22 governments and 30 private) were established.

An interesting feature in the evolution of higher education in Kerala during the period since 1969 is the opening of government colleges in large numbers. Such a departure in policy was the outcome of the severe public criticism levelled against the manner in which colleges were managed by private agencies. Another reason for the shift in policy was the attempt of the government to start colleges in educationally backward and remote areas of the state in which private sector was initially hesitant to start colleges (Mathew, 1991:30). For instance most of the government colleges started during the period since 1969 were in Malabar. However, Malabar still lags behind Travancore and Cochin in terms of higher educational facilities.

Several factors have contributed to the growth of higher education in Kerala since independence. Firstly there was considerable suppressed demand for higher education in Kerala even from the beginning of the present century. After independence, efforts were made by the successive governments for raising educational facilities. But the most prominent factor was the pressure exerted on the

government by the major communities such as Christians, Nairs and Ezhavas for sanctioning new colleges. The rivalry that existed among them in socio-economic matters meant that any concession granted to one community had to be matched by counterbalancing concession to the others. Therefore the development of higher education in Kerala has not been based strictly on any rational criteria; rather, most of the times the policies were purely ad hoc. The development has followed the vicissitudes in the power structure of the socio-economic and other community interests of the state. However it should be mentioned to the credit of the people in Kerala that the policy of appeasing various community interests has not led to the strengthening of communal and caste conflicts (Salim, 2002).

The educational scene in Kerala has been dominated by private institutions, mainly by Christian missionaries and other community organizations (Tharakan, 1984; Nair, 1981). The contributions made by these agencies are laudable because they helped vast sections of the population to liberate themselves from the clutches of caste and religion and attain social and economic mobility through education (Nair, 1981).

Efforts at Reforming Higher Education during the Pre-Liberalisation Period

University Bill of 1967

Similar to the case of private school teachers, salary and service conditions of private college teachers had also remained deplorably poor till about the 1960s. Victimisation of teachers by management was common. The counterparts of private college teachers working in government colleges had better pay and service conditions. The government had no voice over the appointment of teachers in private colleges though it had to meet a large share of the expenditure by way of grant-in-aid. Private College teachers had become highly unionised and had begun agitating for a better deal. These were the major factors which prompted the government to introduce the first comprehensive University Bill of 1967 which became the University Act of 1969 (Sathyaseelan, 1989:134-5). The bill was aimed at increasing the control of government over the Universities and the private

colleges of Kerala. But the managements could not tolerate the idea of external interference in the administration of their colleges, particularly in regard to appointment of teachers, disciplinary control over them and payment of salary. The Bill also had empowered the government to take over the management of private colleges for five years or even acquire them on payment of compensation whenever it appeared to the government that in the public interest it was necessary to do so (Sathyaseelan, 1989:136). Owing to a series of agitations led by the Christian, the NSS and the S N Trust managements, the clause for the permanent takeover of the private colleges was deleted.

Direct payment Bill, 1972

In 1971, the private college teachers started an indefinite strike demanding direct payment by the government. This demand was linked with another outstanding demand of the students for unification of fees. To meet the situation the government issued an ordinance in June 1972, under the Kerala University Act, fixing uniform fees in affiliated colleges. The managements immediately protested against the move on the ground that they would find it impossible to run their colleges on the unified rates and the measure would enhance their losses. Therefore, they demanded additional grants for private colleges to compensate the loss. The government showed the rare courage of expressing its readiness to take up the responsibility of paying the salary of private college teachers direct to them from the state exchequer provided the managements agreed to forego their unfettered freedom in the selection of students and teaching staff. This attempt enraged the managements which resorted to agitation for nearly two months. Finally an agreement was reached in August 1972 between the management and the government. The agreement drastically emaciated the privileges traditionally enjoyed by managements. It envisaged unification of fees, reservation of seats for backward classes, remittance of tuition fees collected into the treasury, payment of salary of teachers and non-teaching staff by the government and constitution of selection committee for appointment of teachers in all private colleges (Sathyaseelan, 1989:141). These were the controls which the management had been opposing tooth and nail.

Kerala University Bill and the Act of 1974

The government moved forward with the policy of reorganising higher education. In 1974 it sought the right to regulate and coordinate the working of affiliated colleges. It also wanted to have a say in the constitution of governing bodies, appointment and service conditions of teachers and library and laboratory facilities. With this view, the state Assembly passed the Kerala University Bill of 1974. The bill provided for the constitution of a 10-member Board of Management to run the affairs of an erring private college for a maximum period of two years and the withdrawal of grant or affiliation of the private college. It also provided for security of service of teachers, restriction of disciplinary action taken on them by the management, and protection of their civic rights (Sathyaseelan, 1989:142). The private college management could not tolerate any external interference in the administration of colleges. They contended that the bill would transform their colleges into constituent colleges and violate the right of establishing and administering educational institutions of their choice guaranteed by the Constitution and hence was unconstitutional. In spite of the protests of management and some constituents of the ruling party, the Bill was finally passed in April 1974, and became the University Act in 1974. The bills of 1967 and 1974, the introduction of direct payment and the unification of fees in 1972, have brought some degree of order and discipline in the field of higher education in Kerala (Salim, 2002). As a result, the service conditions including pension of the staff in the aided schools and colleges, were brought same as those of their counterparts in the Government-run institutions. However the authority to appointment of teachers in the aided schools and colleges, however, is kept by the management, while the Government pays the salary and all other benefits (Tilak, 1991).

Growth of Higher Education in the Pre-liberalisation Period

Higher education witnessed significant growth in terms of the number of institutions, enrolment, number of teachers and the number of private registrants during the period since the formation of the Kerala State (See Tables 2.1, 2.2, 2.3 and 2.4). The total number of colleges increased from 47 to 223(5 times); the

number of Arts and Science Colleges rose from 28 to 172 (more than 6 times); enrolment in Arts and Science Colleges rose from 22254 to 350830 (16 times); the number of teachers in the Arts and Science Colleges more than doubled from 6291 to 13857 (more than two times) during 1970/1 - 1990/91; the number of private students registering for courses in Arts, Commerce and Mathematics went up from 114797 to 117394 during 1987 to 1990. Regional variations in pupil-teacher ratio in schools and colleges, enrolment in colleges and private registration are not discussed for want of reliable secondary data. Interestingly, out of the total number of colleges in 1990/91, more than 77 percent were Arts and Science colleges. The fact shows that general education receives the greatest attention and that technical and professional education suffers from relative neglect. Owing to such lopsided development of higher education, the outflow of Kerala students to neighbouring states for technical and professional education has been growing rapidly in recent years (Salim, 2008). The supremacy of the private management in the Arts and Science college sector is much more than in the school sector. Out of the total 223 colleges in Kerala in 1990/91, 132 colleges (77 percent) were in Aided Sector.

Table 2.1

Number of Colleges by Types of Management in Kerala, 1956/7-1990/91

Year	Total*			Arts & Science Colleges		
	Government	Private	Total	Government	Private	Total
1956/7	20	27	47	-	-	28
1957/8	25	47	72	-	-	28
1960/1	24	58	82	-	-	46
1965/6	27	96	123	-	-	100
1970/1	27	134	161	12	105	117
1975/6	33	138	171	23	105	128
1980/1	54	135	189	30	104	134
1985/6	-	-	221	40	132	172
1990/1	-	-	223	40	132	172

**Excluding unaided colleges*

Source: Government of Kerala, Statistics for Planning, Relevant Years; Economic Review, Relevant Years; Salim, 2002.

Table 2.2

Enrolment in Colleges in Kerala, 1956/7-1990/91

Year	Arts &science				Professional
	Pre-Degree	Degree	Post-Graduate	Total	Total
1956/7	-	-	-	22254	-
1965/6	-	-	-	102841	6305**
1970/1	-	-	-	163434	7556
1975/6	101546	59255	5770	166571	-
1980/1	148867	87467	5866*	242200	15938
1990/1	210643	129735	10452	350830	28091
1997/8	224529	147244	13280	385053	--

**Excluding students in university department, **for the year 1960/1*

Source: Government of Kerala, High Level Committee on Education and Employment, Vol.II, 1984:3; Statistics for Planning, Various Years; Salim, 1992:5; Economic Review, 1998.

Table 2.3

Number of Teachers in Arts and Science Colleges in Kerala, 1970/1-1990/91

Year	Government	Private	Total	Teacher-Pupil Ratio*
1970/1	850	5441	6291	26.0
1975/6	1260	6608	7868	21.2
1980/1	1784	8390	10174	23.8
1985/6	2372	11002	13374	-
1990/1	2376	11481	13857	25.3
1995/6	--	--	13520	20.9

Source: Government of Kerala, Statistics for planning, 1993:231; Economic review 1998.

Table 2.4

Number of Private Registrants by Stages in Kerala, 1987-1990

Region	1987	1990	1994
Pre-degree	71792	71091	114797
Degree	21170	34259	39055
Post-Graduate	7401	12044	14494
Total	**100363**	**117394**	**168346**

Source: Government of Kerala, Statistics for planning, Relevant Years; Economic Review, Relevant Years.

The developments in higher education in Kerala in the pre reform period reveals that the state has moved forward in the number of institutions, enrolment and the number of teachers. Burt the focus in this period was on Arts and Science college sector; the technical and professional education was not given adequate importance. This realisation has come to the successive governments and in the reform period more attention was given for the development of technical and professional education, but with a focus on self -financing.

Development of Higher Education in Kerala during Post Liberalization Period

The expansion of higher education in Kerala has been significant since the introduction of economic reforms in 1991. In fact, it is phenomenal since 1995. This has been mainly due to the policy shift of the government towards the self- financing sector and the starting of self-financing colleges which offer courses for engineering, medical and para-medical, management, computer Science, etc. There was also an increase in the number of self-financing or unaided Arts and Science colleges offering courses especially in the non-conventional subjects. Besides, a number of government and aided colleges themselves started conventional and non-conventional courses which were largely unaided by the government (Salim, 2018). There is "the rapid increase in the number of „non-formal‟ educational institutions offering job-oriented courses and running purely on commercial lines. There is no

reliable statistics of the number of these colleges or the students enrolled in them. However, there are reasons to believe that their number is not small (Kumar and George, 2009).

In the year 1994 the University of Sanskrit was established with the demand for establishing a university for the exclusive promotion of Sanskrit. The University had jurisdiction over the entire State of Kerala.By that time, the people of northern Kerala had expressed the demand for a university in their region and consequently the Malabar University was created in 1995. In 1996, the university's name was changed to Kannur University. It is a residential university with a broader affiliation. Aside from these institutions, other professional colleges for higher education in Engineering, Medicine, Agriculture, and Veterinary Sciences now exist.

In terms of tertiary education infrastructure, there are 17 university level institutions, including one central university and 14 state universities in Kerala in 2018. There also exists nearly 1212 colleges including 219 Arts & Science colleges, 164 Engineering colleges and 24 Medical colleges in Kerala (KSPB, 2018). Ernakulam (26) had the largest number of arts and science colleges in the State followed by Kottayam (23). Thiruvananthapuram and Kozhikode have the largest number of Government colleges (10) in the State. And the least is shared by Kasaragod and Wayanad. Ernakulam district is also having the largest number of Engineering colleges (32) and the least is in Wayanad.

The distribution of higher education is uneven among states. India has a total of 35525 colleges in 2012-13 (Table 2.5). The state of Uttar Pradesh, the most populous state in India, has the highest number of colleges (5048) followed by Maharashtra (4369). Kerala is a small state with 1062 colleges. Compared to other big states in India, 1062 colleges in Kerala is an impressive figure. The number of colleges per lakh population is a better indicator of access to higher education and availability of colleges to new school graduates. Andhra Pradesh occupies the highest position (44) in terms of colleges per lakh population and the position improved (45) in 2018/19. There are 34 colleges per lakh population in Kerala which increased to 45 during the period. This is also a strong indicator which reveals

that the distribution of higher education institutions in Kerala is much fair compared to other states.

Table 2.5
Number of Colleges per 100,000 Populations in India and Major States (18-23 Years), 2012-13 & 2018-19

States	2012-2013		2018-2019	
	No. of Colleges	**Colleges per lakh population**	**No. of Colleges**	**Colleges per lakh population**
All India	35525	25	39931	28
Andhra Pradesh	2527	44	2678	49
Kerala	**1062**	**34**	**1348**	**45**
Maharashtra	4369	33	4340	33
Uttar Pradesh	5048	21	7078	28
Bihar	665	6	840	7

Source: MHRD (2012a); (MHRD, 2014a): MHRAD (2019 Table 1); MHRD (2019 Table 4)

The number of unaided colleges was less in number during 1991 and their presence was evident only in *Ayurveda* colleges and B.ED colleges (Table 2.6). Later, the number of unaided higher education institutions had increased and then, about 560 unaided colleges appeared in Kerala by 2011. At the same time aided colleges also showed positive growth. Number of higher education institutions under government sector has increased only in engineering, nursing and polytechnic colleges. By 2011, almost 61 percent of the total institutions were professional and technical in Kerala. Overall, there is a massive rise in engineering and medical colleges, predominantly in the self-financing sector.

Table 2.6

Growth of Higher Education Institutions in Kerala, 1991- 2018

Type of Institution	1991				2011				2015				2018			
	Govt.	Aided	Unaided	Total	Govt.	Aided	Unaided	Total	Govt.	Aided	Unaided	Total	Govt.	Aided	Unaided	Total
Arts & Science College	40	132	0	172	40	150	160	350	58	152	234	444	66	174	621	861
Engineering Colleges	5	3	0	8	9	3	130	142	9	3	163	175	9	3	171	183
Medical/Nursing/Dental/ pharmacy/Ayurveda/ Homeo	21	11	1	33	25	18	139	182	-	-	-	247	43	142	193	408
B.ED Colleges	4	17	40	61	4	17	147	168	-	-	-	170	4	106	41	188
Polytechnics	26	6	0	32	43	6	9	58	-	-	-	66	45	6	23	74
Total	**96**	**169**	**41**	**306**	**124**	**216**	**560**	**900**	**-**	**-**	**-**	**1102**	**248**	**204**	**828**	**1280**

Source: Compiled from Anvar, P (2016); Controller of Entrance Examinations, official website of Technical Education, 2016; KSPB, Economic Review, 2015 and 2018, MHRD 2019 http://highereducation.kerala.gov.in/

Over a period of 25 years from 1991, the state had gradually moved from a public funded system to a private funded one; the share of self-financing private colleges rose from 13percent to 62 percent. The number of higher education institutions further increased from 306 in 1991 to 900 in 2011 to 1102 in 2015 and to 1280 in 2018, an increase of 318 percent within a period of 27 years. Of the total number of colleges, 37 percent constitutes Arts and Science colleges. Number of colleges under various arts, science and commerce courses had increased from 172 in 1991, 350 in 2011, 444 in 2015 and to 621 in 2018. It shows an overall increase of 261 times during the period (Table 2.6). The number of engineering colleges rose to 183 during the period; medical/Nursing/Dental/pharmacy/Ayurveda / Homeo colleges increased to the extent of 53.03 percent. B.Ed colleges rose by 11.9 percent and polytechnics by 12.12 percent. However, number of Polytechnic and ITI colleges was less in number.

Number of students passing out of secondary school education had influenced the demand for engineering courses and further it increased the demand for engineers. Until 2001, sanctioned intake and actual intake were almost at same level. But this trend has started changing from 2002 onwards by diverging the two from each other. In other words, the actual intake has considerably become less than the sanctioned one. Then again, the two have started moving in tandem from 2006 onwards (Table 2.7). After 2008 the gap widely increased mainly due to the proliferation of colleges and courses which are mostly conventional and poor quality. Number of engineering colleges had increased significantly. About 29 new colleges were sanctioned during in 2002. From 2002 onwards, there was a gradual increase in the number of self-financing colleges in the state. But its growth was faster in the second decade of the 21st century. Almost all these new colleges are self-financing colleges in the private sector. Usually this becomes a subject for violent debate, which results in discussion on the consequences of privatization of education and its repercussions on quality of instruction.

Table 2.7

Number of Engineering Colleges in Kerala, with Sanctioned and Actual Intake, 1991-2018

Year	Number of engineering colleges	Intake	
		Sanctioned	Actual
1991	9	2810	2795
1995	16	3930	4441
2000	36	8820	8739
2001	45	11293	11147
2002	77	18280	16143
2003	81	19889	16563
2004	87	23643	16837
2005	91	24526	21857
2006	91	26349	25471
2007	91	28578	27975
2008	94	30069	29635
2015	175	58165	37007
2017	180	56139	34467
2018	183	57100	30195

Source: NTMIS nodal centre for Kerala; KSPB, Economic Review, various years.

Privatization of higher education is one of the main reasons for increase in number of professional courses. The significant growth in the number of professional and technical institutions in Kerala reflects the attitude of the people towards these courses which is expected to give more skills and employability. But in reality many of these new-born institutions are no way different from the old which offer conventional and less skill oriented and non-practical courses. Innovative and experimental courses are very few in new born colleges; hence large number of seats in these institutions remains vacant. For instance in 2015/16, nearly 25000 seats (almost 40 percent) in the private self-financing engineering colleges remained vacant without students. However, it is interesting to find that all the seats in the government and aided colleges under the Directorate of Technical Education were filled in 2015/16. The factors contributing to this paradoxical situation need to be found by an in-depth understanding of the issue.

Further a close look at the distribution of technical institutions (Tables 2.8 and 2.9) reveals a sincere attempt from the part of the government to bring job orientation to the youth of Kerala. Table 2.9 indicates that in 2015 only 38 percent are Arts and Science colleges while the rest are professional and training colleges and in 2018, no significant shift is seen in this ratio. Table 2.10 reveals that only seven percent of the technical institutions under the government control are engineering colleges while 30 percent are polytechnics and 89 percent are technical high schools and institutes of fashion designing. Thus there is an attempt to offer new generation courses under technical education. It is interesting to find that seven polytechnics with the courses which are more suitable to girls are started in different parts of Kerala for proving safer and employable education to women**.** The establishment of IIT in Kerala in 2015 helped the State to take a leap forward in the higher educational front. The new IIT was established in Palakkad district by the Central government in the land provided by the state government. It is expected that the new IIT can overcome the qualitative and quantitative backwardness in technical education, and Research and Development in the State. The inception of new IIT can also facilitate strong linkage with industries and thereby promote industrial and overall development of the State.

Table 2.8

Distribution of Colleges in Kerala by their Types, 2015- 2018

Type of college	2015		2018	
	No. of colleges	Percent	No. of colleges	Percent
Arts/science/commerce	444	37.72	821	46.27
Professional (engineering and medical)	422	35.85	591	33.31
Polytechnic colleges	66	5.62	74	4.17
ITI colleges	75	6.37	100	5.63
Bed Training colleges	170	14.44	188	10.58
Total	**1177**	**100**	**1774**	**100**

Source: CEE official website, Official Website of Technical Education, 2016, 2018; KSPB, 2018

Table 2.9

Institutions under Directorate of Technical Education in Kerala, 2015- 2018

Institutions	2015		2018	
	Nos.	**Percent**	**Nos.**	**Percent**
Govt. Engineering Colleges	9	5.43	9	5.43
Private Aided Engineering Colleges	3	1.80	3	1.80
Govt. Polytechnics	36	21.70	38	22.61
Govt. Women‟s Polytechnics	7	4.21	7	4.21
Govt. Aided Polytechnics	6	3.61	6	3.61
Fine Arts Colleges	3	1.80	3	1.80
Govt. Technical High Schools	39	23.50	39	23.50
Govt. Commercial Institutes	17	10.25	17	10.25
Govt. Institutes of Fashion Designing	42	25.30	42	25.30
Vocational Training Centers	4	2.40	4	2.40
Total	**166**	**100**	**168**	**100**

Source: KSPB, Economic Review 2015, 2018; percentages calculated by the author

Table 2.10

Number of Teachers in Arts & Science Colleges under Universities in Kerala (2012-13 to 2017-18)

Universities	2012-13			2017-18		
	Male	Female	Total	Male	Female	Total
Kerala	1221	1534	2755	1079	1597	2676
Mahatma Gandhi	1624	1730	3354	1408	2013	3421
Calicut	1454	1359	2813	1403	1613	3016
Kannur	439	324	763	407	349	756
Total	4738	4947	9685	4297	5572	9869

Source: KSPB, Economic Review 2015, 2018

Higher Education Enrolment in Kerala

GER in Higher education in India is calculated by dividing the total enrolment in higher education by total population in 18-23 age groups. The gross enrolment ratio (GER) of higher education in Kerala was low at 22.9 percent in 2012/13; some districts in Kerala were having low GER that was below 12 percent. Malappuram had the lowest GER (8.04 percent). The GER among women, scheduled castes and scheduled tribes in Kerala was higher than the ratio in India as a whole. In 2012-13, the GER among women was 26.9 per cent compared to 18.9 per cent among men. Kerala is the only state where the enrolment favours women. Further, inequality in educational attainment across individuals, calculated using the education Gini index is projected to be very low in Kerala at 7.66 percent as against the all India average of 9.95 percent in 2002-03 (Varghese, 2015). Further in 2002/03, among the major states in India, Kerala's position was 6th while in 2012/13 it was relegated to 11th position (calculated from Varghese, 2015).

About 9.5 percent of graduates of the total population in 2010 were in Kerala (NSSO, 66th round). It was eight percent in Tamil Nadu, Karnataka and Andhra Pradesh. In India, there was four times increase in the enrolment in higher education; it was 1.7 lakhs in 1998-99 and but increased to 7.2 lakhs in 2012-13. Things began to improve since 1998/99. The GER in higher education in Kerala increased to 22.9 percent in 2012-13 from 9.95 percent in 2002/03 and 5.9 percent in 1972-73. In the year, Kerala‟s GER in higher education exceeds the national average of 21.2 percent. In 2018, it has considerably improved to 36.2 percent in Kerala and 25.8 percent in India (MHRD, 2018).

Enrolment and Nature of Courses

Table 2.11 shows that the total number of students enrolled in various Arts and Science colleges (excluding unaided colleges) under the four general universities in Kerala during 2014-15 was 2.27 lakh. Of this 1.56 lakh (68.66 percent) were girls. Interestingly the representation of girl students for science courses is almost 73 percent. In 2017/18, the percentage of girls had further improved to almost 79 percent. It is interesting to find that for BA courses, the

representation of girls is almost 90 percent. Thus the campuses in Arts and Science colleges are flooded with girls. In this context, it can be observed that there is a general apathy from the part of boys towards conventional system of education which offer not many chances for employment. Boys generally prefer skill oriented and short-term courses which offer better chances of employment in spite of these courses fetching low salaried menial jobs. And boys have no patience to undergo long duration conventional courses.

Table 2.11 further exhibits that out of the total students enrolled for degree courses, 43.01 percent are enrolled for BA degree courses, 40.19 percent enrolled for BSc and 16.80 percent enrolled for B.Com degree courses. More students are enrolled in BA course and then in B.Sc. course. In 2017/18, the students going for BA courses declined to 38.7 percent while those enrolled for B.Sc. increased to 42.6 percent and those registered for B.Com rose to 18.7 percent. Both financial and non-financial factors are responsible for this. Children from middle and poor families prefer to join for courses which are more economical and suitable to their educational background. Children from such families lack strong academic capabilities, proficiency in language, soft skills etc. Therefore, they prefer BA/B.Sc. courses and some prefer B.Com. Twenty seven subjects are offered for BA degree courses. Among the subjects, Economics has the largest number of enrolment of students. 31 subjects are offered for BSc course and the Mathematics has the largest number of student enrolment.

In Technical education sector in Kerala, 88.07 percent of the seats were in conventional streams like Electronics and Communication, Mechanical, Civil, Computer Science and Electricals and Electronics (see Table 2.12). Seats for new generation branches like Diary Science and Technology, Agricultural Engineering, Food Technology, Printing technology, etc. are very few; that too in self-financing sector. Most of these new generation courses are given by the self-financing institutions and the fees and other academic costs of these courses are heavy; the economically deprived students can't afford the new generation and job oriented courses

Table 2.11

Enrolment of Students in Arts and Science Colleges in Kerala, 2014-15 to 2017-2018

Course	2014-2015				2017-2018			
	Total Students	**Girls**	**Boys**	**% of Girls**	**Total Students**	**Girls**	**Boys**	**% of Girls**
BA	97415	64993	32422	66.72	92753	83356	9397	89.87
B.Sc.	91038	66676	24362	73.24	102134	76699	25435	75.10
B.com	38047	23851	14196	62.69	44732	28369	15700	63.43
Total	**226500**	**155520**	**70980**	**68.66**	**239610**	**188424**	**50532**	**78.64**

Source: Directorate of Collegiate Education (2015, 2018)

Table 2.12

Seats in Engineering Colleges in Kerala, 2015-16 to 2017- 2018

Name of Course/Branch	2015-16		2017- 2018	
	Total Sanctioned Seats	**Percent**	**Total Sanctioned Seats**	**Percent**
Conventional Engineering Courses*	51293	88.07	49835	87.27
New-born Engineering Courses**	6944	11.93	7265	12.73
Total	**58237**	**100**	**57100**	**100**

Source: Salim, 2018. includes Civil, Computer Science, Electronics and Communication, Electricals and Electronics and Mechanical.*

*** includes Agricultural Engineering, Bio-medical Engineering, Bio- Technology, Chemical Engineering, Diary Science and Technology, Industrial Engineering, Polymer Engineering, Printing Technology and so on.*

The states that have a high share of private unaided colleges also have a larger number of colleges per lakh population. For example, the share of private unaided colleges in 2012-13 is 81.6 percent in Andhra Pradesh (Table 2.13) and this state has the largest number of colleges (3821) per lakh population. States having predominantly public universities and colleges have a lower density of institutions. Sikkim is the state which has the lowest number of colleges (11) and more than half

of them are under government management (54.5 percent). Among 820 colleges in Kerala, only 19.3 percent is under government, but 57.8 percent is private unaided colleges. Within a period of six years, the all India share of self-financing colleges increased and reached the level of 64 percent and the same is the situation for Kerala also. Thus, it shows the increasing predominance of private colleges in Kerala.

Table 2.13
Number of Higher Education Institutions by Management in Kerala
(2012-13 & 2018-19)

States	2012-2013				2018-2019			
	Total	Govern-ment (%)	Private Aided (%)	Private Un-aided (%)	Total	Govern-ment (%)	Private Aided (%)	Private Un-aided (%)
All India	24120	26.9	14.9	58.2	38176	22.24	13.49	64.28
Kerala	**820**	**19.3**	**22.9**	**57.8**	**1280**	**19.4**	**15.9**	**64.7**
Uttar Pradesh	3479	585	439	2455	6447	12.22	9.67	78.11
Maharashtra	4449	795	919	2735	4340	17.30	23.67	58.20
Andhra Pradesh	3821	11.0	7.4	81.6	2521	11.82	6.54	81.76
Sikkim	11	54.5	0.0	45.5	16	68.75	0.0	31.26

Source: MHRD (2012a); MHRD (2014a), (MHRD 2019 Table5)

The trends in enrolment also reflect a pattern similar to the distribution of unaided institutions. The enrolment is higher in those states which have a high concentration of unaided institutions. For example, the GER was high and the share of students enrolled in private unaided institutions in 2012-13 was high in states (Table 2.14) such as Andhra Pradesh (77.1 percent) and Uttar Pradesh (54.2 percent). In Kerala, share of unaided sector is high (41.7 percent), and at the same time somewhat an equal share of private aided colleges are there. Compared to all India level, the enrolment of Kerala is not impressive. Within a period of six years, the share of enrolment in self-financing colleges had increased to 45 percent at all India level and to 48 percent at the level of Kerala. In Uttar Pradesh and combined Andhra Pradesh, the share is more than 70 percent.

Table 2.14

Enrolment in Private and Government Colleges in Kerala, 2012-13 & 2018-2019

State	2012-2013				2018-2019			
	Total (Number)	Govt. (%)	Private aided (%)	Private Un-Aided (%)	Total (Number)	Govt. (%)	Private aided (%)	Private Un-Aided (%)
All India	1685270	37.7	22.7	39.6	26465449	33.59	21.21	45..20
Kerala	**43060**	**17.7**	**40.7**	**41.7**	**727052**	**16.82**	**35.30**	**47.69**
Uttar Pradesh	224590	16.2	29.6	54.2	4791749	12.10	17.52	70.55
Maharashtra	2404467	21.2	38.9	39.9	2957491	14.66	46.40	38.94
Andhra Pradesh	180840	13.2	9.7	77.1	1321815	12.41	10.40	76.10
Sikkim	540	80.6	0.0	19.4	12017	90.50	0.00	9.50

Source: MHRD (2012a); MHRD (2014a), MHRD (2019 Table 5a)

Present Educational Scenario of Kerala

Table 2.15

Government and Aided Educational Institutions in Kerala (2020-21)

Category	Govt.	Aided	Technical	Total	% Share of Private Aided
No. of LP Schools	2749	4284	-	7035	60.89
No. of UP Schools	867	2144	-	3011	71.2
No. of High Schools	1266	2250	-	3516	63.99
Total	4882	8678	-	13562	63.98
Higher Secondary Schools	825	1208	17	2077	58.16
Vocational Higher Secondary Schools	261	128	-	389	32.9
Arts and Science Colleges	66	174	-	240	72.5
Engineering Colleges	9	3	-	12	25
Training College	4	17	-	21	80.95
Music college	4	-	-	4	
Law college	4	-	-	4	
Fine arts college	3	-	-	3	
Physical education	1	-	-	1	
Polytechnic Colleges	45	6	-	51	11.76

Source: Compiled from Staff Appendix to the Kerala Budget 2020 – 2021

Kerala has 8678 private aided schools accounting for 63.98 percent of the total schools, which were supported by public funds. In the case of lower primary, upper primary, and high schools, the majority belonged to the private aided category. Besides schools, the private aided sector has 1208 Higher secondary schools, 128 vocational higher secondary schools, 174 arts and science colleges, three engineering colleges and six polytechnic and 17 Training College (Table 2.15).

To conclude, the efforts of the government have resulted in the rapid growth of higher education in Kerala particularly during the post reform period. The reforms of the government at the level of higher education have resulted in the opening of more colleges, introduction of the shift system, the private registration system, the system of direct payment to private college teachers, unification of fees and finally with the massive opening of colleges in the self- financing sector since 1991. At present in Kerala, higher education institutions are under the control of a few community based organizations. For instance more than 51 percent are under the control of Christian denominations, 32 percent under Nair Service Society (NSS), Sree Narayana Trust, and other Hindu denominations and the rest 17 percent under Muslim Educational Society (MES) and other Muslim organizations and individuals (Anvar 2015: 91). These philanthropic institutions of yester years have now turned to be increasingly commercial which has serious adverse implications on equity and access.

Owing to these reforms, educational development during the period since 1991 has been impressive both in terms of growth rate of institutions, enrolment and expenditure. In fact, the Kerala experience of educational achievement has few parallels among the states in India and countries in the world. However, much remains to be done in uplifting the Malabar region to the level of the Travancore-Cochin region particularly at the level of higher education (Salim, 2002). With 41.5 percent of the total population of Kerala, Malabar has only 30 percent of the Arts and Science colleges. The picture is similar in the case of professional and technical education. Though sweeping changes have taken place, the SC/ST and the backward communities, particularly the Muslims, lag behind the rest of the population. Above all the relatively low importance given to modern professional and technical education is a major shortcoming.

CHAPTER-III

TRENDS IN PUBLIC EXPENDITURE ON HIGHER EDUCATION IN INDIA AND KERALA

Expenditure on higher education is one of the major concerns and it requires active participation from the government and private bodies to initiate an action against it. Independent India recognized the value of education from the very beginning, and the government guided development of education was accorded high priority, as expressed in the very first Five year Plan. The problems of higher educational reconstruction, expansion, qualitative improvement and financial implications were reviewed by various commissions and committees, especially the Scientific Manpower Committee (1947) and the University Education Commission (Radhakrishnan Committee) 1948-49. The recommendations of these commissions and committees jointly with the constitutional provisions became the source for priority determination with respect to education in the first three Five Year Plans of the economy.

National Education Policy (1968) noted education expenditure as a „crucial" expense (MHRD,2006). Independent India saw a rapid expansion of education in terms of student enrolment, number of institutions and teachers. It was indeed an „educational explosion". In terms of number of students, schools and colleges, and teachers, the educational explosion that took place in India during the post-independence period is also reflected in the growth of public expenditure on education. There were just19 universities and 500 colleges at the time of Independence. With the declared objective of giving equality of opportunity, the government was faced with the assignment of meeting the requirements of increasing numbers, many of whom were first generation learners, who viewed higher education as a means of getting social mobility. An unprecedented expansion took place in higher education with the number of universities increasing from 19 at the time of Independence to378 and the number of colleges from 500 to 18,064by

the end of Tenth Five Year Plan. The University Education Commission of 1949 as well as the Education Commission of 1964 made strong recommendations in this regard. In fact, the rise in public spending on education can be seen as a significant factor that led to the explosion in education.

Public Expenditure on Education in India

Public spending on education is justified from the standpoint of society so as to enhance social returns from education. Government subsidization of education will reduce the gap between private and social returns, so that individual incentives to invest in education are no longer distorted. One of the main arguments for government subsidization is that education generates positive externalities; for instance, people exchange knowledge through social interaction outside the conventional market transactions. These human capital spills–over drive a wedge between social and private returns to education. When education creates positive externalities, public funding or provision of schooling or even compulsory schooling laws can, in principle, move society closer to efficient outcomes. A large body of cross–country studies concluded that public and private expenditure on education have positively contributed to the economic development through the creation of education, employment and empowerment.

It is necessary to evaluate the trends in public expenditure on education as a percentage of total government expenditure in order to assess the government's emphasis on education in comparison to other public expenditure. It also demonstrates the government's commitment to investing in the development of human capital. Higher government spending on education indicates that education is a high priority for the government in comparison to other public investments such as healthcare and other social and economic sectors. In the present study, the proportionate expenditure on both higher and technical education to entire budgeted expenditure for most important states has been determined to investigate the relative priority accorded to these sectors. Moreover, in order to eliminate regional disparity and promote balanced regional development, the top objective is to mainstream the disadvantaged people into the education and economic development systems. In

India, as in many other nations, government funding is used to address this issue. The following analysis looks at how much money the federal and state governments put into education.

Financing education is a state action in the Indian education system, and it is mostly dependent on the central and state governments. The state government contributes far more to education funding than the federal government. Although the central government's share of total education spending has increased over time, it is still a small percentage of total education spending compared to the state.Table 3.1 reveals that the total expenditure for both centre and state have increased from Rs. 2175.6 crores in 1977/78 to Rs. 15044 crores in 1989/90 and then to Rs. 4,72,011 crores in 2017/18. During the first 12 year period before the introduction of Economic Reforms in 1991, there was an increase in public expenditure on education by 12 times; with the reforms it continuously declined from 12 times to 5 times in 1999/00 and then to 3 times to 20009/10 and remained with 3 times rise in 2017/18. Calculating the growth in expenditure at constant prices would have brought the expenditure at very low levels.

Composition of Central and State Government Expenditure on Education

The total expenditure on education by the federal and state governments has increased over time, as shown in Table 3.1 (Figure 3.1). The central government's education spending climbed from Rs. 159.7 crores in 1977/78 to Rs. 180374.1 crores in 2018/19. In the same way, state education spending climbed from Rs. 2015.9 crores to Rs. 604640 crores in 2018/19. During this time, overall expenditure for both the centre and the states increased from Rs. 2175.6 crores to Rs. 785014.4 crores.Table 3.1 further reveals that the expenditure on education increases with every succeeding years particularly during the period 1980/81-1990/91, later there were no such growth in expenditure is reported. During the five year period from 2000/01, there is not much increase in expenditure either by the Centre and the states. It is found that the year 2018/19 witnessed the lowest rise in absolute expenditure at 3.71 percent. With the implementation of *Sarva Shiksha Abhiyan* in 2001, more allocation is made for the educational development.

Table 3.1

Public Expenditure on Education by Centre and States (Rupees in Crores), 1977/78-2017/18

Year	Centre		State		Total	
	Rupees in Crores	Growth Rate over Previous Period	Rupees in Crores	Growth Rate over Previous Period	Rupees in Crores	Growth Rate over Previous Period
1977/78	159.7	-	2015.9	-	2175.6	-
1980/81	202.4	26.76	2908.0	44.25	3110.4	42.97
1984/85	445.3	119.98	5908.5	103.18	6353.8	104.27
1989/90	1512.1	239.54	13532.1	129.03	15044.2	136.78
1993/94	2096.3	38.64	21316.8	57.53	23413.1	55.63
1995/96	3317.0	58.23	28199.6	32.29	31516.6	34.61
1996/97	3672.1	10.70	32699.5	15.96	36371.6	15.40
1998/99	6323.3	72.20	44901.9	37.32	51225.3	40.84
1999- 00	10906.0	72.47	63909.0	42.33	74815.0	46.05
2000-01	10195.0	-6.52	72290.0	13.11	82485.0	10.25
2001-02	14119.0	38.49	65746.0	-9.05	79865.0	-3.18
2002-03	16156.0	14.43	69350.0	5.48	85506.0	7.06
2003-04	17101.0	5.85	71798.0	3.53	88899.0	3.97
2004-05	18026.0	5.41	78668.0	9.57	96694.0	8.77
2005-06	23209.0	28.75	90019.0	14.43	113228.0	17.10
2006-07	34236.0	47.51	103148.0	14.58	137384.0	21.33
2007-08	39919.0	16.60	115878.0	12.34	155797.0	13.40
2008-09	48728.0	22.07	143667.0	23.98	192395.0	23.49
2009-10	54146.0	11.12	188636.0	31.30	242782.0	26.19
2010-11	80661.0	48.97	212817.0	12.82	293478.0	20.88
2011-12	86074.0	6.71	251008.0	17.95	337082.0	14.86
2012-13	103312.0	20.03	311426.0	24.07	414738.0	23.04
2013-14	124118.0	20.14	347893.0	11.71	472011.0	13.81
2014-15	133997.0	7.96	373457.0	7.35	507454.0	7.51
2015-16	142562.0	6.39	435229.0	16.54	577791.0	13.86
2016-17	152675.0	7.09	511589.0	17.54	664264.0	14.97
2017-18	174855.0	14.53	582089.0	13.78	756944.0	13.95
2018-19	180374.1	3.16	604640.3	3.87	785014.4	3.71

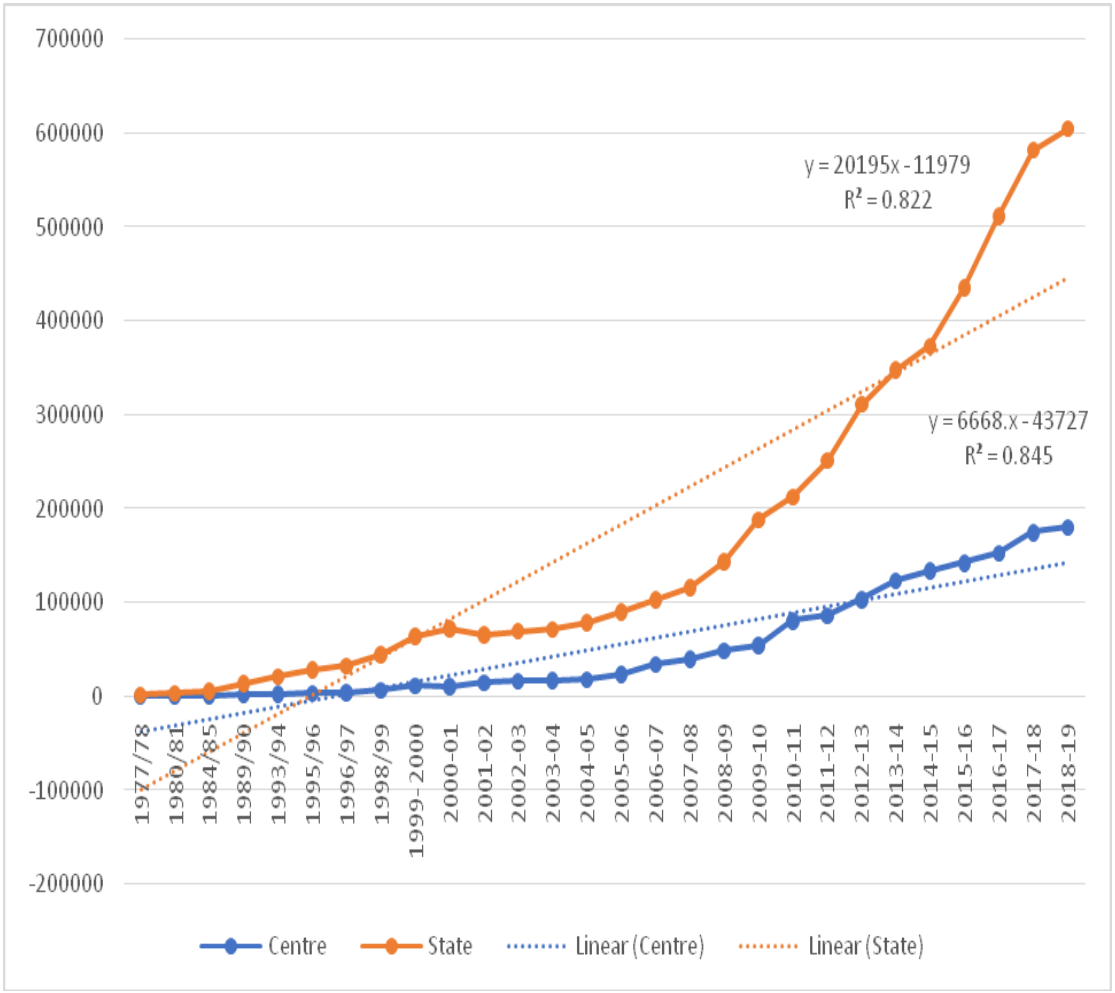
Source: MHRD, Analysis of Budgeted Expenditure on Education, Various Years

In order to reform the education system in India, numerous initiatives for school and higher education have been implemented. It's worth noting that the

proportion of central government spending has risen from 7.34 percent in 1977/78 to 10% in 1989/90, and then to 23.1 percent in 2018/19. However, state government's portion in the budget had decreased from 93 percent in 1977/78 to 77 percent in 2018/19 (Table 3.2 and Figure 3.2). This rise is primarily owing to the centralization of many education schemes in the country, as well as the implementation of various innovative school-level programmes such as Sarva Shiksha Abhiyan and the University Grants Commission's initiative in higher education.

Figure 3.1

Public Expenditure on Education by Centre and States (Rupees in Crores), 1977/78-2018/19



Source: Drawn by using data from Table 3.1

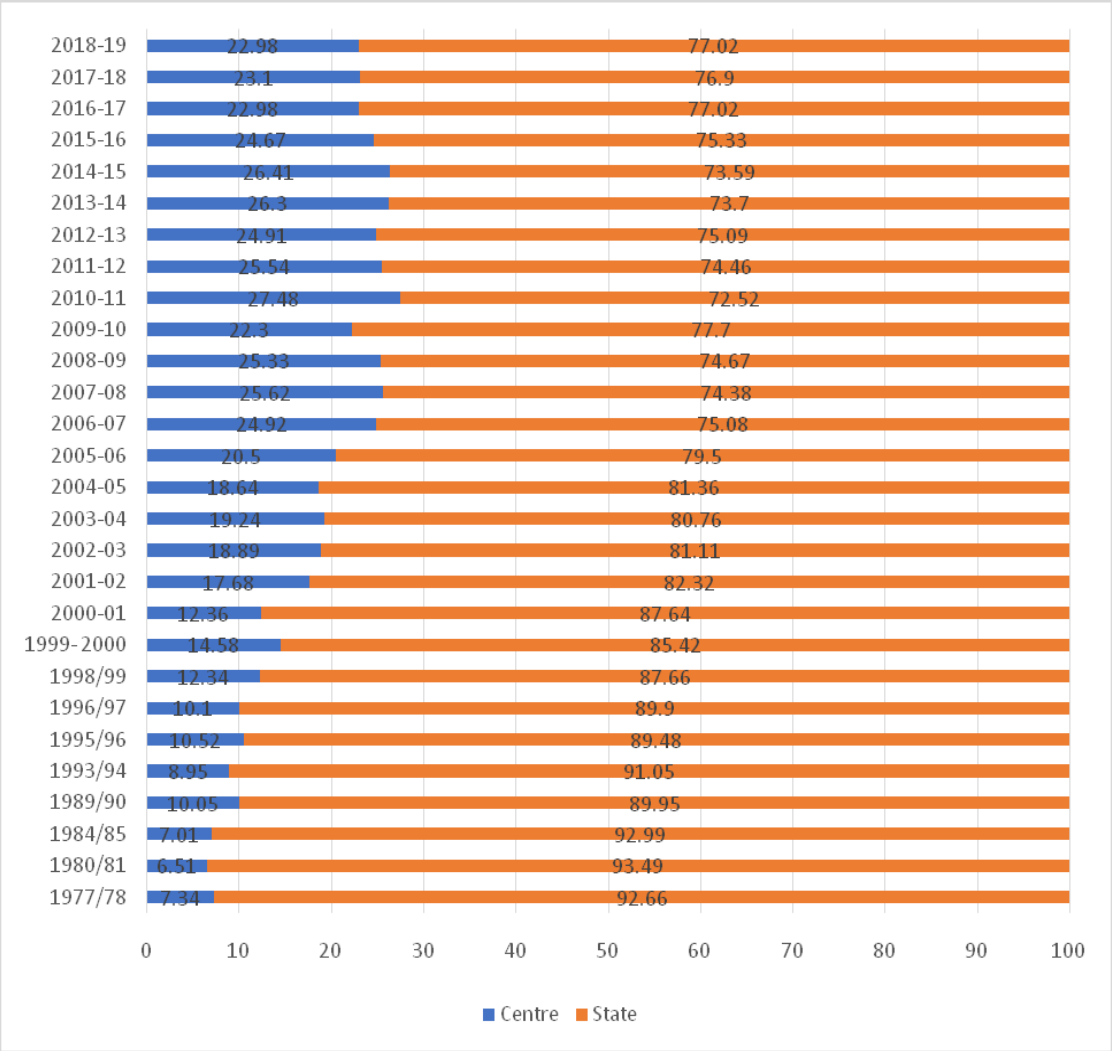
Table 3.2

Share of Public Expenditure on Education by Centre and States (in Percent), 1977/78-2017/18

Year	Centre	State	Total
1977/78	7.34	92.66	100
1980/81	6.51	93.49	100
1984/85	7.01	92.99	100
1989/90	10.05	89.95	100
1993/94	8.95	91.05	100
1995/96	10.52	89.48	100
1996/97	10.1	89.9	100
1998/99	12.34	87.66	100
1999- 2000	14.58	85.42	100
2000-01	12.36	87.64	100
2001-02	17.68	82.32	100
2002-03	18.89	81.11	100
2003-04	19.24	80.76	100
2004-05	18.64	81.36	100
2005-06	20.5	79.5	100
2006-07	24.92	75.08	100
2007-08	25.62	74.38	100
2008-09	25.33	74.67	100
2009-10	22.3	77.7	100
2010-11	27.48	72.52	100
2011-12	25.54	74.46	100
2012-13	24.91	75.09	100
2013-14	26.3	73.7	100
2014-15	26.41	73.59	100
2015-16	24.67	75.33	100
2016-17	22.98	77.02	100
2017-18	23.10	76.90	100
2018-19	22.98	77.02	100

Source: MHRD,GOI, Various Years

Figure 3.2
Share of Public Expenditure on Education between State and Centre (in percent)



Source: Drawn from Table 3.2

Table 3.3, Figure 3.3 and 3.4 show that there was considerable rise in both plan and non-plan expenditure of both Central and state governments over the period of forty years. During 1980/81, the share of central government to total expenditure on education consisted of only 31 percent as plan and remaining 69 per cent as non-plan expenditure. At the same time, the state government spent 92 percent on non-plan items and the remaining 8 percent on plan items. It is also found that in 2016-17 non-plan expenditure of central govt. was only 21.95 percent while it

was 78.14 percent for the states. On the otherhand plan expenditure of the centre was 78.04 percent while it was 21.09 percent at state level in 2016-17.

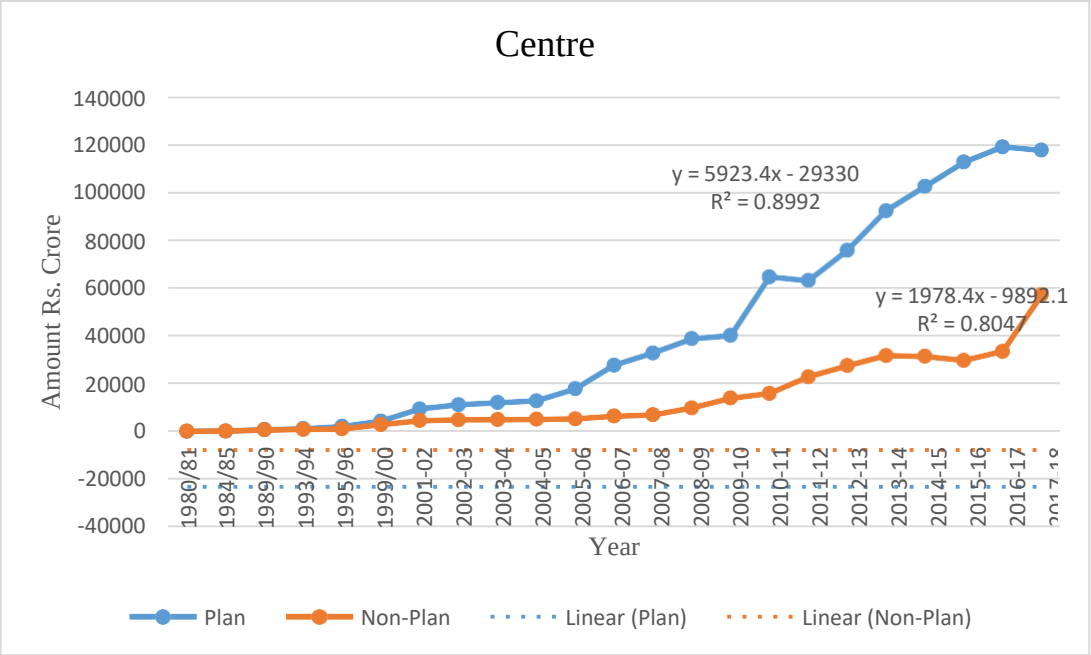
Table 3.3
Share of Plan and Non-Plan Expenditure on Education by Centre and State, 1977/8-2017/18 (in Rs. in Crores)

Year	Centre		State		Both Centre & State	
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
1980/81	63.54	138.9	235.91	2671.66	299.45	2810.56
1984/85	202.27	243.05	635.24	5273.22	837.51	5516.27
1989/90	831	681.05	1576.87	11955.3	2407.87	12636.32
1993/94	1217.37	878.96	1903.36	19413.4	3120.73	20292.37
1995/96	2193.41	1123.62	3134.26	25066.3	5327.67	26189.93
1999/00	4403.3	2929.32	4901.98	49046.9	9305.28	51976.18
2001-02	9506	4613	6785	58961	16291	63574
2002-03	11217	4939	8079	61271	19296	66210
2003-04	12087	5014	8630	63168	20717	68182
2004-05	12876	5150	9794	68874	22670	74024
2005-06	17864	5345	13791	76228	31655	81573
2006-07	27745	6491	16999	86149	44744	92640
2007-08	32901	7018	19363	96515	52264	103533
2008-09	38821	9907	23662	120005	62483	129912
2009-10	40171	13975	31238	157398	71409	171373
2010-11	64706	15955	43713	208504	108419	224459
2011-12	63178	22896	60945	190063	124123	212959
2012-13	75759	27553	73247	238179	149006	265732
2013-14	92356	31762	87773	260120	180129	291882
2014-15	102534	31463	96427	277030	198961	308493
2015-16	112766	29796	84783	350446	197549	380242
2016-17	119148	33527	107894	403695	227042	437222
2017-18	117730	57125	60071	522018	177801	579143

Source: MHRD, GoI, Analysis of Budgeted Expenditure on Education, Various Issues

Figure 3.3

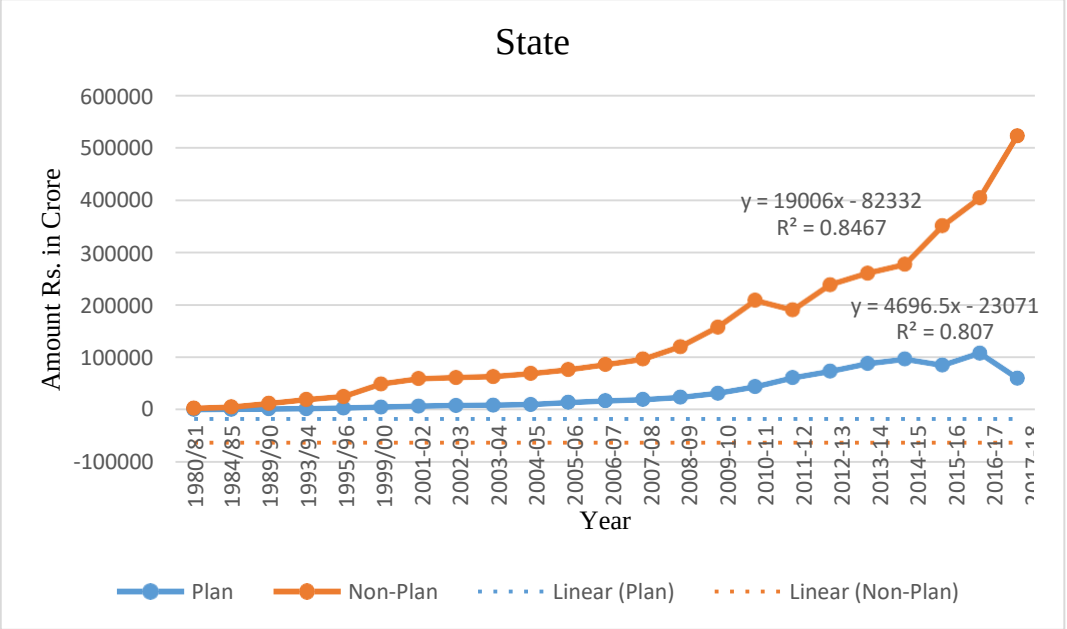
Share of Plan and Non-Plan Expenditure on Education by Centre, 1980/81-2017/18 (in Rs Crores)



Source: Drawn from Table 3.3

Figure 3.4

Share of Plan and Non-Plan Expenditure on Education by State, 1980/81-2017/18 (in Rs Crores)



Source: Drawn from Table 3.3

Table 3.4
Share of Plan and Non-Plan Expenditure on Education by Centre and States, 1980/81-2017/18 (in Percent)

Year	Centre		State		Both Centre & State	
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
1980/81	31.39	68.61	8.11	91.89	9.63	90.37
1984/85	45.42	54.58	10.75	89.25	13.18	86.82
1989/90	54.96	45.04	11.65	88.35	16.01	83.99
1993/94	58.07	41.93	8.93	91.07	13.33	86.67
1995/96	66.13	33.87	11.11	88.89	16.90	83.10
1999/00	60.05	39.95	9.09	90.91	15.18	84.82
2001-02	67.33	32.67	10.32	89.68	20.40	79.60
2002-03	69.43	30.57	11.65	88.35	22.57	77.43
2003-04	70.68	29.32	12.02	87.98	23.30	76.70
2004-05	71.43	28.57	12.45	87.55	23.45	76.55
2005-06	76.97	23.03	15.32	84.68	27.96	72.04
2006-07	81.04	18.96	16.48	83.52	32.57	67.43
200708	82.42	17.58	16.71	83.29	33.55	66.45
2008-09	79.67	20.33	16.47	83.53	32.48	67.52
2009-10	74.19	25.81	16.56	83.44	29.41	70.59
2010-11	80.22	19.78	17.33	82.67	32.57	67.43
2011-12	73.40	26.60	24.28	75.72	36.82	63.18
2012-13	73.33	26.67	23.52	76.48	35.93	64.07
2013-14	74.41	25.59	25.23	74.77	38.16	61.84
2014-15	76.52	23.48	25.82	74.18	39.21	60.79
2015-16	79.10	20.90	19.48	80.52	34.19	65.81
2016-17	78.04	21.96	21.09	78.91	34.18	65.82
2017-18	67.33	32.67	10.32	89.68	23.49	76.51

Source: calculated by the author from the Budgeted Expenditure on Education, Various Issues.

It is also interesting to find that while the share of plan expenditure of the Central government had risen from 31 percent to 78 percent, the non- plan expenditure declined from 69 to 22 percent during 1980/81-2017/18; this is a good sign that most of the central funds are being utilized for developmental purposes in the education sector. If we look at the statistics of states, the same

pattern is seen with the rise in the share of plan funds from 8 percent to 21 percent and the fall in non- plan funds from 92 to 78 percent. Combining the expenses of both the centre and states, the same pattern is observed with arise in plan funds from 9.6 to 16 percent and the fall in non- plan funds from 90 to 84 percent during 1980/81-2017/18 (Table 3.4). It is to be noted that the share of plan expenditure of the central government significantly improved over the period while that of the state government did not show much rise. It indicates that the states are burdened with the committed expenditure like salary and maintenance of the staff and the institution.

Performance of Kerala among States in Public Expenditure on Education

Table 3.5 indicates that there has been a continuous rise in expenditure on education in all the states in India. Major states are investing heavily for the development of education in their states. Special mention is needed in the case of West Bengal, Maharashtra, Haryana, Assam, Orissa, Tamil Nadu, Gujarat a and Karnataka who spend considerably during the period since the introduction of Structural Adjustment Programmes. But the focus is mainly on school education. West Bengal spends historically higher amounts for the development of education and its effects are seen in the presence of educated employees in all higher educational institutions in India. Surprisingly, among the 17 major states in India, Kerala‟s position is the third from the bottom; Madhya Pradesh and Punjab are the other states. In terms of percentage change in expenditure, over the forty year period from 1975/76 to 2018/19, West Bengal, Maharashtra and Haryana have shown significant jumps in expenditure on education (Table 3.6). It is further noted that in all the states except Himachal Pradesh, Karnataka, Kerala and West Bengal, expenditure on education increased after a few years since 1989/90. During the last decade, the expenditure of all states except Gujarat, Kerala, MP, Jammu and Kashmir and Rajasthan witnessed very small or negative percentage growths.

Table 3.5

Public Expenditure on Education Among Selected States (Rupees in Crores), 1975/6-2018/19

States	1975/76	1980/81	1989/90	2000/01	2010/11	2018-19*
Assam	4.43	7.94	53.90	214.35	816.91	337.00
Gujarat	6.67	15.16	90.89	397.32	858.69	607.00
Haryana	3.29	10.23	47.37	216.24	703.11	349.00
Himachal Pradesh	0.20	3.50	12.19	64.56	183.62	110.00
Jammu &Kashmir	2.56	5.30	16.38	95.39	222.19	354.50
Karnataka	13.87	29.51	103.61	552.12	1440.56	723.22
Kerala	**15.69**	**22.42**	**82.10**	**384.92**	**1008.82**	**892.24**
MP	9.88	17.76	91.09	335.98	566.75	70.14
Maharashtra	11.23	51.49	155.04	1123.78	2659.86	630.26
Orissa	7.62	14.85	66.45	209.97	1305.68	398.18
Punjab	7.01	13.90	67.14	217.08	343.20	250.99
Rajasthan	9.04	15.69	63.38	225.43	600.32	318.27
Tamil Nadu	9.76	40.98	169.55	515.71	1437.77	404.95
West Bengal	1.61	37.23	121.58	674.21	1669.85	2349.96
All States	**156.56**	**372.43**	**1633**	**6608.92**	**18167.68**	**14628.89**

Source: MHRD, Various Years. Budget Estimate*

Table 3.6

Percentage Change (over the previous period) of Public Expenditure on Education in States, 1975/76-2018/19

States	1980/81	1985/86	1989/90	1995/96	2000/01	2010/11	2015/16	2018-19*
Andhra	116.18	160.75	99.90	51.56	143.98	65.55	-5.44	22.57
Assam	79.23	177.58	144.56	66.49	138.86	73.64	57.29	-73.77
Bihar	-53.64	702.32	115.19	26.68	-93.72	1168.01	101.24	90.22
Gujarat	127.29	161.48	129.29	89.67	130.48	71.93	93.57	-63.48
Haryana	210.94	94.82	137.68	89.95	140.32	60.65	67.96	-70.45
Himachal Pradesh	1650.00	92.00	81.40	118.21	142.71	70.95	53.01	-60.85
Jammu & Kashmir	107.03	100.19	54.38	79.55	224.35	64.14	157.28	-37.99
Karnataka	112.76	122.23	57.99	110.94	152.63	106.86	85.25	-72.90
Kerala	**42.89**	**145.27**	**49.30**	**208.84**	**51.81**	**35.48**	**113.14**	**-58.50**
MP	79.76	160.64	96.78	107.83	77.48	27.76	154.57	-95.14
Maharashtra	358.50	115.27	39.88	110.21	244.81	73.52	69.54	-86.02
Orissa	94.88	95.08	129.38	127.45	38.92	123.11	31.21	-76.76
Punjab	98.29	116.91	122.69	80.27	79.36	-18.96	145.68	-70.23
Rajasthan	73.56	107.33	94.84	101.21	76.77	73.70	94.00	-72.67
Tamil Nadu	319.88	111.13	95.97	23.50	146.29	70.21	50.81	-81.32
Uttar Pradesh	109.14	90.59	93.98	-80.18	106.33	64.42	30.72	-90.42
West Bengal	2212.42	103.52	60.46	110.44	163.52	94.31	42.70	-1.38
All States	**137.90**	**134.70**	**86.80**	**85.60**	**118.00**	**79.20**	**64.50**	**-51.00**

Source: *Computed by the author from Table 3.5, *- Budget Estimate*

Inter-Sector Allocation of Public Expenditure on Education in India

Funds from the government's coffers are distributed according to a set of priorities. Primary education has been regarded as a high priority for educational progress since the beginning of time till the present century. Furthermore, education reforms in the 1990s, the implementation of the District Primary Education Program (DPEP), Sarva Shiksha Abhiyan (2001), and then the Right to Education Act, as well as the policy of universalizing primary education, have all resulted in a massive increase in government spending at both the national and state levels.

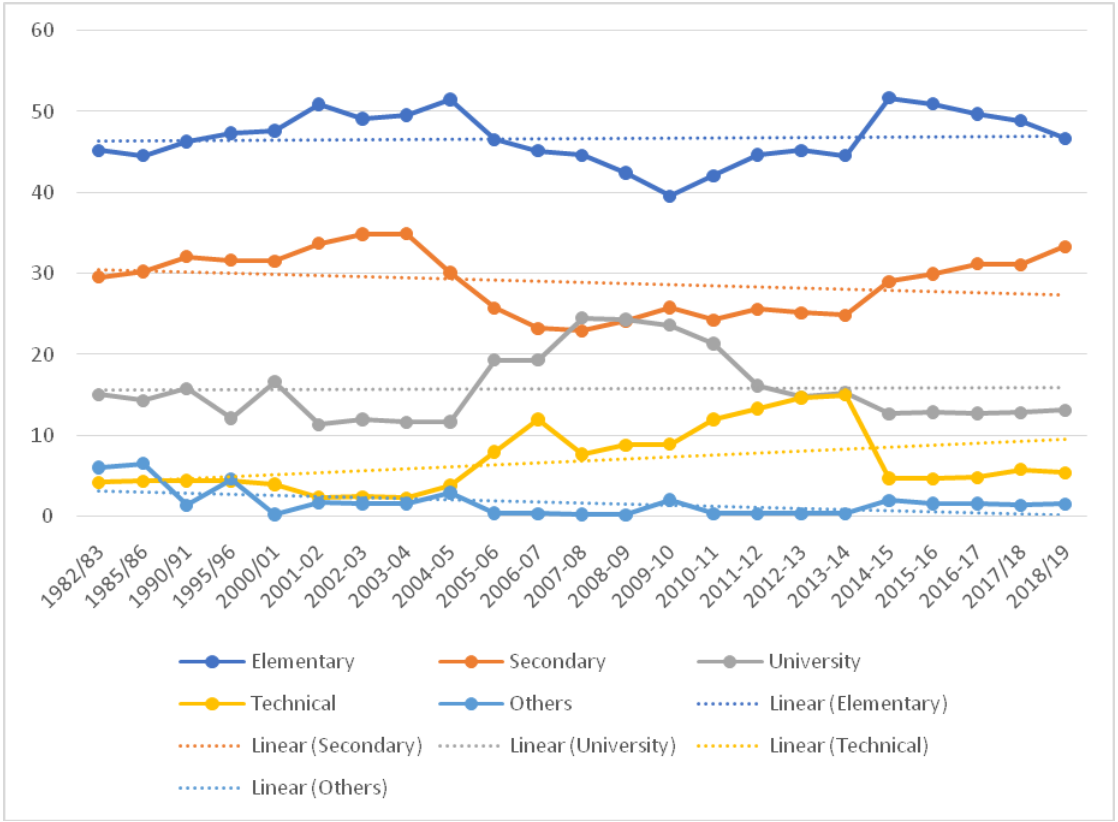
Table 3.7 (Figure 3.5) explains the inter-sector composition of public expenditure on education in India. It is observed that more importance has been given to the elementary education. The share of public spending on school education (including primary, secondary and higher secondary) in total spending on education varied in between 75 to 80 percent of total expenditure on education. On the other hand, the share of the university and higher education in total public expenditure on education declined from 15 percent to 13 percent during the forty year period; though there was slight increases during the ten year period from 2000/01 from 16 percent to 21 percent and further decline afterwards. For technical education, the share in total public spending on education has increased significantly from 4.2 to 4.38 percent during 1982/83-1990/91; then declined to 3.92 percent in 2000/01, significantly rose to 11.95 percent in 2010/11 and then fell to 5.39 in 2018/19. Share of other sectors of education witnessed continuous fall over the period of analysis. The graph 3.5 illustrates that during 2004/05-2008/09, there was some positive change in favour of more funds for university and higher education in India, but this momentum is lost during the latter periods. It reveals that the country has been witnessing a fall in the expenditure on university and technical education from 2014/15 onwards. In order to reap the benefits of the present demographic dividend, the country needs to spend heavily for the development of university and higher education. But if the spending pattern is like this, achievement out of demographic dividend is a distinct possibility.

Table 3.7
Inter-Sectoral Allocation of Public Expenditure on Education in India (percent)

Years	School	University and Higher	Technical	Other Education	Total
1982/83	74.80	15.00	4.20	6.00	100
1985/86	74.90	14.30	4.30	6.50	100
1990/91	78.44	15.79	4.38	1.39	100
1995/96	79.00	12.10	4.30	4.60	100
2000/01	79.20	16.61	3.92	0.27	100
2005/06	72.36	19.31	7.96	0.37	100
2010/11	66.40	21.34	11.95	0.31	100
2015/16	80.96	12.84	4.60	1.60	100
2018/19	80.07	13.06	5.39	1.48	100

Source: MHRD, GOI, Analysis of Budgeted Expenditure on Education, Various Issues

Figure 3.5
Inter-Sectoral Allocation of Public Expenditure on Education in India (in %)



Source: Drawn by the author from MHRD Data.

Composition of Total Expenditure on Education under Five Year Plans

The shifting pattern in the mix of public education expenditure is reflected in the Five Year Plan allocations of expenditure (Table 3.8). Priorities have been devoted to school education since the First Five Year Plan. There is downward trend in public spending in other education sub-sectors. This trend continues until the tenth five-year plan is completed, but from the eleventh five-year plan onwards, there has been an increase in the percentage allocation of budgetary expenditure in favour of technical and higher education. Further, the allotment of resources for social sector services has been drastically reduced, from 24.1 percent in the first five-year plan to 18.6 percent in the sixth. This is likely indicative of planners' attitudes that they are more interested in taking a telescopic forward leap than looking sideways, and that social sector development is not treated as a core concern (Dhingra, 2014). The low level of spending on social services, particularly education, has a negative impact on economic development.

Table 3.8
Inter-Sector Allocation of Total Expenditure for Education under Five Year Plans in India (in percent)

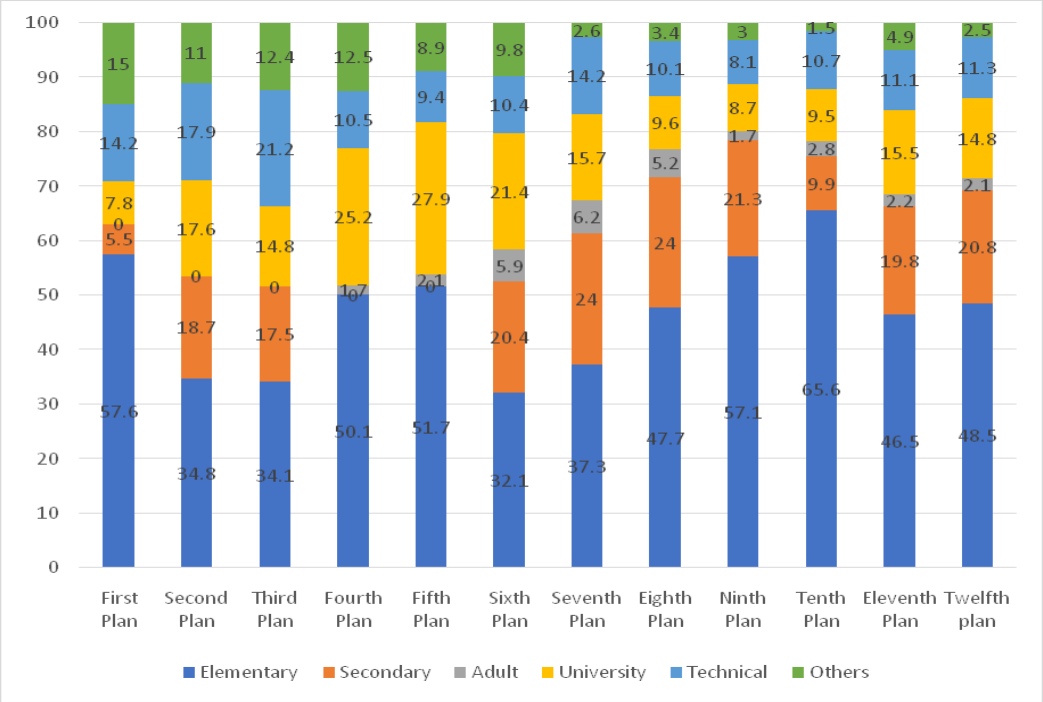
Five Year Plan	School	University	Technical	Others*	Total
I	63.1	7.8	14.2	15	100
II	53.5	17.6	17.9	11	100
III	51.6	14.8	21.2	12.4	100
IV	50.1	25.2	10.5	14.2	100
V	51.7	27.9	9.4	11.0	100
VI	52.5	21.4	10.4	15.7	100
VII	61.3	15.7	14.2	8.8	100
VIII	71.7	9.6	10.1	8.6	100
IX	78.4	8.7	8.1	4.7	100
X	75.5	9.5	10.7	4.3	100
XI	66.3	15.5	11.1	7.1	100
XII	69.3	14.8	11.3	4.6	100

- *Adult education is also included in 'others'. Source: Annual Report of Planning Commission 2002-03 & 2008-09 and Annual Report of CBGA 2011-12.*

Table 3.8 and Figure 3.6 reveal that the allocation to university and technical education had continuously improved from 22 percent from first plan to 37 percent in fifth plan and then there had been a continuous fall and in the 12th plan, the share was 26 percent. The education sector has remained a priority sector of the national and state governments from the start of the first five-year plan in 1951-52. During the second and third five-year plans, this priority changed by realizing the importance of higher and technical education in national development. The fourth and fifth plans were a watershed moment in terms of allocating finances for higher and technical education, accounting for 25-28 percent of total education spending. It's important to note that technical education received the biggest share of overall education spending during the third plan period, accounting for 21% of total education spending. Later the allocation to these sectors drastically came down. Due to substantial investment on initiatives like the mid-day food scheme, school education particularly primary education resurfaced during the eighth, ninth, tenth, and eleventh Five Year Plans.

Figure 3.6

Inter-Sector Allocation of Total Expenditure for Education under Five Year Plans (in percent)



Source: Drawn from Table 3.8

Government Expenditure on Higher Education in India and Kerala

Table 3.9 (Figure 3.7) shows that the total expenditure on higher education in India had significantly increased from Rs.82.55 crores to 475.50 crores during 1977/78-1990/91 and then to Rs.17862.10.crores in 2017/18. Of the total expenditure on higher education, the plan expenditure had risen from Rs.46.57.crores in 1977/78 to 128.60 crores in 1990/91 and then to Rs 6415.65 crores in 2014/15. At the same time, the non- plan expenditure of the Central government had increased from Rs.35.98.crores to Rs 346.9 crore and finally to Rs 7367.61crores during the period. The share of central plan funds to total expenditure on higher education declined from 56.41.percent in 1977/78 to 27 percent in 1990/91, then rose to 45 percent in 1994/95, fell to 21 percent in 1999/00, rose to 57 percent in 2008/9 and 2012/13 and finally to 46.55 percent in 2014/15.

Table 3.9
Central Government Expenditure on Higher Education, 1977/78-2018/19
(in Crores)

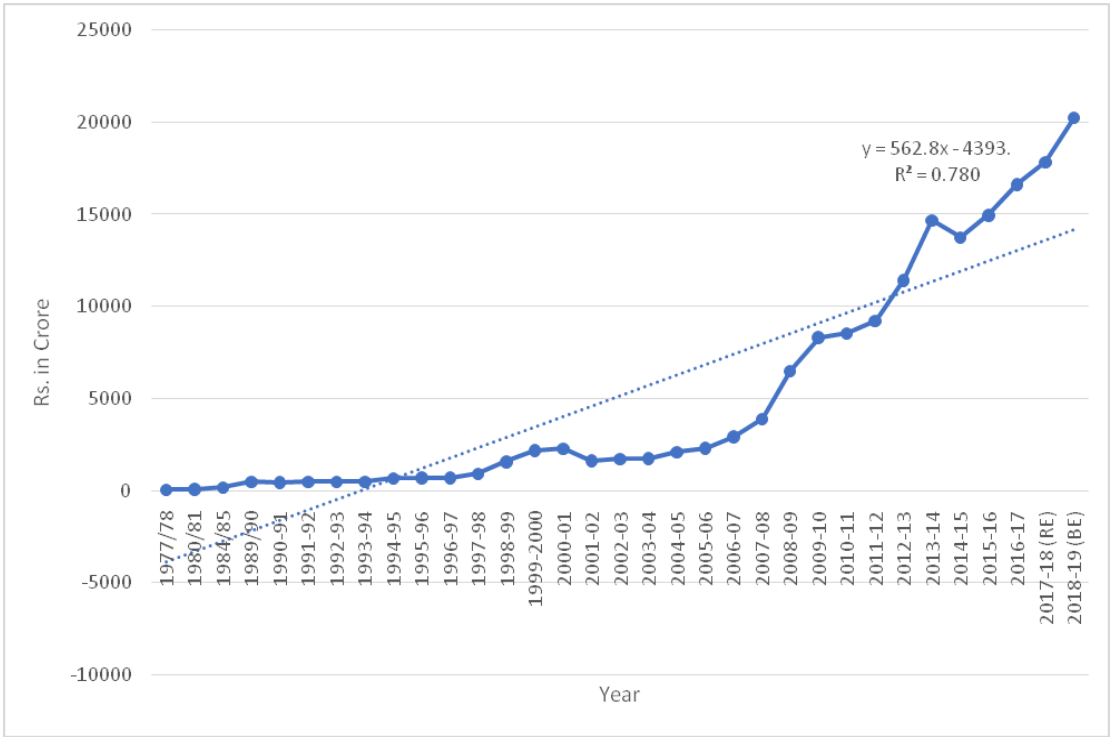
Year	Plan Expenditure	% of Plan Expenditure	Non-plan Expenditure	% Non-Plan Expenditure	Total Expenditure
1977/78	46.57	56.41	35.98	43.59	82.55
1980/81	32.45	32.85	66.32	67.15	98.77
1984/85	74.42	41.09	106.70	58.91	181.12
1989/90	150.06	30.86	336.17	69.14	486.23
1990-91	128.60	27.05	346.90	72.95	475.50
1991-92	160.70	32.41	334.50	67.49	495.60
1992-93	149.60	29.63	355.30	70.37	504.90
1993-94	157.10	30.25	357.10	69.45	514.20
1994-95	309.60	45.25	374.50	54.74	684.20
1995-96	246.30	34.54	466.80	65.46	713.10
1996-97	234.20	32.69	482.20	67.30	716.50
1997-98	374.00	39.87	564.10	60.13	938.10
1998-99	392.70	24.55	1207.20	75.45	1599.90
1999-2000	461.80	20.98	1739.50	79.02	2201.40
2000-01	497.50	21.77	1787.70	78.23	2285.30

Year	Plan Expenditure	% of Plan Expenditure	Non-plan Expenditure	% Non-Plan Expenditure	Total Expenditure
2001-02	544.70	33.06	1102.90	66.94	1647.60
2002-03	619.10	35.34	1132.70	64.66	1751.80
2003-04	560.40	31.81	1201.10	68.19	1761.50
2004-05	810.60	38.62	1288.30	61.38	2099.00
2005-06	843.50	36.18	1487.80	63.82	2331.40
2006-07	1353.40	45.79	1602.10	54.21	2955.50
2007-08	1903.10	48.86	1992.20	51.14	3895.30
2008-09	3684.10	56.62	2822.40	43.38	6506.40
2009-10	4090.10	49.00	4256.60	51.00	8346.60
2010-11	4180.20	49.46	4270.70	50.54	8450.90
2011-12	4352.50	47.63	4785.90	52.37	9138.40
2012-13	6525.27	57.01	4921.13	42.99	11446.40
2013-14	7321.00	49.75	7394.30	50.25	14715.30
2014-15	6415.65	46.55	7367.61	53.45	13783.26
2015-16	NA	NA	NA	NA	14973.16
2016-17	NA	NA	NA	NA	16663.84
2017-18 (RE)	NA	NA	NA	NA	17862.10
2018-19 (BE)	NA	NA	NA	NA	20264.89

NA: not available. Source: MHRD, Analysis of Budgeted Expenditure, Various Years

However the share of the non- plan funds in total expenditure declined from 43.59.percent to 73 percent and then to 53.45 percent in 2014/15. From the total expenditure, the share of plan funds was 56.41 percent in 1977/78 while the share of non- plan was 43.6 percent; 1990/91, the figures were 27 percent and 73 percent; in 2000/01, they were 22 percent and 78 percent; in 2012/11, it improved to 49 and 51 percent and finally in 2014/15, it had moved to 46.5 percent and 53.5 percent respectively. Plan and non-plan funds together rose to Rs 20264.89 crores in 2018/19 in favour of developmental expenditure in infrastructure and other innovative programme.

Figure 3.7
Central Government Expenditure on Higher Education, 1977/78-2018/19 (in Crores)



Source: MHRD, Analysis of Budgeted Expenditure, Various Years

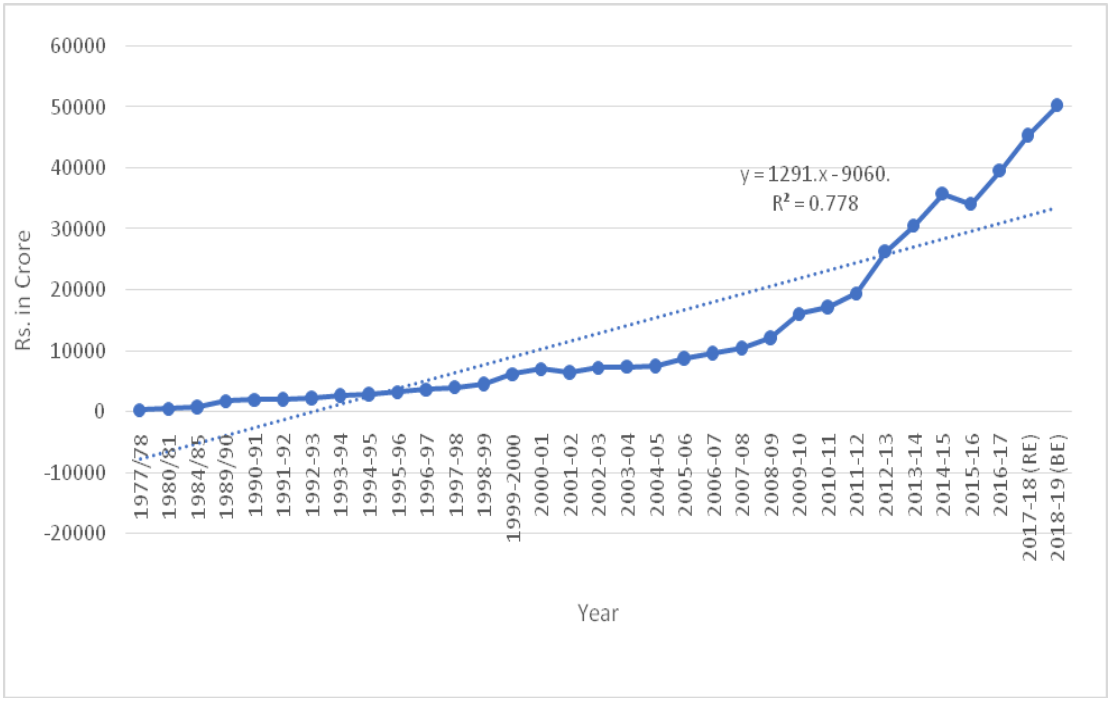
In the case of total expenditure of the state government on higher education, it is found that there was several fold rise in expenditure over the 40 year period (Table 3.10 and Figure 3.8). Further both the Plan and Non- plan funds (Table 3.10) had shown significant jumps. The share of state plan funds was in between 11-13 percent during the first three years and during 2007/8-2011/12 and the year 2012/13 while it was less than 11 percent during all other years while the share of non- plan funds was near to 89 percent. It reveals that the states are always looking for the maintenance of the higher education system in the form of salaries and administration; always less funds are left for improving the infrastructure and other facilities required. States are always constrained of resources for undertaking developmental activities in the higher education system.

Table 3.10
State Government Expenditure on Higher Education in India, 1977/78-2018/19
(in Crores)

Year	Plan Expenditure on Higher Education	% of Plan Expenditure	Non Plan Expenditure on Higher Education	% of Non-Plan Expenditure	Total Expenditure
1977/78	28.63	11.99	210.15	88.01	238.78
1980/81	43.13	11.21	341.77	88.79	384.9
1984/85	99.59	13.41	643.01	86.59	742.6
1989/90	141.04	8.18	1582.62	91.82	1723.66
1990-91	116.4	6.34	1720	93.66	1836.4
1991-92	103.7	5.32	1844.4	94.67	1948.1
1992-93	117.8	5.36	2077.3	94.63	2195.1
1993-94	155.6	6.01	2433.6	93.99	2589.3
1994-95	215.1	7.57	2625.9	92.42	2841.1
1995-96	266.3	8.43	2891.8	91.57	3158.1
1996-97	283.5	7.94	3287.8	92.06	3571.3
1997-98	272	6.94	3648.9	93.06	3920.9
1998-99	308.9	6.84	4207.8	93.16	4516.8
1999-2000	372.6	6.16	5674.3	93.84	6047
2000-01	347.9	5.35	6561.4	94.96	6909.4
2001-02	421.7	6.55	6018.2	93.45	6440
2002-03	431.2	6.07	6676.5	93.93	7107.7
2003-04	410.3	5.62	6888.2	94.38	7298.5
2004-05	494.4	6.68	6909.7	93.32	7404.2
2005-06	744.3	8.57	7937.5	91.43	8681.9
2006-07	904.6	9.44	8680.8	90.56	9585.4
2007-08	1152.6	11.07	9263.3	88.93	10416
2008-09	1276.2	10.55	10822.4	89.45	12098.6
2009-10	1590.6	10.04	14248.8	89.96	15939.4
2010-11	1610.2	11.04	15420.7	89.92	17131.86
2011-12	1705.7	12.17	17535.8	91.04	19344.71
2012-13	2135.43	8.14	24096.3	91.86	26231.73
2013-14	2877.36	9.44	27588.78	90.56	30466.14
2014-15	4835.57	13.53	30902.59	86.47	35738.16
2015-16	-	-	-	-	34049.69
2016-17	-	-	-	-	39485.62
2017-18 (RE)	-	-	-	-	45251.24
2018-19 (BE)	-	-	-	-	50185.03

Source: MHRD, Analysis of Budgeted Expenditure on Education, Various Issues

Figure 3.8
State Government Expenditure on Higher Education in India, 1990/91-2017/18 (in Crores)



Source: MHRD, Analysis of Budgeted Expenditure on Education, Various Issues

Table 3.11 depicts the relative importance of education in India's major states. In India, education accounted for 12.9 percent of total government spending in 1980/81, increasing to 13.3 percent in 1990/91. Since the late 1990s, the share of educational spending in total planned spending has been decreasing. In 2000/01, educational spending accounted for 12.2 percent of total spending, which declined to 11.9 percent in 2001/02. Higher education's financial priority in India fell from 1.9 percent in 1980/81 to 1.79 percent in 2000/01, but increased to 11.18 percent in 2018/19. During the period, the contribution of technical education in the country's budget remained practically constant at roughly 0.5-0.6 percent, with the exception of 2000/01, when it unexpectedly jumped to 4.04 percent of total budgeted expenditure.

Most of the states follow similar pattern in case of total educational expenditure. The share of total education expenditure for the majority of the states declined during the period from 1980/81 to 2009/10 (Table 3.11 and Figure 3.9). During 2009/10, the percentage share of educational expenditure to total expenditure

across most of the states ranged from 17 percent to 22 percent. Only Bihar and Punjab spend less than 15 percent of the total budgeted expenditure on education. As regards the divide of higher education is concerned, during 1980/81, the percentage expenditure for most of the state was hovering around 2 to 3.5 percent of their budgets. By 2018/19, the share to higher education was more than 10 percent for states like Bihar, Kerala, Maharashtra, West Bengal, Odissa, Haryana, Karnataka and Andhra Pradesh; the share was less than 10 percent for other major states. The all India average for higher education expenditure in total budget was 11.18 percent in 2018/19. For technical education, during 1980/81, the share in total expenditure ranged around 0.4 to 0.6 per cent of total state budgets. As compared to other states, Tamil Nadu and Kerala have given relatively more importance to this sector by allocating more funds. Percentage share of this sector remain inactive throughout the country over the periods under study except for Kerala and Tamil Nadu which allocated 6 percent and 7.5 percent of total education expenditure to technical education in 2018/19. It is hurting to grasp that in this period of globalization; a lot of state governments are still not recognizing the importance of technical education.

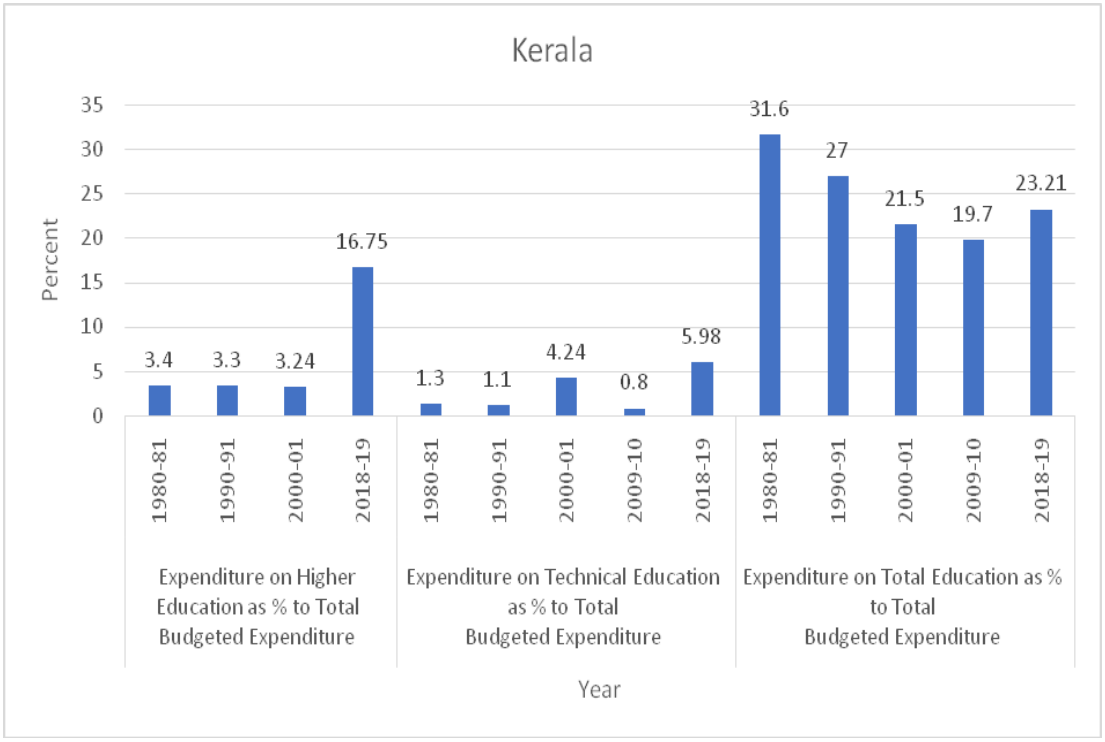
In Kerala, during 1980/81, 31.6 percent of the total budget was allocated for education and the share gradually fell to 19.7 percent in 2009/10 and then rose to 23.21 percent in 2018/19. The all India figures during these periods were 13 percent, 12 percent and 22 percent respectively. No other states in India allocated that much share except for the year 2018/19 for West Bengal. For technical education, Tamil Nadu alone stands above than Kerala only for the year 2018/19. In University and higher education, Kerala allocated 3.4 percent of total education expenditure to higher education in 1980/81 which remained the same till 2000/01 and then significantly increased to 16.75 percent in 2018/19, an increase of 5 times over the period of 18 years. In 2018/19, only two states Bihar (32.09 percent) and West Bengal (19.73 percent) spent higher than that of Kerala.

Table 3.11
Percent of Expenditure on Higher, Technical and Total Education to Total Expenditure (Revenue Account only), 1980/81-2018/19

Major States	Higher Education Expenditure as percent to Total Revenue Expenditure				Technical Education Expenditure as percent to Total Revenue Expenditure				Total Education Expenditure as Percent to Total Revenue Expenditure			
	1980-81	1990-91	2000-01	2018-19	1980-81	1990-91	2000-01	2018-19	1980--81	1990--91	2000--01	2018-19
Andhra Pradesh	3.8	3.8	3.7	14.2	0.6	0.5	2.5	3.8	19.5	18.0	15.1	27.2
Bihar	0.8	26	0.1	32.1	0.4	0.4	3.3	2.4	22.1	24.5	2.0	14.4
Gujarat	1.7	2.2	1.8	9.1	0.6	0.6	3.0	4.6	19.1	21.8	16.4	27.4
Haryana	2.6	2.4	3.0	12.3	0.4	0.4	3.1	3.3	17.8	16.4	18.3	18.7
Karnataka	3.3	2.8	3.3	11.7	0.6	0.6	1.9	3.6	18.9	19.7	19.6	18.1
Kerala	3.4	3.3	3.2	16.7	1.3	1.1	4.2	6.0	31.6	27.0	21.5	23.2
Madhya Pradesh	1.7	2.1	2.2	7.6	0.6	0.7	3.7	2.5	16.2	18.4	17.8	19.6
Maharashtra	2.7	2.4	3.0	10.8	0.7	0.8	3.7	4.4	20.1	19.5	24.9	24.1
Odisha	2.7	2.9	2.4	14.7	0.4	0.8	1.2	1.6	19.6	20.3	19.0	20.9
Punjab	2.5	2.9	1.8	4.9	0.3	0.4	1.8	1.8	25.0	19.8	15.3	14.7
Rajasthan	2.3	2.1	1.5	4.8	0.2	0.4	1.0	0.8	20.9	22.9	20.9	18.5
Tamil Nadu	3.6	2.3	2.4	9.1	0.8	0.8	3.2	7.5	20.4	22.4	19.8	21.3
Uttar Pradesh	2.0	1.7	1.7	4.5	0.5	0.6	1.7	0.7	20.2	21.8	19.0	17.6
West Bengal	3.3	3.5	3.0	19.7	0.8	0.5	1.8	2.8	22.0	26.4	20.3	27.6
India	1.9	1.8	1.8	11.2	0.5	0.6	4.0	3.3	12.9	13.3	12.2	22.0

Source: 1, MHRD, Analysis of Budgeted Expenditure on Education, Various Years.

Figure 3.9
Percent of Expenditure on Higher, Technical and Total Education to Total Budgeted Expenditure (Revenue Account only), 1980/81-2018/19



Source: Drawn from Table 3.11

Relative Priority within Education Sector in Kerala and India

A relatively high percentage of expenditures committed to particular level of education indicates that the government's education policy prioritises that level of education. Table 3.12 reveals that school education has remained the most popular sector in all major states, and that this sector has received special attention in state budgets. In 1980/81, all Indian states could spend 76.3 percent on school (both primary and secondary) education, 14.3 percent on higher education, 4.1 percent on technical education and 4.67 percent on other education. In 2017/18, the respective percentages were 80.64 percent, 12.76 percent, 4.86 percent and 1.36 percent respectively.

Table 3.12

Percent of Expenditure on Subsectors of Education to Total Education Expenditure (Revenue Account only), 1980/81 and 2017/18

Major States	1980-81					2017/18				
	School*	Higher	Technical	Adult	Others**	School *	Higher	Technical	Adult	Others**
Andhra Pradesh	74.26	19.59	3.08	0.44	2.62	80.22	16.11	2.57	0.18	0.92
Bihar	90.30	3.79	1.63	0.31	3.96	85.04	12.62	0.44	0.22	1.69
Gujarat	83.17	8.77	3.22	0.82	4.01	81.91	10.83	4.99	0.40	1.87
Haryana	78.12	14.33	2.40	0.91	4.23	81.13	12.42	5.47	0.03	0.95
Karnataka	76.23	17.43	3.16	0.80	2.38	87.06	8.58	1.85	0.18	2.33
Kerala	**82.85**	**10.63**	**4.22**	**0.04**	**2.28**	**81.17**	**13.84**	**4.12**	**0.09**	**0.77**
Madhya Pradesh	82.61	10.81	3.41	0.97	2.19	88.73	8.08	2.69	0.01	0.49
Maharashtra	79.37	13.34	3.39	0.40	3.51	86.95	8.98	3.41	0.08	0.58
Odisha	79.31	14.00	1.85	0.46	4.39	80.64	17.45	1.11	0.07	0.74
Punjab	85.55	10.14	1.08	0.76	2.48	84.81	12.99	1.38	0.05	0.77
Rajasthan	85.07	10.93	0.97	0.29	2.74	93.59	4.41	0.60	0.14	1.26
TamilNadu	76.04	17.43	3.81	0.70	2.02	83.50	11.03	2.20	0.01	3.24
Uttar Pradesh	81.05	9.90	2.53	0.53	5.99	91.35	6.68	0.89	0.00	1.09
West Bengal	76.36	15.24	3.43	0.47	4.50	80.58	14.45	3.21	0.17	1.59
India	**76.29**	**14.33**	**4.06**	**0.75**	**4.57**	**80.64**	**12.76**	**4.86**	**0.38**	**1.36**

*School includes primary and secondary ** Others include expenditure on Physical education, general and language development*
Source: 1, Analysis of Budgeted Expenditure, Ministry of Human Resources Development (Various Years).
2, Smitha Anand, Inter-State Variations in Public Spending On Higher Education in India, International Journal of Humanities and Social Science Invention, 3/9, September 2014. Kerala State Planning Board, 2016.

During the period 1980/81/2017/18, university and higher education expenditure in India had experienced a decline in its percentage share from 14.33 percent to 12.76 percent (Table 3.12). The states like Andhra Pradesh, Karnataka, Tamil Nadu, West Bengal, Haryana, Odisha and Maharashtra could spend higher than Kerala (10.63 percent) in 1980/81. But in 2017/18, Odisha, Andhra Pradesh and West Bengal could spend higher than Kerala for higher education (13.84 percent) while the all India average was 12.76 percent. However, the technical education witnessed only a mild rise in total allocation from 4.06 percent to 4.86 percent over the 37 year period. States like Tamil Nadu (2.20 per cent), Andhra Pradesh (2.57per cent), Kerala (4.12 per cent), Maharashtra (3.14 per cent) and West Bengal (3.21 per cent) could spend high for technical education during 2009/10. But, for underdeveloped states like Bihar, the share of technical education is only 0.44 per cent and it clearly showed the complete negligence of this sector in many states. For improving the technical capacity of the work force, it is essential to give top priority to technical education.

Plan and Non-Plan Expenditure on Higher and Technical Education

As noted earlier**,** plan expenditure on education is the expenditure which is incurred out of the funds provided under different Five Year Plans/ Annual Plans of the country. Non-plan expenditure is dedicated expenditure for the upholding of the presented infrastructure in education. Non-plan expenditure is expected to increase steadily over the years. One major reason for the increase in non-plan expenditure is the price rise and the consequent pay revisions and rise in maintenance expenditure of the age old existing institutions. Because it includes sustaining the stock of education infrastructure that has been defined by earlier decisions, the potential for reducing this spending is quite restricted. In India, non-plan higher education spending was 90.8 percent in 2000-01, while plan spending was 9.2 percent (Table 3.13). Due to the implementation of a considerable number of new schemes and projects in the country's higher education sector, the plan spending increased by 29.1 percent in 2009/10. In the country's technical education sector, plan expenditure climbed from 29.08 percent in 2000/01 to 54.24 percent in 2009/10, following a similar trend.

In 2000/01, Kerala could spend only 5.4 percent of total higher education expenditure for plan purposes which marginally improved to 7 percent in 2009/10; all India average was 9.2 percent and 29 percent for the respective years (Table 3.13). In the initial year, only Odisha and Rajasthan could spend higher plan funds while in 2009/10, Odisha, Andhra Pradesh, Haryana, Karnataka and Gujarat surpassed Kerala by spending more plan shares for higher education. Unlike other states of the country, in higher education sector Bihar is mainly spending fornon-plan component. During 2000/01, plan expenditure for higher education in Bihar was zero which had increased to 7.41 percent during 2009/10. In technical education, Kerala spent 26.4 percent in 2000/01 which declined to 17.57 percent in 2009/10; Odisha, Punjab and Rajasthan also reduced their plan expenditure for higher education while all other states could spend higher and higher shares for developmental purposes. Bihar could increase the share from 10.83 percent of total expenditure on technical education to 12.38 percent. It is thus found that Kerala‟s plan component for both higher and technical education in total allocation for education is small as compared to many other major states in India. It calls for a relook in the allocation of more plan funds in the present context of skill requirement for reaping the benefits of demographic dividend.

Table 3.13
Percent of Plan and Non-Plan Expenditure in Higher and Technical Education (Revenue Account only), 2000/01-2009/10

States	Higher Education				Technical Education			
	2000/01		2009/10		2000/01		2009/10	
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
Andhra Pradesh	0.75	99.25	30.96	69.04	8.29	91.71	48.70	51.30
Bihar	0.00	100.00	7.41	92.59	10.83	89.17	12.38	87.62
Gujarat	1.31	98.69	16.62	83.38	20.21	79.79	57.97	42.03
Haryana	4.07	95.93	26.21	73.79	48.13	51.87	45.16	54.84
Karnataka	3.34	96.66	18.23	81.77	14.97	85.03	39.47	60.53
Kerala	5.40	94.60	6.94	93.06	26.44	73.56	17.57	82.43
Madhya Pradesh	2.62	97.38	7.02	92.98	19.52	80.48	46.93	53.07
Maharashtra	0.80	99.20	0.65	99.35	3.06	96.94	3.43	96.57
Odisha	25.87	74.13	88.10	11.90	39.68	60.32	19.46	80.54
Punjab	0.60	99.40	0.31	99.69	46.17	53.83	3.98	96.02
Rajasthan	8.59	91.41	2.69	97.31	36.51	63.49	16.93	83.07
Tamil Nadu	1.67	98.33	0.58	99.42	2.12	97.88	18.94	81.06
Uttar Pradesh	2.84	97.16	4.06	95.94	2.17	97.83	30.32	69.68
West Bengal	1.96	98.04	6.93	93.07	14.71	85.29	55.52	44.48
India	9.20	90.80	29.10	70.90	29.08	70.92	54.24	45.76

Source: MHRD, GOI, Analysis of Budgeted Expenditures, Various Years.

Revenue Expenditure Profile of Kerala and Education in the State Budget

Education and health are the two important public goods on which a substantial amount of public money is invested. Educational expenditure is the single largest component of government expenditure in Kerala. To understand the funding of education, we have to go through the expenditure profile of the state government. The biggest problem that Kerala is facing now is the slow growth of revenue receipts. The proportion of non-plan expenditure to revenue expenditure and total expenditure is extremely higher. The steep increase in the non-plan

revenue expenditure has resulted in the non- availability of resources for capital or plan expenditure. Non-plan revenue expenditure constitutes about 80 percent of the government's total spending and 113.26 percent of revenue receipts. Shortage of funds for plan expenditure strangulates developmental initiatives. Revenue expenditure as percent to total expenditure lies around 91 percent throughout the twelve year period from 2007/8 (Table 3.14 and Figure 3.10). During the period, it increased from Rs. 24892 to Rs. 110316, an increase of 4.4 times. Of the total revenue expenditure, the share of non- plan expenditure slightly declined from 91 percent to 87.5 percent while the share of plan expenditure slightly improved from 9 percent to 12.5 percent. The share of non- plan revenue expenditure to total state government expenditure slightly reduced from 83 to 80 percent. The major factor contributing to the rise in revenue expenditure is the frequent rise in salaries, pensions, etc. (Table 3.15; Figures 3.11 and 12). However a welcome sign is that salaries and pensions together constitute 46 percent in 2007/8 which declines to 37 percent in 2018/19. The root cause for the continuous revenue and fiscal deficit and unstable finance of the State is the inability of the government to increase revenue receipts. Hence, the state government faces acute resource crunch to meet development expenditure in core areas of infrastructure, public utilities and public services.

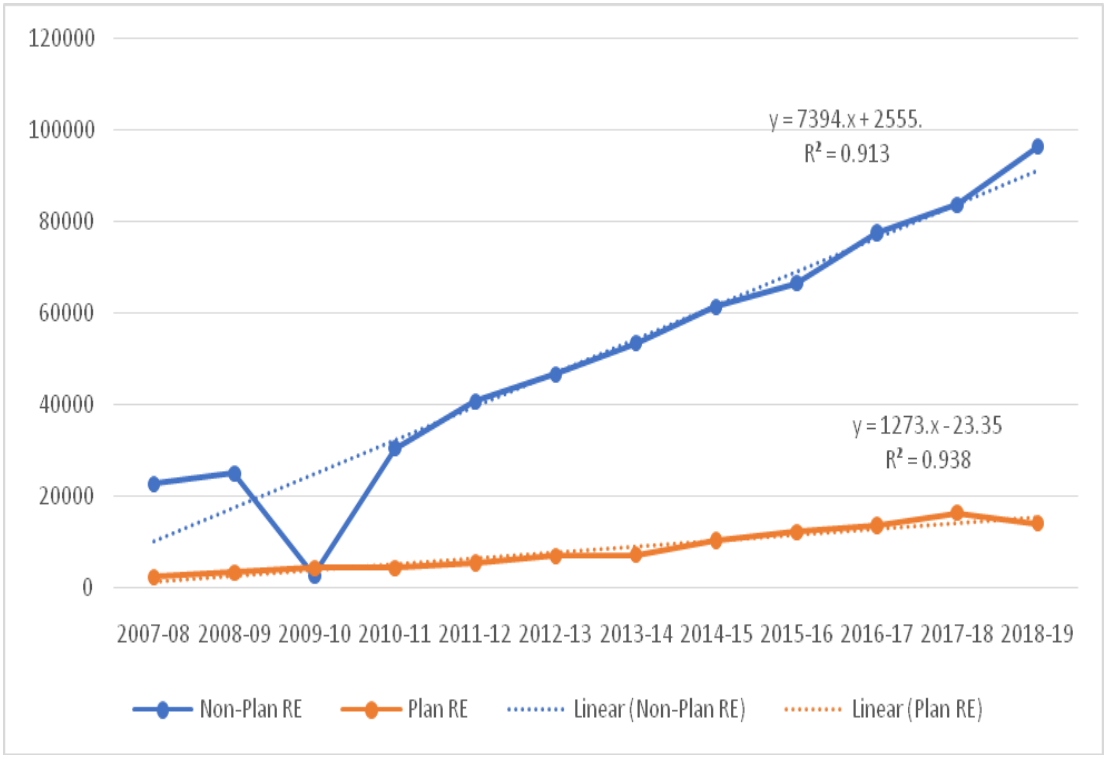
Table 3.14

Revenue Expenditure (RE) in Kerala (Rs. Crores), 2007/08—2018/19

Heads of Expenditure	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Revenue expenditure	24892	28224	31112	34665	46045	53448.62	60485.50	71746.43	78689.47	91096.31	99948.35	110316.39
Non plan revenue expenditure	22615	25012	26953	30469	40718	46640	53412	61462	66611	77604	83766.62	96425.83
Plan RE	2277	3212	4179	4196	5327	6849	7074	10282	12079	13492	16181.74	13890.39
RE as % to Total Expenditure	91.3	91.3	81.4	89.4	90.5	90.3	91.3	93.5	90.4	88.9	90.6	91.8
NPRE as % to Total Expenditure	83	80.9	79.1	78.5	80	78.7	80.6	80.1	76.5	75..8	76	80.3

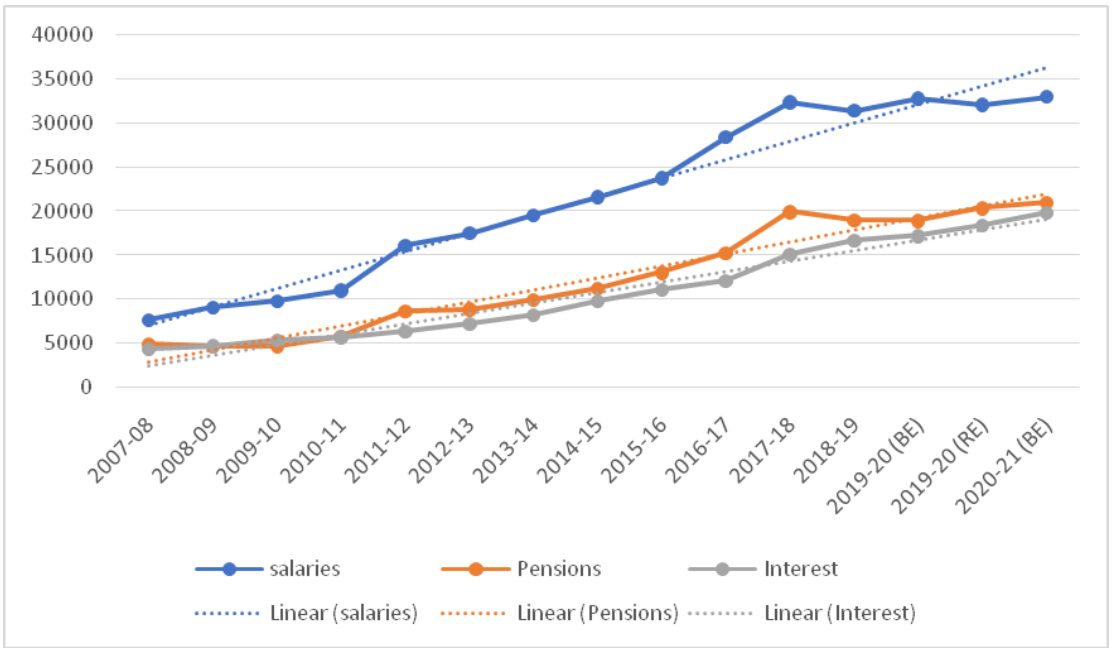
Note: NPRE-Non plan revenue expenditure
Source: Budget Documents 2007, 2010, 2012, 2015, 2018, 2020, GOK

Figure 3.10
Revenue Expenditure (RE) in Kerala (Rs. Crores), 2007/8—2018/19



Source: Drawn from Table 3.14

Figure 3.11
Components of Revenue Expenditure of Kerala (Rs. Crores), 2007-2021



Source: GOK, Budget Documents 2007, 2010, 2012, 2015, 2018, 2020.

Table 3.15

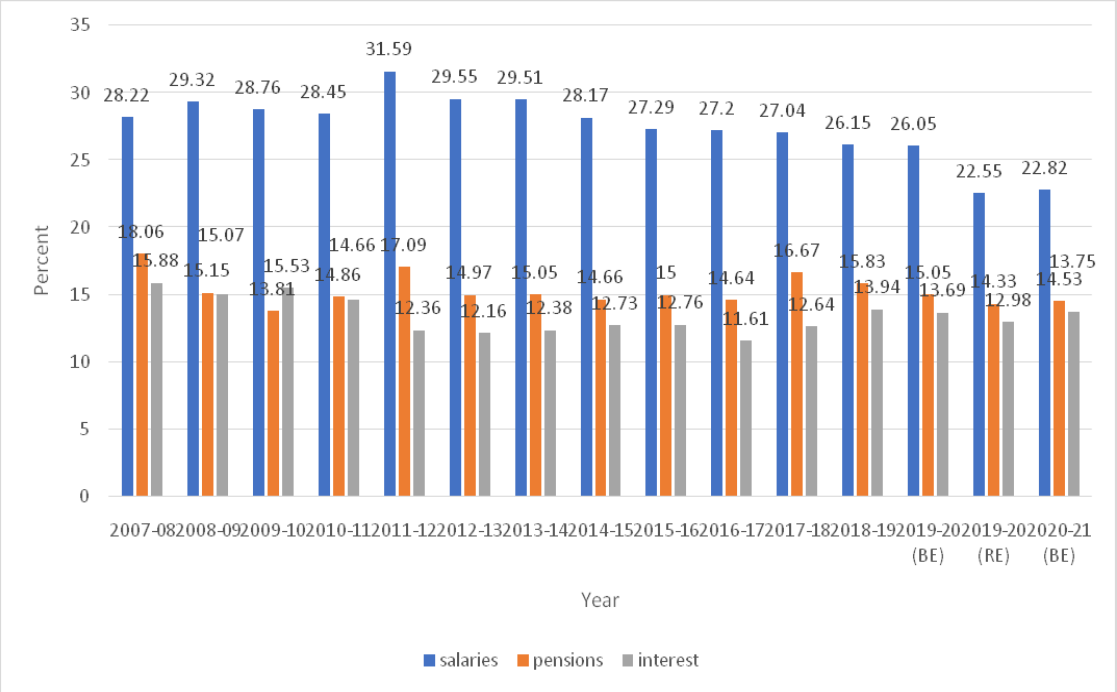
Components of Revenue Expenditure of Kerala (in Rs. Crores), 2007-2021

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20(RE)	2020-21(BE)
Revenue Expenditure (RE)	24892	28224	31112	34665	46045	53448.62	60485.5	71746.43	78689.47	91096.31	99948.35	110316.39	53448.62	60485.5
Salaries	7693	9064	9799	11038	16083	17505	19554	21621	23757	28373	32349	31405	32027	32931
Pensions	4925	4685	4706	5767	8700	8867	9971	11253	13063	15277	19938	19011	20351	20970
Interest	4330	4660	5292	5690	6294	7205	8205	9770	11111	12117	15119	16747	18434	19850
Salaries(%)	28.22	29.32	28.76	28.45	31.59	29.55	29.51	28.17	27.29	27.2	27.04	26.15	22.55	22.82
Pensions (%)	18.06	15.15	13.81	14.86	17.09	14.97	15.05	14.66	15	14.64	16.67	15.83	14.33	14.53
Interest(%)	15.88	15.07	15.53	14.66	12.36	12.16	12.38	12.73	12.76	11.61	12.64	13.94	12.98	13.75

Source: GOK, Budget Documents 2007, 2010, 2012, 2015, 2018, 2020.

Figure 3.12

Percentage of Revenue Expenditure to Total Expenditure in Kerala, 2007-2021



Source: Drawn from Table 3.15

Table 3.16 portrays that the total expenditure on education in the state significantly increased(4.7 times) from Rs. 3646.9 crores to 17151.38 crores over the fourteen year period, 2006/7-2019/20 (Table 3.16 and Figure 3.13). It is surprising to find that, of this expenditure, only 5.7 percent was plan expenditure while the rest is non plan. However, the plan share slightly improved from 2.6 percent in 2006/7 to 5.7 percent in 2019/20(Table 3.17). Further it is interesting to note that of the total education expenditure, only 2.9 percent is allotted to higher education and 5.7 percent is earmarked for technical education. In higher education expenditure, plan share was 54 percent and non-plan share 46 percent while in technical education, the corresponding figures were 9.8 and 91.2 percent. Moreover, Expenditure on higher education had risen by six times and technical education by 5 times during the period.

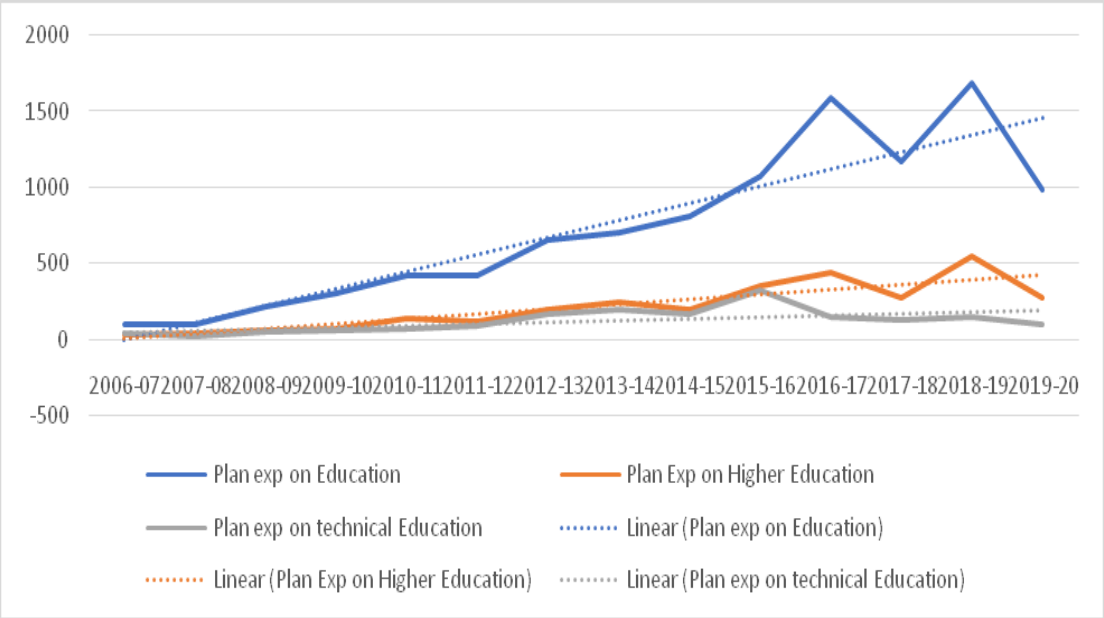
Table 3.16
Education Expenditure in Kerala in the State Budget, 2006/7-2019/20
(Rs. Crores)

Total expenditure on Education				Higher education			Technical Education		
Year	Plan exp.	Non plan exp.	Total exp.	Plan Exp.	Non Plan Exp.	Total Exp.	Plan	Non plan	Total Exp.
2006-07	95.49	3551.43	3646.92	28.67	53.37	82.04	41.61	146.06	187.66
2007-08	98.08	4146.93	4245.01	35.54	56.81	92.35	17.53	166.32	183.85
2008-09	216.35	4826.12	5042.47	54.80	68.98	123.78	45.19	199.69	244.88
2009-10	300.77	5191.69	5492.46	72.36	71.02	143.38	58.01	216.77	274.78
2010-11	413.67	5945.28	6358.95	141.68	86.71	228.39	72.43	247.92	320.35
2011-12	420.20	8381.72	8801.92	112.48	118.45	230.92	90.65	358.46	449.11
2012-13	649.34	69028.96	69678.30	200.19	133.96	334.15	163.61	400.46	564.07
2013-14	704.01	10097.26	10801.27	240.39	161.61	402.00	192.48	466.45	658.93
2014-15	809.49	11018.02	11827.51	193.71	163.14	356.85	172.03	522.29	694.32
2015-16	1067.88	11848.12	12916.01	356.59	180.13	536.73	326.98	573.96	900.94
2016-17	1583.39	14320.75	15904.14	443.41	216.05	659.45	150.18	656.97	807.15
2017-18	1169.96	16089.15	17259.11	271.71	223.87	495.58	130.89	817.13	948.02
2018-19	1684.47	15936.33	17620.81	550.05	211.67	761.72	149.32	814.77	964.09
2019-20	979.11	16172.27	17151.38	271.11	230.79	501.90	96.33	881.14	977.46

Source: 1, Government of Kerala, Budget Documents, Relevant Years
2, KSPB, Economic Review, Various Years

As mentioned in Table 3.16, the plan and non-plan expenditure in Kerala had steadily increased over the past two decades. During the period 2009/10, 94.52 per cent of the non- plan expenditure was allocated to general education in Kerala. This gradually decreased over time, with exception in 2017/18 and 2019/20. The percent of plan expenditure had shown declining trend till 2016/17. The plan expenditure decreased from 9.95 per cent in 2016-17 to 6.93 per cent in 2017-18. This is due to the fiscal constraints as a result of the demonetization of currency notes in November 2016 in the economy. The plan expenditure and revenue expenditure for the year 2019/20 was 14.09 percent and 6.61 percent respectively. The budgeted estimate of plan in the year 2020/21 is projected to be 6.61 per cent. This could be attributed to the disturbance caused by the Covid-19 pandemic imposed lockdown and restriction in the economy.

Figure 3.13
Plan Education Expenditure in Kerala in the State Budget, 2006/7-2019/20
(in Rs. Crores)



Source: Drawn from Table 3.16

Table 3.17
Percent of Education expenditure (Plan and Non-plan) by Levels in Kerala State Budget, 2006/7-2019/20

Total expenditure on Education				Higher education			Technical Education		
Year	**Plan exp.**	**Non plan exp.**	**Total exp.**	**Plan Exp.**	**Non Plan Exp.**	**Total Exp.**	**Plan**	**Non plan**	**Total Exp.**
2006-07	2.62	97.38	100	34.95	65.05	100	22.17	77.83	100
2007-08	2.31	97.69	100	38.48	61.52	100	9.53	90.47	100
2008-09	4.29	95.71	100	44.27	55.73	100	18.45	81.55	100
2009-10	5.48	94.52	100	50.47	49.53	100	21.11	78.89	100
2010-11	6.51	93.49	100	62.03	37.97	100	22.61	77.39	100
2011-12	4.77	95.23	100	48.71	51.29	100	20.18	79.82	100
2012-13	0.93	99.07	100	59.91	40.09	100	29.01	70.99	100
2013-14	6.52	93.48	100	59.80	40.20	100	29.21	70.79	100
2014-15	6.84	93.16	100	54.28	45.72	100	24.78	75.22	100
2015-16	8.27	91.73	100	66.44	33.56	100	36.29	63.71	100
2016-17	9.96	90.04	100	67.24	32.76	100	18.61	81.39	100
2017-18	6.78	93.22	100	54.83	45.17	100	13.81	86.19	100
2018-19	9.56	90.44	100	72.21	27.79	100	15.49	84.51	100
2019-20	5.71	94.29	100	54.02	45.98	100	9.86	90.15	100

Source: 1, Government of Kerala, Budget Documents, Relevant Years
2, KSPB, Economic Review, Various Years

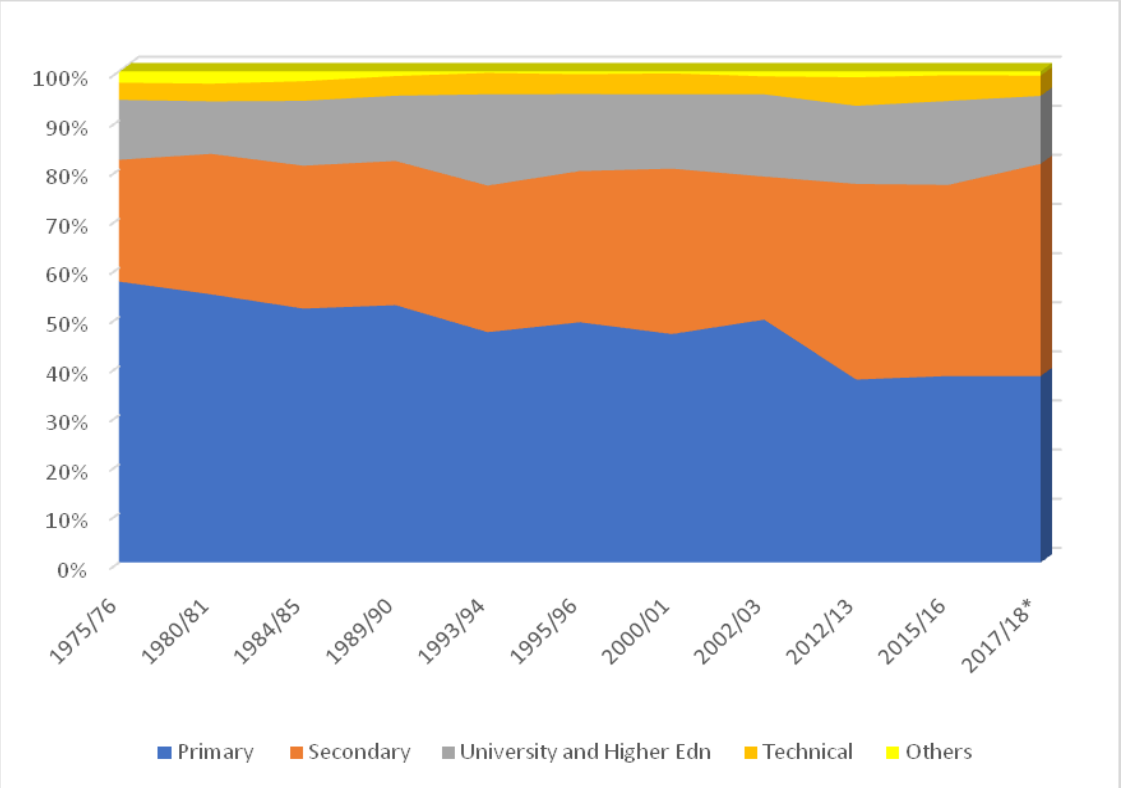
Table 3.18
Percent of Education Expenditure by Levels of Education in Kerala, 1975/76-2017/18

Sectors	1975/76	1980/81	1984/85	1989/90	1993/94	1995/96	2000/01	2002/03	2012/13	2015/16	2017/18*
Primary	57.2	54.6	51.7	51.92	46.60	48.73	46.28	49.26	37.22	37.97	37.96
Secondary	24.8	28.6	29.1	29.09	29.65	30.65	33.52	29.01	39.79	38.92	43.21
University and Higher Education	12.2	10.7	13.2	13.16	18.47	15.62	15.06	16.69	15.89	17.09	13.84
Technical	3.5	3.6	4.0	3.97	4.32	4.03	4.24	3.65	5.82	5.23	4.13
Others	2.3	2.5	2.0	0.94	0.31	0.57	0.4	1.0	1.19	0.79	0.86
Total	100	100	100	100	100	100	100	100	100	100	100

*Note: * budget estimates. Source: Expenditure on Education compiled from Central and State Annual Budgets, Ministry of Education and Social Welfare, Government of India, 1976*

During the period, 1975/76-2017/18, both primary and secondary education almost retained its share (82 percent) of expenditure while the share of university and higher education in the total expenditure on education had seen only marginal rise from 12.2 percent to 13.84 percent (Table 3.18 and Figure 3.14) in 42 year period from 1975.76. The share of technical education also marginally improved from 3.5 to 4.13 percent during this long period. Higher and technical education had witnessed an increase of 23 percent in 1993/94 and thereafter a continuous fall in the allocation to 18 percent over the 24 year period. The poor space occupied by the higher and technical education sectors in Kerala is evident from Figure 3.14. It all shows that the state does not give much importance to this core sector of education which can contribute directly to raise the productivity of human capital, which is most instrumental for developing the economy of the state.

Figure 3.14
Percentage of Education Expenditure by Levels of Education in Kerala.
1975/76-*2017/18*



Source: Drawn from Table 3.18

It is interesting to find that the percentage of higher education expenditure in total education expenditure in India (Table 3.19) had marginally improved from 10.88 percent in 2012/13 to 12.84 percent in 2015/16 while the same in Kerala had increased by one percent only from 15.89 percent to 17.09 percent during the period. Similarly the allocation to technical education at all India level had risen from 2.77 percent to 4.6 percent; but in Kerala the same had declined from 5.82 percent to 5.23 percent.

Table 3.19
Percent of Education Expenditure by Sectors of Education in India and Kerala, 2012/13-2015/16

Levels	2012-13					
	Elementary (%)	**Secondary (%)**	**Adult (%)**	**Higher (%)**	**Technical (%)**	**Others (%)**
All India	50.60	34.47	0.15	10.88	2.77	0.79
Kerala	37.22	39.79	0.13	15.89	5.82	1.06
	2015-2016					
All India	50.96..	30.00	0.33	12.84	4.60	1.27
Kerala	37.97	38.92	0.12	17.09	5.23	0.67

Source: MHRD (2012b), MHRD, (2014c); Kerala State Planning Board (KSPB), 2016

Further the share of education expenditure to total budgeted expenditure in Kerala declined from 31.6 percent in 1980/81 to 27 percent in 1990/91; sharp decline to 21.5 percent in 2000/01 and then to 19.7 percent in 2009/10 (Table 3.20). The corresponding figures for all India were 12.9, 13.3, 12.2 and 11.9, showing only marginal declines over the period.. The share of higher education decreased from 3.4 percent to 2.7 percent in Kerala during 1980/81- 2009/10 and then marginally increased to 2.87 percent while the share for India had fallen from 1.9 percent to 1.5 percent during 1980/81- 2009/10. Further the allocation to technical education in Kerala had fallen to 0.8 from 1.3 percent; in India, the share had reached to a paltry 0.4 percent. With this meager allocation for higher and technical education, how the country can reap the benefits of demographic dividend? With this paltry allocation,

the youth of Kerala can‟t be properly trained to suit the requirements of the fast growing knowledge economy.

Table 3.20
Percent of Expenditure on Higher, Technical and Total Education to Total Budgeted Expenditure(Revenue Account only), Kerala and India, 1980/81-2017/18

States	Expenditure on Higher Education as % to Total Budgeted Expenditure		Expenditure on Technical Education as % to Total Budgeted Expenditure		Expenditure on Total Education as % to Total Budgeted Expenditure	
	Kerala	India	Kerala	India	Kerala	India
1980-81	3.4	1.9	1.3	0.5	31.6	12.9
1990-91	3.3	1.78	1.1	0.6	27.0	13.3
2000-01	3.24	1.79	4.24	4.04	21.5	12.2
2009-10*	2.7	1.5	0.8	0.6	19.7	11.9
2010-11	3.59	-	5.04	-	-	-
2017-18	2.87	-	5.49	-	-	-

**Budget estimates*
Source: 1, Ministry of Human Resources Development, RBI Analysis of Budgeted Expenditure Various Reports.
2, Analysis of Budgeted Expenditure on Education, Various Issues

Table 3.21 shows the growth rate of general education expenditure from 2009/10 to 2018/19. Between 2009/10 and 2018/19, the highest annual growth rate of 54.6 percent was witnessed in plan expenditure during 2012/13and the lowest of 1.5 percent during 2011/12. Correspondingly, growth rate in non- plan expenditure was lowest at 8 percent and highest at 41 percent during the periods mentioned above. In 2018/19, the plan expenditure growth rate slumped to 40.1 percent. This was due to the additional burden incurred because of the pay revision to staff that was undertaken during this period. The average annual growth rate of plan and non-plan expenditure was 24 percent and 14 percent respectively during the period. And the compound annual growth rate of plan and non-plan expenditure is 24 percent and 13.3 percent respectively.

Table 3.21

Growth Rate in General Education Expenditure in Kerala, 2009/10-2018/19

Year	Plan (Rs. Crores)	Non – Plan (Rs. Crores)	Growth Rate - Plan (%)	Growth Rate Non- Plan (%)
2009-10	300.76	5191.68	-	-
2010-11	413.85	5956.32	37.6	15
2011-12	420.19	8381.71	1.5	41
2012-13	649.62	9041.02	54.6	8
2013-14	704.17	10118.97	8.4	12
2014-15	810.26	11033.08	15.1	9
2015-16	1068.03	11860.72	31.8	8
2016-17	1584.55	14332.79	48.4	21
2017-18	1202.22	16130.37	-24.1	13
2018-19	1684.47	15936.33	40.1	-1
AAGR			23.71	14.00
CAGR			18.8	11.87

Source: GoK, Kerala State Budget Documents, Various Years; growth rates calculated by the author.

Table 3.22 shows the trends in the plan and non-plan expenditure allocated for university and higher education from the allocation to education in the state. During 2009/10, plan expenditure for education was 300.76 crores, out of which 24.05 percent was allocated to University and higher education. During the same period, 5191.68 crores was the non-plan expenditure, out of which 13.67 percent was allocated to university and higher education. But in the next period 2010/11, the percent of plan and non-plan expenditure from general education to university and higher education increased to 34.23 percent and 14.55 percent respectively. And during the next year 2014/15, the percent of plan and non-plan expenditure decreased to 23.90 percent and 14.78 percent. By 2018/19, the plan expenditure for general education increased to 1684.47 crores and the percentage allocated to plan expenditure increased rapidly to 34.43 percent. Thus it is observed that the percentage of non- plan expenditure assigned to university and higher education

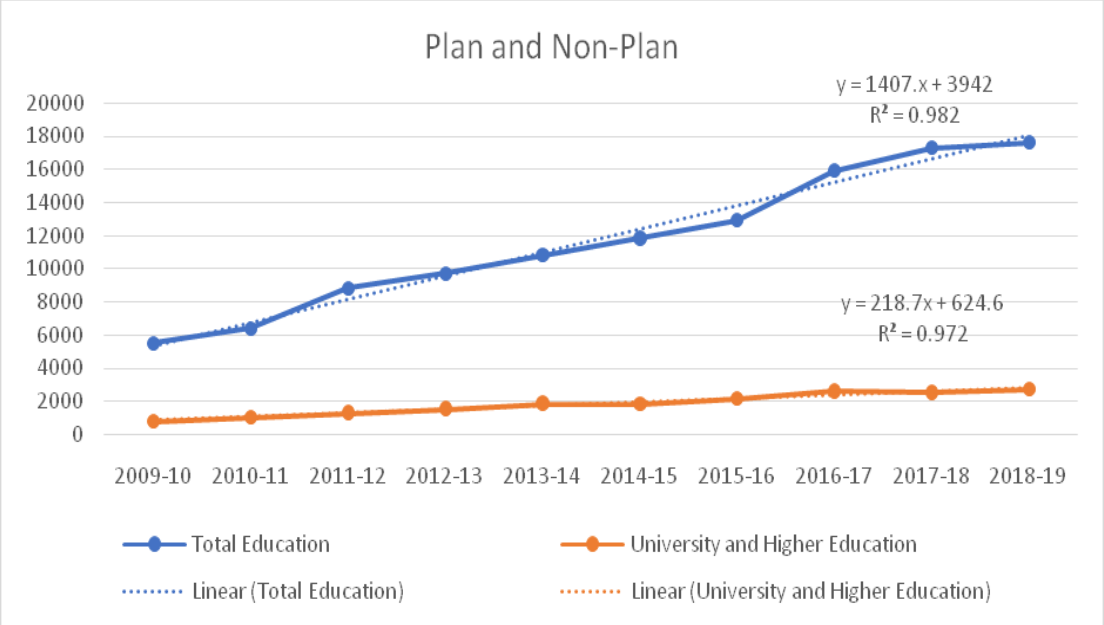
shows minimal fluctuations overtime. Figure 3.15 indicates that the growth in allocation to the total education sector is higher than that in higher education which rises at a very slow pace.

Table 3.22
Trends in University and Higher Education Expenditure in Kerala, 2009/10-2018/19 (Rs. Crores)

Year	Total Education			University and Higher Education					
	Plan	Non - Plan	Plan and Non- Plan	Plan	Non - Plan	Plan +Non - Plan	Plan %	Non-Plan %	Plan & Non-Plan %
2009-10	301	5192	5492	72.36	710.17	782.53	24.05	13.67	14.24
2010-11	414	5956	6370	141.67	867.14	1008.82	34.23	14.55	15.83
2011-12	420	8382	8802	112.47	1184.45	1296.92	26.76	14.13	14.73
2012-13	650	9041	9691	200.18	1339.56	1539.75	30.81	14.81	15.88
2013-14	704	10119	10823	240.38	1616.09	1856.48	34.13	15.97	17.15
2014-15	810	11033	11843	193.7	1631.35	1825.06	23.9	14.78	15.41
2015-16	1068	11861	12929	356.59	1801.32	2157.92	33.38	15.18	16.69
2016-17	1585	14333	15917	443.4	2160.46	2603.87	27.98	15.07	16.35
2017-18	1202	16130	17333	271.71	2238.73	2510.44	22.6	13.87	14.48
2018-19	1684	15936	17621	580.05	2116.69	2696.74	34.43	13.28	15.31

Source: GoK, Kerala State Budget Documents, Various Years

Figure 3.15
Trends in University and Higher Education Expenditure in Kerala, 2009/10-2018/19 (Rs. Crores)



Source: Drawn from Table 3.22

Table 3.23 shows the year-wise growth rate of plan and non-plan expenditure in higher education. In 2010-11 the growth rate of plan expenditure spiked to 96 percent. This can be attributed to new initiatives such as the establishment of Kerala University of Health Sciences and Kerala Universities of Fisheries and Ocean Studies. Besides this,the state budget of 2010/11 increased the grants and declared more assistance for universities and higher education institutions. The UGC pay scale was increased in 2010/11 and as a result, the non- plan growth rate increased to 37 percent and the plan growth rate decreased to -21 percent. During 2012/13, there was 78 percent increase in the plan expenditure growth. The state budget in this year had given state awards for universities and the Malayalam University was set up and 10 colleges to be converted into centres of excellence were allocated funds. Funds were also allotted for establishing „Knowledge Cities" and „Academic Cities". But during 2014/15, the plan expenditure growth rate decreased to -19 percent. This was compensated in 2015/16, where the plan expenditure growth rate rose to 84 percent. The plan growth rate decreased for the next two consecutive years. But in 2018/19, plan growth rate increased by 113 percent. The universities

were allotted more funds for improving the physical infrastructure and new schemes were introduced to support existing courses. Owing to this, non-plan expenditure growth during this period was reduced to -5 percent. The average annual growth rate of plan and non-plan expenditure is 37 percent and 14percent respectively. And the compound annual growth rate of plan and non-plan expenditure is 30 percent and 15 percent respectively.

Table 3.23
Growth Rate of University and Higher Education Expenditure in Kerala, 2009/10-2018/19

Years	Plan	Non Plan	Growth Rate- plan (percent)	Growth Rate- Non –plan (percent)
2009-10	72.36	710.17		
2010-11	141.67	867.14	96	22
2011-12	112.47	1184.45	-21	37
2012-13	200.18	1339.56	78	13
2013-14	240.38	1616.09	20	21
2014-15	193.70	1631.35	-19	1
2015-16	356.59	1801.32	84	10
2016-17	443.40	2160.46	24	20
2017-18	271.71	2238.73	-39	4
2018-19	580.05	2116.69	113	-5
AAGR			**37**	**14**
CAGR			**30**	**15**

Source: GoK, Kerala State Budget Documents, Various Years

Growth of Expenditure on Higher Education after Liberalisation

It can be found that during the period before liberalization, average growth of expenditure on higher education was 94.67 percent; the same during the reform period was only 18.65 percent (Table 3.24). Further it is found that the growth of expenditure by the centre (35.45 percent) is higher than that by the states (26.18 percent) with wide gap in growth rates between the two agencies. In the reform period, both the growth rates (23.78 percent for the centre and 17.93 percent for the state) and the gap in growth rate between the two agencies (5.85 percent) becomes smaller in the reform period than that in the pre-reform period (36.61 percent).The

percentage growth rate of higher education expenditure is five times lower in the reform period than in the pre reform period. Thus there is significant difference in public expenditure in the pre reform period as compared to that of post liberalisation period.

Table 3.24

Growth of Expenditure on Higher Education after Liberalisation

Reform		Centre	States	Total
Pre	Average Growth Rate	128.76	92.15	94.67
	Std. Deviation	106.66	43.45	47.63
Post	Average Growth Rate	23.78	17.93	18.64
	Std. Deviation	22.14	14.19	13.92
Total	Average Growth Rate	35.45	26.18	27.09
	Std. Deviation	49.38	29.81	30.64

Source: Calculated from the above Tables

Table 3.25

Test Statistics: Difference in the Growth of Expenditure on Higher education Between Pre and Post Reform Periods

Tests	Centre	States	Total
Mann-Whitney U	8.000	1.000	2.000
Z	-2.160	-2.700	-2.623
Asymp. Sig. (2-tailed)	.031	.007	.009
Exact Sig. [2*(1-tailed Sig.)]	.028	.001	.003

Source: Calculated from the above Tables

Our null hypothesis of no significant difference in the growth of expenditure on higher education between pre and post liberalisation periods is tested by using Mann-Whitney U test with the mean ranks in expenditure. This test is used because there is no normality in the distribution of data(growth of expenditure) over the period of time. Significant difference was found in mean ranks of the Centre and states between the pre and post reform periods. From the last row of Table 3.25, it is found that the P values are less than 0.05 and therefore the null hypothesis is rejected. Thus we find that there is significant difference in the growth of public

expenditure on higher education in India and Kerala with a significant fall in expenditure during the reform period.

By assuming normality in data of growth of expenditure on education, independent sample‟t‟ test can also be used. Using t-test for equality of means, the study found significant difference in the growth rate of expenditure for pre-reform period (Average = 128.76, SD = 106.66) and post-reform period (Average = 23.78, SD = 22.14); t (25) = 4.646, p= 0.000 and mean difference is 104.97 at centre level. Since the P values are less than 0.05, the difference in the growth of public expenditure on higher education between the two periods in India is significant and the null hypothesis is rejected. In the state also, there was significant difference in the growth rate of expenditure between pre-reform (average = 92.15, SD = 43.45) and post-reform periods (average = 17.93, SD = 14.19); t (25) = 6.608, p= 0.000 and mean difference is 174.22. Therefore the null hypothesis is rejected and there is also a significant difference in the growth of expenditure in Kerala.Over all the study found significant difference in the public expenditure on education between the pre-reform (average= 94.67, SD= 47.63) and post-reform periods (average= 18.64, SD = 13.92); t (25) = 6.546, p =0.000 (see Appendix, Table 1)

3.3 Conclusion

Public expenditure on education as percent of total government expenditure reveals government‟s emphasis on education. It also reveals the commitment of the government to invest in the formation of human capital.The above analysis indicates that „expenditure on total education and higher as well as technical education has increased substantially during the past few decades. This is the case for both plan and non-plan expenditure. In the five year plan as well as in the annual budget allocations,the proportion of funds allocated for education has been increasing over the period of time.But major shares of the funds allocated for education are borne by the state government rather than the central government.The share of plan expenditure of the central government significantly improved over the period while that of the state government did not show much rise. It indicates that the states are burdened with the committed expenditure like salary and maintenance of the staff and the institution.It is also found that Kerala‟s plan component for both

higher and technical education in total allocation for education is small as compared to many other major states in India. It calls for a relook in the allocation of more plan funds in the present context of skill requirement for reaping the benefits of demographic dividend.

Analysis of the inter-sector composition of public expenditure on education in India indicates that during the period, 1975/76-2017/18, both primary and secondary education almost retained its share (82 percent) of expenditure while the share of university and higher education in the total expenditure on education had seen only marginal rise from 12.2 percent to 13.84 percent in 42 year period. The share of technical education also marginally improved from 3.5 to 4.13 percent during this long period. Higher and technical education had witnessed an increase of 23 percent in 1993/94 and thereafter a continuous fall in the allocation to 18 percent over the 24 year period. The poor space occupied by the higher and technical education sectors in Kerala shows that the state does not give much importance to this core sector of education which can contribute directly to raise the productivity of human capital, which is most instrumental for developing the economy of the state.In fact the country and the state have been witnessing a fall in the relative share of expenditure on university and technical education from 2014/15 onwards.The country and the state of Kerala are still far away from the limits prescribed by Kothari Commission and New Education Policy. In order to reap the benefits of the present demographic dividend, the country needs to spend heavily for the development of university and higher education. But if the spending pattern is like this, achievement out of demographic dividend is a distinct possibility.

Higher education expenditure increased substantially, but the share of higher education in the state education budget remained at low levels. In 2014, public expenditure on higher education out of the total allocation for education at all India level is 10.88 percent and at Kerala level is 15.89 percent. In the reform period, the dominant role of government in financing higher education sector has come to an end and, at present, expansion of the sector does not rely heavily on

public funds. This role reversal would adversely affect the higher education system in Kerala and other parts of India.

Furthermore, the analysis finds that there is a significant gap between states in terms of public spending on higher and technical education. The majority of states that spend relatively little money on higher education have a lower college population index and a lower gross enrollment ratio. The situation has been exacerbated by lower per capita spending and substantial disparities in spending among states in the country. Finances are essential for any improvement, including system upkeep, even if they do not fix all difficulties. Finances are not a sufficient prerequisite for development, but they are unquestionably a necessary condition for higher education development.' Less government expenditure on higher education has resulted in fewer quality course options and a lack of academic infrastructure in many states. Inadequate funding would undoubtedly have a significant impact on the quality and quantity of our higher education, with far-reaching implications for growth and equity (CABE, 2005).

It is also found that during the period before liberalization, average growth of expenditure of the centre and the states taken together on higher education was 94.67 percent while the same during the reform period was only 18.65 percent. Further it is found that the growth of expenditure by the centre (35.45 percent) is higher than that by the states (26.18 percent) with wide gap in growth rates between the two agencies. The percentage growth rate of higher education expenditure is five times lower in the reform period than the pre reform period. Thus there is significant difference in public expenditure on higher education between periods.The null hypothesis is rejected and thus we find that there is significant difference in the growth of public expenditure on higher education in India and Kerala with a significant fall in expenditure during the reform period.

CHAPTER IV

STRUCTURAL SHIFT IN PUBLIC EXPENDITURE ON HIGHER EDUCATION IN THE REFORM PERIOD

This chapter examines whether there is a structural shift in public expenditure on education in general and the higher education in particular during the reform period since 1991 as compared to the pre-reform period. In order to examine this, we have considered public expenditure data for the period from 1975/6 to 2018/19. For the convenience of analysis, we have sorted data for two periods namely pre-reform period, 1975/76-1990/91 and reform period, 1991/92-2018/19. This classification is made based on the availability of secondary data from various sources like MHRD and Budget Documents of Central and State governments. The basic postulate is that there is a structural shift in the form of a decline in public expenditure on education in general and higher education in particular during the reform period.

4.1 Shift in Public Expenditure on Education in India and Kerala

Table 4.1 reflects that the budgetary outlay of union government has increased over the years, from Rs 2.87 thousand crores in 1978/79 to Rs 12.91 thousand crores in 1991/92 (an increase of 7.63 times). During the reform period, it had risen from Rs 12.91 thousand crores in 1991/92 to Rs 22.42 .thousand crores in 2000/01 and then to Rs 26.11 thousand crores in 2010/11 and finally to Rs 94.85 thousand crores in 2019/20.In the year 2014-15, the overall expenditure on education was Rs. 110.35 thousand crores, it decreased to Rs.85.01 thousand crores in2018-19 and then increased to Rs94.85 thousand crores in 2019-20. On the contrary, the entire union budget increased from Rs 991.45 thousand crores in 2014-15 toRs2786.34thousandcroresin2019-20(4.32 times over the reform period). It shows that the rate of growth in expenditure is lower in the pre-reform period than that in the reform period.

Further an analysis of the share of education expenditure in union budget

reveals that the share declined from 15.1 percent in 1978/79; in the early 1990s it slightly declined to 13.3 percent. After 1991/92, there was a considerable fall in the share on education to 3.3 percent in 2020/21. It shows that the shift is phenomenal in the reform period. The consistent fall in government shares on education is evident from Figure 4.1. The education financial need has been growing day by day because of different time-bound necessities within the society but the expenditure from the government seems to be inadequate. In a country where nearly 35 percent of the people remain illiterate, promotion of literacy and education is the need of the hour which calls for more allocation for education. Further to reap the benefits of demographic dividend, imparting rightful skills to youth and children calls for more funds for higher education. In this context, the government withdrawal from the scene is a serious issue. Consistent fall in budget shares reveal that the government has been fast withdrawing from the field of education at a crucial time which demands more government intervention.

Table 4.1

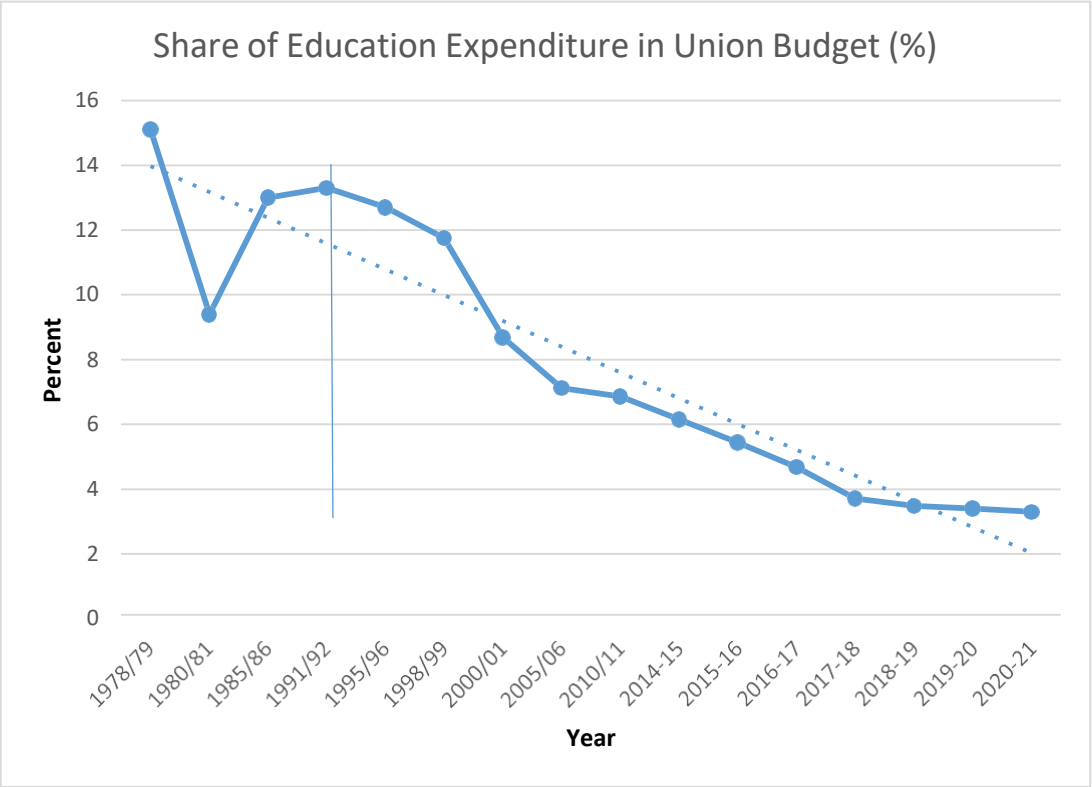
Total Budgetary Outlay on Education in India, 1978/79-2019/20

Years	Total Education Expenditure (in Rs. Thousand Crores)	Share of Education Expenditure in Union Budget (percent)
1978/79	2.87	15.1
1980/81	3.16	9.4
1985/86	8.51	13.0
1991/92	12.91	13.3
1995/96	16.17	12.7
2000/01	22.42	8.68
2005/06	25.78	7.12
2010/11	26.11	6.86
2015-16	42.22	5.44
2020-21	99.30	3.30

Source: Economic Survey 2019-20, GoI& Union Budget2019-20.

Figure 4.1

Total Budgetary Outlay on Education in India, 1978/79-2019/20



Source: Economic Survey 2019-20, GoI& Union Budget 2019-20

Further the argument that there is a structural break in public expenditure on education, is examined by Chow Break Point Test (Table 4.2) by taking 1991/92 as the break year. The null hypothesis is that there is no structural shift in government expenditure on higher education in the pre and post reform periods. The test indicates that the break analysis is significant with P value less than 0.05. Hence we reject the null hypothesis which means that there is structural shift in government expenditure on higher education between the pre and post reform periods.

Table 4.2
Chow Breakpoint Test: Structural Break in Percentage Share of Education Expenditure in Union Budget

Null Hypothesis: no structural shift in government expenditure on higher education in the pre and post reform periods			
Varying regressors: All equation variables			
Equation Sample: 1978/79 to 2020/21			
Chow Break Point : 1991-92			
F-statistic	6.0526	Prob. F(1,41)	**0.0275**
Log likelihood ratio	5.7488	Prob. Chi-Square(1)	0.0165
Wald Statistic	6.0526	Prob. Chi-Square(1)	0.0139

Source: Computed from Source: Economic Survey 2019-20, GoI & Union Budget 2019-20

Table 4.3
Test Statistics: Difference in the Share of Education Expenditure in Union Budget (percent) Between Pre and Post Reform Periods

Period	Average Share	Std. Deviation	Std. Error Mean	t test (df)
Pre	12.50	2.88271	1.66	t = 2.460 (14)
Post	6.97	3.60541	0.99	p = 0.027

Source: Estimated by Author; figures in brackets show degree of freedom

Table 4.3 shows the difference in the average share of education expenditure in Union Budget (percent) between pre and post reform periods. The average share in the pre-reform period was 12.50 where as in post-reform period it is 6.97. It clearly shows a decrease in share in post-reform period. Test for equality of means shows there is a significant difference ($p<0.05$) in share of education between pre and post reform periods.

Analysis of the share of total expenditure of the government (revenue and capital) (Table 4.4) shows that it had been moving almost steadily from the Fifth Five Year Plan onwards. The share of education in total expenditure for All States marginally improved from 15.5 percent in V plan to 15.9 percent during the seventh Plan period and then declined to 16.6 percent during the five-year period ended in 2002-03 (XII plan). In the case of Kerala, total expenditure had continuously

declined from 27.4 percent in fifth plan to 21.9 percent in seventh plan and then to 18.9 percent during the five year period ending 2002/03. The fall occurs in both revenue and capital expenditures. A classification of the expenditure in to plan and non-plan shows a decline of plan funds from10.6 percent to 5.1 percent during the period while for all states, there is increase from 5.4 percent to 8.6 percent; non plan expenditure fell from 32.5 percent to 23.1 percent while for the states, there is a fall from 20.2 percent to 18.9 percent over the period. It may be recalled that even the erstwhile Travancore-Cochin State had spent a much higher proportion (26.0 percent) of its budget on education in 1954-55 (Gopinathan.Nair, 1981).Since the commencement of first five year plan, the education sector has remained the priority sector of the central and state governments; this priority began to change from 1990/91 onwards.

Table 4.4
Percentage Share of Education, Art, Culture &Scientific Research in Budgeted Expenditure of Kerala and All States, 1974 to 2002-03

Plan Periods		Revenue Expenditure	Capital Expenditure	Total Expenditure	Plan Expenditure	Non-Plan Expenditure
V	Kerala	35.5	1.7	27.4	10.6	32.5
	All tates	22.6	0.4	15.5	5.4	20.2
VI	Kerala	31.9	1.5	24.1	8.2	30.7
	All tates	21.1	0.5	15.0	4.5	20.2
VII	Kerala	27.9	1.2	22.2	6.9	22.7
	All tates	20.7	1.0	15.9	5.8	20.9
1990-92	Kerala	26.7	2.8	22.3	5.4	26.9
	All tates	20.6	1.4	16.6	5.7	21.2
VIII	Kerala	28.2	2.7	21.9	6.2	27.0
	All tates	19.7	1.3	16.3	8.4	19.7
1998-99 to2002-03*	Kerala	21.2	1.5	18.9	5.1	23.1
	All tates	19.9	1.0	16.6	8.6	18.9

Source: 1, George, K.K.1993, Limits to Kerala Model of Development, pp.83, Centre for Development Studies (CDS), Thiruvananthapuram 2. MHRD, Various Years
**Computed from: State Finances, Various Issues, Reserve Bank of India.*

It appears that there is no direct relationship between economic growth and the public expenditure on education in the State. The largest expansion of the school system took place in the sixties, seventies and the eighties. Public expenditure on education remained high when the per capita income was growing only very slowly. The school system continued to expand at a slower pace during the eighties when the economic growth was picking up, though at a slower pace. But there was squeeze on every type of government expenditure in the nineties, which witnessed the highest growth rate in per capita state domestic product. But the growth in educational expansion was only in the Higher Secondary segment brought about as a result of the policy decision to shift the higher secondary education from the colleges to the schools.

The reduction in government funding affected all types of expenditure, particularly the plan and capital expenditure. The share of plan expenditure on education in the total plan expenditure of the State has come down from 10.6 percent in the fifth plan to 6.2 percent in eighth plan (Table 4.4). The above share of Kerala was lower than that of the average of All States during the nineties. As a result, the plan component of expenditure on education for Kerala in the nineties was much lower than the All States-average. The already low capital component of the expenditure on education came down further from 1.7 percent to 1.5 percent during the above period. „There are two possible reasons for the decreasing plan and capital components of educational expenditure, which though understandable are not fully justifiable. Most of the intake capacity creation in schools (except the Higher Secondary schools) and colleges run by the government had been completed by the eighties. The expansion that took place in the nineties was mostly in the unaided sector. Besides, most of the educational institutions in Kerala are in the private sector, either aided or unaided. The government has no capital expenditure commitment even for the aided sector(George,K.K, 1993).

As the share of education in the annual budget and five year plans are coming down, there was no scope for allocating funds for quality up-gradation.

Instead, the squeeze on education expenditure has led to the lowering of quality. The funds available now for investment in libraries and laboratories or for maintenance of capital assets already created or for providing educational inputs of a current nature are grossly inadequate leading to deterioration in quality. The decreasing availability of funds for the above vital purposes may be seen from the increasingly large share of consumption expenditure (92.4 percent in 1998-99) in the Final Outlay on education"(Economic and Functional Classification of Kerala Budget, 1993-94 to 1998-99). The share of compensation for employees alone (wages, salaries and pension) in the total consumption expenditure on education which was already very high in 1993-94 (91.2 percent) increased further to 93.6 percent in 1998-99. This implies decreasing provision for current inputs and for maintenance.

Shifts in Public Expenditure on Education by Centre and States

Table 4.5 reveals that there is increase in absolute level of expenditure on education throughout the period, just like all other sectors. Increase in expenditure can be found from the side of both Centre and States. However the relative increase in the share of education in general and higher education in particular is rather negative.

Table 4.5
Public Expenditure on Education by Centre and States (Rupees in Crores), 1977/78-2017/18

Year	Centre	State	Total
1977/78	160	2016	2176
1980/81	202	2908	3110
1984/85	445	5908	6353
1989/90	1512	13532	15044
1993/94	2096	21316	23412
1995/96	3317	28200	31517
1996/97	3672	32699	36371
1998/99	6323	44901	51224
1999/2000	10906	63909	74815
2000/01	10195	72290	82485

Year	Centre	State	Total
2001/02	14119	65746	79865
2002/03	16156	69350	85506
2003/04	17101	71798	89079
2004/05	18026	78668	96694
2005/06	23209	90019	113228
2006/07	34236	103148	137384
2007/08	39919	115878	155797
2008/09	48728	143667	192395
2009/10	54146	188636	246782
2010/11	80661	212817	293478
2011/12	86074	251008	337082
2012/13	103312	311426	414738
2013/14	124118	347893	472011
2014/15	133997	373457	507454
2015/16	142562	435229	577791
2016/17	152675	511589	664264
2017/18	174855	582089	756944
2018/19	180374	604640	785014

Source: MHRD, Analysis of Budgeted Expenditure on Education, Various Years

Compound annual growth rate of public expenditure on education by centre and states (Table 4.6) reveals a decline from 14.81 to 13.37 percent. In the pre-reform period, central and state government figures have shown higher positive percentage change while in the post reform period, the changes are very small (Table 4.7). For instance in 1980/81, it was 42.9 percent, which rose to 136.8 percent in 1989/90; and then sharply declined to just 3.71 percent in 2018/19.

Table 4.6

Compound Annual Growth Rate of Public Expenditure on Education by Centre and States (in Percent)

Period	CAGR (%)		
	Centre	State	Total
Pre-Reform Period (1977/78 to 1990/91)	17.40	14.57	14.81
Post-Reform Period (1991/92 to 2018/19)	17.25	12.68	13.37

Source: Calculated by the author.

Table 4.7

Growth Rate of Expenditure During Pre-reform and Post -reform Periods of the Centre and States, 1980/81- 2018/19

Year	Centre	State	Total	Period
1980/81	26.25	44.25	42.92	Pre-Reform Period
1984/85	120.3	103.16	104.28	
1989/90	239.78	129.05	136.8	
1993/94	38.62	57.52	55.62	Post-Reform Period
1995/96	58.25	32.29	34.62	
1996/97	10.7	15.95	15.4	
1998/99	72.19	37.32	40.84	
1999/2000	72.48	42.33	46.05	
2000/01	-6.52	13.11	10.25	
2001/02	38.49	-9.05	-3.18	
2002/03	14.43	5.48	7.06	
2003/04	5.85	3.53	4.18	
2004/05	5.41	9.57	8.55	
2005/06	28.75	14.43	17.1	
2006/07	47.51	14.58	21.33	
2007/08	16.6	12.34	13.4	
2008/09	22.07	23.98	23.49	
2009/10	11.12	31.3	28.27	
2010/11	48.97	12.82	18.92	
2011/12	6.71	17.95	14.86	
2012/13	20.03	24.07	23.04	
2013/14	20.14	11.71	13.81	
2014/15	7.96	7.35	7.51	
2015/16	6.39	16.54	13.86	
2016/17	7.09	17.54	14.97	
2017/18	14.53	13.78	13.95	
2018/19	3.16	3.87	3.71	

Source: Analysis of budget expenditure, various years

The percentage increase in both central government and state government expenditures is small during the reform period as compared to the pre-reform period. It all shows that reforms adversely impacted education in India in general and all states in particular. From 1990s, both the Central government and the states had begun to gradually withdraw from education. The basic argument put forward for this expenditure cuts is the financial and fiscal crises. But a cursory look at the continuous rise in public revenues rejects this argument. Thus the null hypothesis that there is no significant structural shift in education expenditure gets rejected. This means that there is significant shift in education expenditure during the period since the introduction of reforms.

By assuming the normality in data, structural break in the growth rate of public expenditure on education, is examined by Chow Break Point Test (See Appendix 1, Table 2) by taking 1991/92 as the break year. The null hypothesis is that there is no structural shift in government expenditure on higher education in the pre and post-reform periods. The test indicates that the break analysis is significant with a p-value less than 0.05 in the centre, state and all India levels of growth rates. Hence we reject the null hypothesis which means that there is a structural shift in the growth rate of government expenditure on higher education between the pre and post-reform periods.

Plan and Non-plan expenditure of the Centre and States

An analysis of the Plan and non-plan expenditure of the Centre and States portrays the shift more clearly in Table 4.8. The plan and non-plan components of expenditure of both the central and state governments increased only marginally during the reform period as compared to the pre-reform period. It is found that the compound annual growth rate(CAGR) (Table 4.9) in the share of plan expenditure on education by centre and state taken together had declined from 20. 56 percent in the pre-reform period to 17.55 percent in the reform period. Similarly the non- plan expenditure on education witnessed a fall CAGR from 16.42 percent in the pre-reform period to 14.35 percent in the reform period. There is a relative decline in CAGR by seven percent in the Centre‟s plan expenditure while there is an increase

in non- plan expenditure by six percent. However, state growth rates declined by three percent under plan and two percent under non-plan in the reform period.

Table 4.8
Share of Plan and Non-Plan Expenditure on Education by Centre and State, 1977/8-1999/00 (in Rs. crores)

Year	Centre		State		Both Centre & State		Period
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	
1980/81	64	139	236	2672	299	2811	Pre-reform
1984/85	202	243	635	5273	838	5516	
1989/90	831	681	1577	11955	2408	12636	
1990-91	886	762	1454	14199	2339	14961	
1993/94	1217	879	1903	19413	3121	20292	Post-Reform
1995/96	2193	1124	3134	25066	5328	26190	
1999/00	4403	2929	4902	49047	9305	51976	
2001-02	9506	4613	6785	58961	16291	63574	
2002-03	11217	4939	8079	61271	19296	66210	
2003-04	12087	5014	8630	63168	20717	68182	
2004-05	12876	5150	9794	68874	22670	74024	
2005-06	17864	5345	13791	76228	31655	81573	
2006-07	27745	6491	16999	86149	44744	92640	
2007-08	32901	7018	19363	96515	52264	103533	
2008-09	38821	9907	23662	120005	62483	129912	
2009-10	40171	13975	31238	157398	71409	171373	
2010-11	64706	15955	43713	208504	108419	224459	
2011-12	63178	22896	60945	190063	124123	212959	
2012-13	75759	27553	73247	238179	149006	265732	
2013-14	92356	31762	87773	260120	180129	291882	
2014-15	102534	31463	96427	277030	198961	308493	
2015-16	112766	29796	84783	350446	197549	380242	
2016-17	119148	33527	107894	403695	227042	437222	
2017-18	117730	57125	60071	522018	177801	579143	

Source: GOI, MHRD, Various Issues

Table 4.9
Compound Annual Growth Rate of Plan and Non-Plan Expenditure on Education by Centre and State

Periods	CAGR (percent)					
	Centre		State		Both Centre and State	
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
Pre-Reform Period (1980/81 to 1990-91)	26.98	16.73	17.97	16.40	20.56	16.42
Post-Reform Period (1991/92 to 2017/18)	20.07	23.72	14.81	14.07	17.55	14.35

Source: Calculated by the author

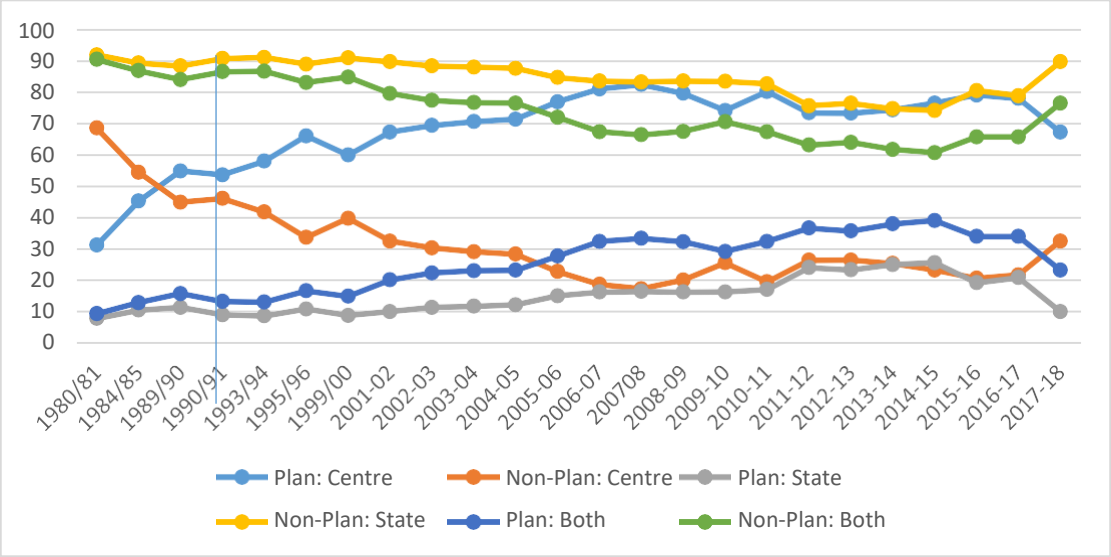
An analysis of the share of plan and non-plan expenditure (Table 4.10 and Figure 4.2) illustrates that in the 10 year period before the reforms, the plan expenditure of both the Centre and States varied in between 10 to 16 percent; but in the reform period, the plan expenditure considerably increased from 13.52 percent in 1990/91 to a maximum of 39 percent in 2014/15 and then declined to 23.49 percent in 2017/18. Correspondingly the non-plan expenditure declined from 86.48 percent in 1990/91 to 76.51 percent in 2017/18. Further it is interesting to find that plan expenditure of the Centre is in between 58-82 percent during all periods except during 1980-85 while the same for the States is only in the range of nine to 22 percent. It shows that the Central government funds are increasingly used for the development of basic infrastructure and improving the quality of education while the state government funds are mainly used for the running and maintenance of educational system.

Table 4.10
Share of Plan and Non-Plan Expenditure on Education by Centre and States, 1980/81-2017/18 (in Percent)

Year	Centre		State		Both Centre & State	
	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
1980/81	31.39	68.61	8.11	91.89	9.63	90.37
1984/85	45.42	54.58	10.75	89.25	13.18	86.82
1989/90	54.96	45.04	11.65	88.35	16.01	83.99
1990/91	53.76	46.24	9.29	90.71	13.52	86.48
1993/94	58.07	41.93	8.93	91.07	13.33	86.67
1995/96	66.13	33.87	11.11	88.89	16.90	83.10
1999/00	60.05	39.95	9.09	90.91	15.18	84.82
2001-02	67.33	32.67	10.32	89.68	20.40	79.60
2002-03	69.43	30.57	11.65	88.35	22.57	77.43
2003-04	70.68	29.32	12.02	87.98	23.30	76.70
2004-05	71.43	28.57	12.45	87.55	23.45	76.55
2005-06	76.97	23.03	15.32	84.68	27.96	72.04
2006-07	81.04	18.96	16.48	83.52	32.57	67.43
200708	82.42	17.58	16.71	83.29	33.55	66.45
2008-09	79.67	20.33	16.47	83.53	32.48	67.52
2009-10	74.19	25.81	16.56	83.44	29.41	70.59
2010-11	80.22	19.78	17.33	82.67	32.57	67.43
2011-12	73.40	26.60	24.28	75.72	36.82	63.18
2012-13	73.33	26.67	23.52	76.48	35.93	64.07
2013-14	74.41	25.59	25.23	74.77	38.16	61.84
2014-15	76.52	23.48	25.82	74.18	39.21	60.79
2015-16	79.10	20.90	19.48	80.52	34.19	65.81
2016-17	78.04	21.96	21.09	78.91	34.18	65.82
2017-18	67.33	32.67	10.32	89.68	23.49	76.51

Source: calculated from the Budgeted Expenditure on Education, Various Issues

Figure 4.2
Share of Plan and Non-Plan Expenditure on Education by Centre and States, 1980/81-2017/18 (in Percent



Source: Drawn from Table 4.9

Table 4. 11
Chow Breakpoint Test: Structural Break in Public Expenditure on Education

	Variable	Break Year	F-Statistics	P-Value
Centre	Plan	1991-92	42.5197	0.000
	Non-Plan	1991-92	42.5197	0.000
State	Plan	1991-92	4.8835	0.0378
	Non-Plan	1991-92	4.8835	0.0378
Both	Plan	1991-92	13.9637	0.0011
	Non-Plan	1991-92	13.9637	0.0011

Source: Computed by the author.

Structural break analysis by Chow Break Point Test also reveals a clear break in public expenditure during the reform period and the change is significant. P value of both Central and state government expenditure is significant (See Table 4.11). An independent sample t-test is used to test whether there is any significant difference in growth of Plan and Non-Plan Expenditure on education between Pre and Post Reform periods in the case of centre and state (Table 4.12). It was found

that there was a significant difference in the growth rate of plan and non-plan expenditure in centre and state (p value is less than 0.05 in all cases).

Table 4.12
Difference in the Growth of Plan and Non-Plan Expenditure on Education between Pre and Post Reform Periods

		Period	Average Growth Rate	Std. Deviation	Std. Error Mean	t test (df)
Centre	Plan	Pre	264.5850	65.41445	46.25500	t = 8.579 (20) p = 0.000
		Post	31.7850	34.41103	7.69454	
	Non-Plan	Pre	127.5950	74.40885	52.61500	t = 3.348 (20) p = 0.003
		Post	28.5960	37.17284	8.31210	
State	Plan	Pre	158.7500	14.87753	10.52000	t = 7.941 (20) p = 0.000
		Post	22.5930	23.47326	5.24878	
	Non-Plan	Pre	112.0500	20.74651	14.67000	t = 5.299 (20) p = 0.000
		Post	22.5155	22.88657	5.11759	
Both	Plan	Pre	183.5900	5.52958	3.91000	t = 8.517 (20) p = 0.000
		Post	26.3580	25.50864	5.70391	
	Non-Plan	Pre	112.6700	23.19310	16.40000	t = 5.265 (20) p = 0.000
		Post	22.7960	23.00652	5.14441	

Source: Estimated by author; figures in parentheses show degree of freedom

Public Expenditure on Education by the States

A decomposition of expenditure on education of the states reveals that the break is more visible for states like Assam, Bihar, Haryana, Gujarat, Andhra and Punjab with a relative reduction in expenditure on education in the reform period. Interestingly for states like Kerala, Karnataka, Himachal Pradesh, Maharashtra and West Bengal, we could see a relative rise in education expenditure during the immediate period after the introduction of reforms; however these states too witnessed a decline in education expenditure during the latter periods. Table 4.13exhibits that the average annual growth rate of education expenditure in Kerala was 79.17 percent in the pre reform period and only 74 percent in the reform period.By combining the education expenditure of all major states, it is observed that the average annual growth rate of public expenditure in the pre reform period

was 120 percent while the same in the post reform period was only 58 percent. It is interesting to see that all states except Bihar witnessed fall in percentage growth in expenditure during the reform period. All major states except Kerala and Jammu and Kashmir had undergone significant fall in the average annual growth in expenditure on education. Further, by assuming normality in data, an independent sample t-test is used to test the significance of difference in growth of expenditure on education between Pre and Post Reform periods among states (See Appendix 1, Table 3). It was found that there was no significant difference in the growth rate of expenditure on education among states (p value is greater than 0.05 in all cases). Here the null hypothesis of no difference is accepted.

Table 4.13

Percentage Growth Rate of Public Expenditure on Education, 1975/6-2018/19

States	Average Annual Growth Rate	
	Pre-Reform	**Post-Reform**
Andhra	125.63	51.47
Assam	133.80	63.67
Bihar	254.63	344.30
Gujarat	139.37	57.98
Haryana	147.80	65.15
Himachal Pradesh	607.80	65.08
Jammu & Kashmir	87.20	88.18
Karnataka	97.67	68.13
Kerala	**79.17**	**74.02**
MP	112.40	50.77
Maharashtra	171.23	74.73
Orissa	106.47	70.42
Punjab	112.63	51.88
Rajasthan	91.90	54.38
Tamil Nadu	175.67	45.55
Uttar Pradesh	97.90	43.95
West Bengal	792.13	72.83
All Major States	**119.80**	**58.28**

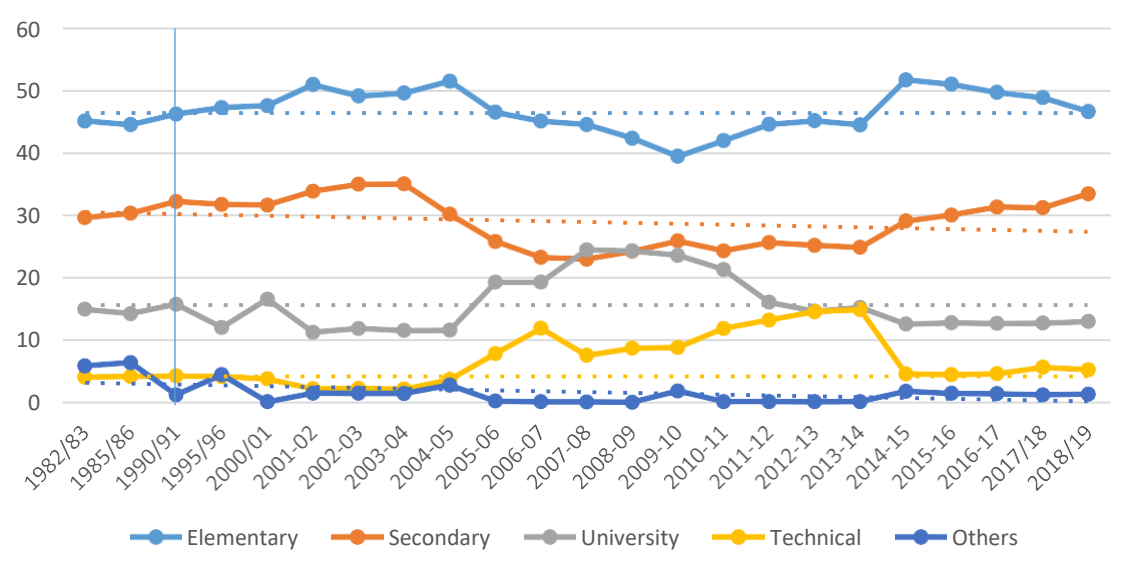
Source: calculated by the author from the secondary data of MHRD.

Structural Shift in Public Expenditure by Levels of Education

As mentioned in the previous chapter, the country has been witnessing a fall in the expenditure on university and technical education from 2014/15 onwards. In India, a look at the public expenditure on education by different sub sectors reveals that the share of primary and secondary education was 76 percent in the total expenditure on education. Since the introduction of reforms, with the added focus on school education by the government, the allocation towards higher education has been coming down from 20.17 percent in 1990/91 to 11.67 percent in 2004/05, then reached its peak to 24.47 percent and witnessed regular fall and became 13 percent in 2018/19 (Table 4.14 and Figure 4.3). Similarly the allocation for technical education declined from 4.38 percent in 1990/91 to 3.82 percent in 2004/05; it attained the highest allocation of 11.98 percent in 2006/7, but fell continuously afterwards and reached 5 percent in 2018/19. At the same time, the share of school education improved from 78 to 80 percent in the reform period. All these clearly indicate a shift in priorities of the central government which has been withdrawing from the field of higher and technical education. This will adversely affect India"s Research and Development which call for more government funds, essential to keep pace with the fast growing knowledge economy.

Figure 4.3

Inter-Sectoral Allocation of Public Expenditure on Education in India



Source: MHRD, GOI, Analysis of Budgeted Expenditure on Education, Various Issues.

Table 4.14

Inter-Sectoral Allocation of Public Expenditure on Education in India (Percent)

Year	School	University and Higher Education	Technical Education	Others
1982/83	74.8	15.00	4.20	6.00
1985/86	74.9	14.30	4.30	6.50
1990/91	78.44	15.79	4.38	1.39
1995/96	79.00	12.10	4.30	4.60
2000/01	79.20	16.61	3.92	0.27
2005-06	72.36	19.31	7.96	0.37
2010-11	66.4	21.34	11.95	0.31
2015-16	80.96	12.84	4.60	1.60
2018/19	80.07	13.06	5.39	1.48

Source: MHRD, GOI, Various Issues.

Chow break point test (Table 4.15) further reveals that within the education sector, there is no shift in focus on different levels of education after 1991 and the null hypothesis of no shift is accepted. Major focus remains with primary and secondary education; higher education had no special advantage during the period since the reforms.

Table 4.15

Chow Breakpoint Test: Structural Break in Expenditure by Levels of Education in India

Variable	Break Year	F-Statistics	P-Value
Elementary Education	1991-92	0.6278	0.4370
Secondary Education	1991-92	0.6796	0.4190
University and Higher Education	1991-92	0.1026	0.7518
Technical Education	1991-92	1.4242	0.2460
Others	1991-92	15.6940	0.0007

Source: Calculated by the author.

Structural Shift in Expenditure by Levels of Education during Five Year Plans in India

The priority changed from eighth five year plan onwards when the relative allocation to higher and technical education started declining (Table 4.16). The pattern of public spending remained almost the same during second to seventh Five Year Plans with prominence for primary and secondary education with an allocation of more than 50 percent. But from eighth plan onwards, there is further shift towards school education by allocating more than 70 percent of total education expenditure towards this. This is mainly due to high spending on schemes like the mid-day meal scheme. At the same time, the shift in expenditure on higher and technical education is visible with fall in allocation during plan periods, declining from 30 percent in the VII plan to less than 20 percent in VIII plan, 16. 8 percent in IX plan and then picking up to 26 percent during the XII five year plan. The break point analysis further reveals this shift in expenditure since the seventh five year plan and the difference is found significant with P value near to 0.05 (Table 4.17) .

Table 4.16
Inter-Sectoral Allocation of Total Expenditure for Education under Five Year Plans (in percent), India

Plan	Ele-mentary	Secon-dary	Adult	Univer-sity	Tech-nical	Others	Total	
First Plan	57.6	5.5	0	7.8	14.2	15	100	Pre-reform
Second Plan	34.8	18.7	0	17.6	17.9	11	100	
Third Plan	34.1	17.5	0	14.8	21.2	12.4	100	
Fourth Plan	50.1	0	1.7	25.2	10.5	12.5	100	
Fifth Plan	51.7	0	2.1	27.9	9.4	8.9	100	
Sixth Plan	32.1	20.4	5.9	21.4	10.4	9.8	100	
Seventh Plan	37.3	24.0	6.2	15.7	14.2	2.6	100	
Eighth Plan	47.7	24	5.2	9.6	10.1	3.4	100	Post reform
Ninth Plan	57.1	21.3	1.7	8.7	8.1	3	100	
Tenth Plan	65.6	9.9	2.8	9.5	10.7	1.5	100	
Eleventh Plan	46.5	19.8	2.2	15.5	11.1	4.9	100	
Twelfth plan	48.5	20.8	2.1	14.8	11.3	2.5	100	

Source: Annual Report of Planning Commission 2002-03 & 2008-09 and Annual Report of CBGA, 2011-12.

Table 4.17

Chow Breakpoint Test of Five Year Plan Expenditure on Education

Variable	Break Plan	F-Statistics	P-Value
Elementary Education	Seventh	1.3842	0.2666
Secondary Education	Seventh	4.6551	0.0563
Adult	Seventh	2.0937	0.1785
University and Higher Education	Seventh	4.2957	0.0650
Technical Education	Seventh	2.0520	0.1825
Others	Seventh	73.4431	0.0000

Source: Calculated by the author.

Structural Shift in Budgetary Expenditure on Education by Sub sectors in Kerala

In the context of Kerala, a perusal of budgetary expenditure on education by different sub sectors indicates that the share of primary education has been coming down from 54.48 percent to 37.96 percent during 1975/76-2017/18 (Table 4.18). The share of primary education has been coming down as most of the expansion in this segment had been completed by the eighties. Besides, whatever expansion that took place since then had been largely in the unaided sector (George, 2014). At the same time, the share of secondary education has been increasing from 28.37 percent to 43.21 percent. The share of higher education has slightly improved from 10.63 to 13.84 during the period. But there is not much change in the share of technical education. Similar to this trend in Kerala, the focus of India in general remains at school education while there is a fall in the allocation of higher education from 14.32 percent to 12.76 percent during the analysis period.

During the period of 1975/76-1989/90, both primary and secondary education almost retained its share (82 percent) of expenditure while the share of university and higher education in the total expenditure on education had seen only a marginal rise from 12.2 to 13.16 percent (Table 4.18). The share of technical education only marginally improved from 3.5 to 3.97 percent. In the post reform period also, both primary and secondary education almost retained its share at 80 percent in 2017/18. But Higher education had witnessed a decline from 18.47 percent to 13.74 percent during 1993/94-2017/18. Technical education also witnessed marginal fall from 4.32 to 4.13 percent during the above period. This fall is not justified during the period where the country looks forward for a great leap in creating technical skills which suit the requirement of fast growing knowledge economy. It all shows that there takes place a clear structural shift in the allocation to education in the reform period.

A comparison of Kerala with all India indicates that in the revenue account, Kerala spends higher proportion for higher and technical education at 19.44 percent in 1990/91 and at 17.96 percent in 2017/18 while India spends 14.52 and 17.62 during the period (Table 4.19). It is interesting to note that Kerala‟s allocation to school education marginally improved from 78 to 81 percent during the period while for all India it hovers around 80 percent for both periods. It shows that both Kerala and India are not able to break the traditional chain in allocation of funds and re-orienting the priorities in education by allocating more funds for higher and technical education as demanded by the economy.

Table 4.18

Percent of Education Expenditure on Sectors of Education in Kerala, 1975/76-2017/18

Category	Pre-reform period				Post Reform period						
Sectors	1975/76	1980/81	1984/85	1989/90	1993/94	1995/96	2000/01	2002/03	2012/13	2015/16	2017/18*
Primary	57.2	54.6	51.7	51.92	46.60	48.73	46.28	49.26	37.22	37.97	37.96
Secondary	24.8	28.6	29.1	29.09	29.65	30.65	33.52	29.01	39.79	38.92	43.21
University and Higher Edn	12.2	10.7	13.2	13.16	18.47	15.62	15.06	16.69	15.89	17.09	13.84
Technical	3.5	3.6	4.0	3.97	4.32	4.03	4.24	3.65	5.82	5.23	4.13
Others	2.3	2.5	2.0	0.94	0.31	0.57	0.4	1.0	1.19	0.79	0.86
Total	100	100	100	100	100	100	100	100	100	100	100

*Note: * budget estimates. Source: Expenditure on Education compiled from Central and State Annual Budgets, Ministry of Education and Social Welfare, Government of India, 1976*

Table 4.19
Percent of Expenditure on Sub Sectors of Education to Total Education Expenditure (Revenue Account only), Kerala and India, 1980/81-2019/20

Years		1980/81	1989/90	1990/91	2000/01	2012/13	2017/18
	Levels	**Pre-reform**			**Post Reform**		
Kerala	Primary	54.48	51.92	48.53	46.28	37.22	37.96
	Secondary	28.37	29.09	29.97	33.52	39.79	43.21
	Higher	10.63	13.16	15.18	15.06	15.89	13.84
	Technical	4.22	3.97	4.26	4.24	5.82	4.12
	Adult	0.4	*	0.09	*	*	0.09
	Others**	2.28	0.94	1.97	0.4	1.13	0.77
India	Primary	45.56	49.3	48.51	47.61	50.6	49.97
	Secondary	30.73	32.55	31.03	31.59	34.47	30.67
	Higher	14.33	12.74	11.62	14.71	10.88	12.76
	Technical	4.06	2.75	2.9	4.04	2.77	4.86
	Adult	0.75	0.91	0.95	0.36	*	0.38
	Others**	4.57	1.75	4.99	1.69	0.94	1.36

*Note:-** Others include expenditure on Physical education, general and language development; * included in Others*
Source: MHRD, Analysis of Budgeted Expenditure, Various Years

Structural Shift in public Expenditure on Higher /Technical Education to Total Expenditure in Kerala

The structural shift in public expenditure in Kerala is more visible by an examination of the expenditure on higher education/technical education to total budgeted expenditure. Table 4.20 and Table 4.21 indicate that the percent of higher education expenditure to total expenditure of Kerala fell from 3.4 percent from 1980/81 to 3.3 percent in 1990/91. But in the reform period, speed of decrease is high, and it fell from 3.3 percent to 0.69 percent in 2018/19. The situation is more pathetic for technical education which decreases from 1.3 percent to 1.1 percent and

then to 0.87 during the period. It is also interesting to find that there is a drastic fall in the allocation of total expenditure on education; it fell from 31.6 percent to 15.97 percent during the period 1990/91 – 2018/19.This is a clear sign of the negative impact of economic reforms and the consequent shift towards other economic activities. However the situation at all India level is more pathetic because the allocation to higher education had seriously declined from 1.9 percent to 1.5 percent during 1980/81- 2009/10 and the allocation to all education had initially improved from 12.9 percent to 17.65 percent and then declined to 15.97 percent during the periods. With this meagre allocation, how the country can reap the benefits of demographic dividend, because the youth of Kerala can‟t be properly trained to suit the requirements of the fast growing knowledge economy.

Table 4.20
Percent of Expenditure on Higher, Technical and Total Education to Total Budgeted Expenditure (Revenue Account only), 1980/81-2017/18

Year	***Expenditure on Higher Education as % to Total Budgeted Expenditure***		***Expenditure on Technical Education as % to Total Budgeted Expenditure***		***Expenditure on Total Education as % to Total Budgeted Expenditure***	
	Kerala	**India**	**Kerala**	**India**	**Kerala**	**India**
1980-81	3.4	1.9	1.3	0.5	31.6	12.9
1990-91	3.3	1.78	1.1	0.6	27.0	13.3
2000-01	*3.24*	*1.79*	*4.24*	*4.04*	*21.5*	*12.2*

Source: 1, Ministry of Human Resources Development, RBI Analysis of Budgeted Expenditure, Various Reports. 2, Analysis of Budgeted Expenditure on Education, Various Issues

Table 4.21

Percent of Expenditure on Higher, Technical and Total Education to Total Revenue Expenditure in Kerala, 2007/8- 2018/19

Year	Total Exp. on Higher Education	Total Expenditure on Technical Education	Total exp. on Education
2007-08	0.37	0.74	17.05
2008-09	0.44	0.87	17.86
2009-10	0.46	0.88	17.65
2010-11	0.66	0.92	18.34
2011-12	0.50	0.98	19.12
2012-13	0.62	1.06	130.37
2013-14	0.66	1.09	17.86
2014-15	0.50	0.97	16.48
2015-16	0.68	1.15	16.41
2016-17	0.72	0.89	17.46
2017-18	0.50	0.95	17.27
2018-19	0.69	0.87	15.97

Source: Analysis of Budget Expenditure, Various Years, MHRD.

Structural Shift in Plan and Non-Plan Expenditure on Higher Education in Kerala

Table 4.22 indicates the plan and non-plan expenditure allocated to universities and higher education from the allocation to education in the state during the reform period. The plan component in university and higher education rose from 2.89 percent in 1990/91 to 21.5 percent in 2018/19 while the same in total expenditure on education rose from 6.81 to 9.6 percent. It shows that from whatever small funds allotted to higher education by the government, an attempt is made to increase the developmental expenditure during the reform period. The universities were allotted more funds for improving the physical infrastructure and certain new schemes were introduced to support existing courses. Owing to this, plan expenditure growth during this period was good.

Table 4.22
Plan and Non-Plan Expenditure on Higher Education in Kerala, 1990/91-2018/19

Years	All Education			University and Higher Education		
	Total (Rs.Crore)	Plan (%)	Non – Plan(%)	Total (Rs.Crore)	Plan (%)	Non - Plan(%)
1990/91	860.1	6.81	93.19	113.52	2.89	97.11
2000/01	2870.63	6.62	93.38	384.93	5.40	94.60
2010-11	6370	6.50	93.5	1009	14.07	85.93
2018-19	17621	9.56	90.44	2697	21.50	78.5

Note: Figures in brackets show percentages.
Source: GOK, Kerala State Budget Documents, Various Years

Factors Responsible for the Decline of Public Expenditure on Education

Withdrawal of the state

Education is a state subject by the Constitution of India. Hence the main responsibility of financing education is upon the state and central governments. When child and youth population of the country rises, the state needs to spend more on higher education. The government needs to allocate more funds towards building schools, employ additional teachers and give more aid. This is increasingly necessary for the country to reap the benefits of demographic dividend in India and the state of Kerala. However during the last few decades, the state has been withdrawing from the responsibility spending on education particularly higher education.

Structural Adjustment programme of 1991

The reform measures adopted by the government from time to time has adversely affected the spending pattern in education. In India, the measures adopted by the government in the name financial stringency in 1991 adversely affected government expenditure on higher education. This is evident from the continuous decline in government financial support from 1991, particularly in the higher

education sector. Kerala is also not different from this which made serious cuts in public expenditure on education particularly during the last decade. The policy of self-financing adopted by the governments since the late 1990s has adversely impacted the higher education sector of Kerala by a fall in public expenditure.

Political ideology of the parties and role of community organizations

These factors also determine the level of government intervention in the economy. This in turn affects government decisions regarding expenditure on development and education. Parties and community organizations with vested interests vehemently support self- institutions financing which call for investing less by government. It is paradoxical to find that, in Kerala during the early years since Independence, all parties competed each other by spending more for starting schools and colleges. Later this enthusiasm gradually declined in the presence of other compelling demands from other sectors and vested commercial interests of community organisations Quest for upward mobility.

Decline in the Share of GDP

The level of gross domestic product is one of the factors influencing the public expenditure on education of the governments. There is a positive relationship between GDP and public expenditure on education. However some rich states in India are found spending less on education. These states, it is argued, do not realize the importance of education in the development of the economy and society. In fact the developed countries in the world, by realizing the importance of higher education for development, are found spending more share of GDP to education. Conversely most of the underdeveloped nations are not allocating more GDP for education including higher education. In Kerala and India also, there is a continuous decline in the share of public expenditure on education.

Financial Constraints of the Governments

During the last few decades, successive governments have been suffering from financial constraints. Revenue resources of the state are shrinking and the governments fail in mobilising whatever revenues genuinely available in the state. It

also can‟t mobilise additional revenues by new taxes and otherwise. Central government and finance Commission transfers have been coming down from time to time. At the same time, the demands for more grans are increasing from other sectors. Education sector is the easiest sector to effect a cut in expenditure in the name of financial stringency in Kerala. Various community organisations with commercial interests increasingly fill this vacuum which has adverse implications on Kerala society.

Conclusion

Thus we find that spending on overall education, higher education, and technical education has increased significantly over the last few decades. During the reform period, however, the proportion of funds dedicated to education has decreased. In comparison to other industrialised countries in the globe, spending on education in general and higher education in particular is comparatively low. The amount of money spent on technical education in major states is well below what is desired. 'The country is still far from the Kothari Commission's and the New Education Policy's recommended target levels of expenditures. Lower per capita higher education spending has had a direct influence on the state's higher education quality. As a result of reduced government expenditure, academic infrastructure has deteriorated.

During the pre- reform period, 1975/76-1989/90, both primary and secondary education in Kerala almost retained its share (82 percent) of expenditure while the share of university and higher education in the total expenditure on education had seen a marginal rise from 12.2 to 13.16 percent and the share of technical education only marginally improved from 3.5 to 3.97 percent. In the post reform period, while school education almost retained its share at 80 percent, higher and technical education had witnessed a decline from 23 percent to 17 percent during the period. Thus there takes place a clear structural shift in the allocation to education in the reform period. Similar to Kerala, all India figures also indicate smaller proportion for higher and technical education at 17.5 percent in 1989/90 and at 17.97 percent in 2017/18. It shows that both Kerala and India are not able to break

the traditional chain in allocation of funds and re-orienting the priorities in education by allocating more funds for higher and technical education as demanded by the economy.

It is also found that he percent of higher education expenditure to total expenditure of Kerala fell from 3.4 percent from 1980/81 to 3.3 percent in 1990/91. But in the reform period, the speed of decrease is high, and it fell to 2.7 percent in 2009/10 and then to 0.69 percent in 2018/19. The situation is more pathetic for technical education which decreases from 1.3 percent to 0.8 percent and then to 0.87 during the period.This fall is not justified during the period where the country looks forward for a great leap in creating technical skills which suit the requirement of fast growing knowledge economy. It is also interesting to find a drastic fall in the allocation of total expenditure on education; it fell from 31.6 percent to 19.7 percent during the period 1990/91 – 2017/18.This is a clear sign of the negative impact of economic reforms and the consequent shift towards other economic activities. However the situation at all India level is more pathetic because the allocation to higher education had seriously declined from 1.9 percent to 1.5 percent during 1980/81- 2009/10. From 1990s, both the Central government and the states had begun to gradually withdraw from education. The basic argument put forward for this expenditure cuts is the financial and fiscal crises. But even a cursory look at the continuous rise in public revenues rejects this argument.Thus the null hypothesis that there is no significant structural shift in education expenditure gets rejected. This means that there is significant shift in education expenditure during the period since the introduction of reforms.

The education financial needs are rising faster than the expenditure from the government. In a country where nearly 35 percent of the people remain illiterate, promotion of literacy and education is the need of the hour which calls for more allocation for education. Further to reap the benefits of demographic dividend, imparting rightful skills to youth and children calls for more funds for higher education. But the government withdrawal from the scene is a serious issue. This will adversely affect India‟s Research and Development which call for more

government funds, essential to keep pace with the fast growing knowledge economy. The situation is not different in Kerala also.

The dominant role of government in financing higher education sector has come to an end and, at present, expansion of the sector does not rely heavily on public funds. The role reversal in funding higher education has taken place due to the reform measure of privatization of public institutions and promotion of private institutions in the sector. Over the period of time since the introduction of reforms in 1991, there has been a fall in higher education expenditure by government which would adversely affect the expansion, equity and efficiency of higher education system in Kerala and other parts of India. There is relatively substantial research on efficiency considerations in education; their importance is only realized late when there are severe squeezes in education finances.

CHAPTER V

GDP AND PUBLIC EXPENDITURE ON EDUCATION IN INDIA AND KERALA

This chapter examines the relation between the GDP and public expenditure on education in general and higher education in particular in India and Kerala. The most generally used statistic to quantify the importance given to education is the share of education expenditure in Gross Domestic Product (GDP). An examination of higher and technical education spending as a percentage of GDP in key states indicates the emphasis that these states place on higher education. A large percentage of GDP dedicated to these education subsectors indicates a higher level of focus on investment in this area. The postulate is that there is a positive relation between GDP and public expenditure on education. Further there is two way causation between the two variables. Higher GDP leads to higher expenditure for the development of higher education in Kerala and India. Conversely, increased government intervention and public expenditure on higher education leads to accumulation of human capital which in turn leads higher level of GDP in the economy.

5.1 GDP and Public Expenditure on Education in India

As noted in the previous chapters, educational expenditure over the last four decades, in India shows an increasing trend. It can also be found that there is a positive relationship between the expansion rate of educational spending and also its percentage share to GDP over a long time. There has been a developing pattern inside the rate of growth of expenditure on education in India. Public expenditure on education as percent of GDP at the level of the state was 3.13 and at the level of the centre was only 1.16 in 2013/14 which slightly improved at the state level and drastically declined at the level of the Centre in 2016/17. Together, they spent only 4.29 percent which was lower than that of many developing countries in the world which further declined to 4.24 percent in 2016/17. Among the sub sectors of

education, the largest share of 2.85 percent of GDP goes to elementary and secondary education in 2013/14 (Table 5.1) which declined to 2.39 in 2016/17. In the case of university and higher education in India, the share declined from 0.89 percent to 0.57 percent; the share is too marginal to make an impact on higher education in India. Further the share is too small to make an impact towards reaping the benefits of demographic dividend in India. Poor GDP share adversely affects research and development in the country. In 2016/17, expenditure on school education as percent of GDP was 2.79 percent. But the share to university and higher education in India was only 0.57 percent. The share of allocation to all levels of education in India was 4.24 percent in 2016/17.

Table 5.1
Public Expenditure on Education as Percent of GDP by Levels, 2012-13 & 2016-2017

Levels	Expenditure as Percent of GDP, 2013- 14			Expenditure as Percent of GDP,2016-17		
	State	Centre	Total	State	Centre	Total
Elementary	1.37	0.44	1.80	1.38	0.39	1.76
Secondary	0.94	0.11	1.05	0.90	0.13	1.03
University& Higher	0.54	0.35	0.89	0.38	0.18	0.57
Adult	0.01	0.01	0.01	0.01	0.00	0.01
Technical	0.28	0.26	0.54	0.49	0.39	0.87
Total (Education)	3.13	1.16	4.29	3.15	1.09	4.24

Source: MHRD (2012b); MHRD (2014c), MHRD (2016-19).

Table 5.2

Research and Development Expenditure of Major Countries as Percent of GDP

Country	2009	2010	2011	2012
Austria	2.71	2.80	2.77	2.84
Belgium	2.03	2.10	2.21	2.24
Brazil	1.17	1.16	1.21	NA
China	1.70	1.76	1.84	1.98
Czeck Republic	1.35	1.40	1.64	1.88
Denmark	3.16	3.00	2.98	2.98
Finland	3.94	3.90	3.80	3.55
France	2.27	2.24	2.25	2.26
Germany	2.82	2.80	2.89	2.92
India	0.82	0.80	0.81	NA
Israel	4.17	3.97	3.97	3.93
Japan	3.36	3.25	3.39	NA
Korea Republic	3.56	3.74	4.04	NA
Russian Federation	1.25	1.13	1.09	1.12
UK	1.82	1.77	1.78	1.72
US	2.82	2.74	2.76	2.79

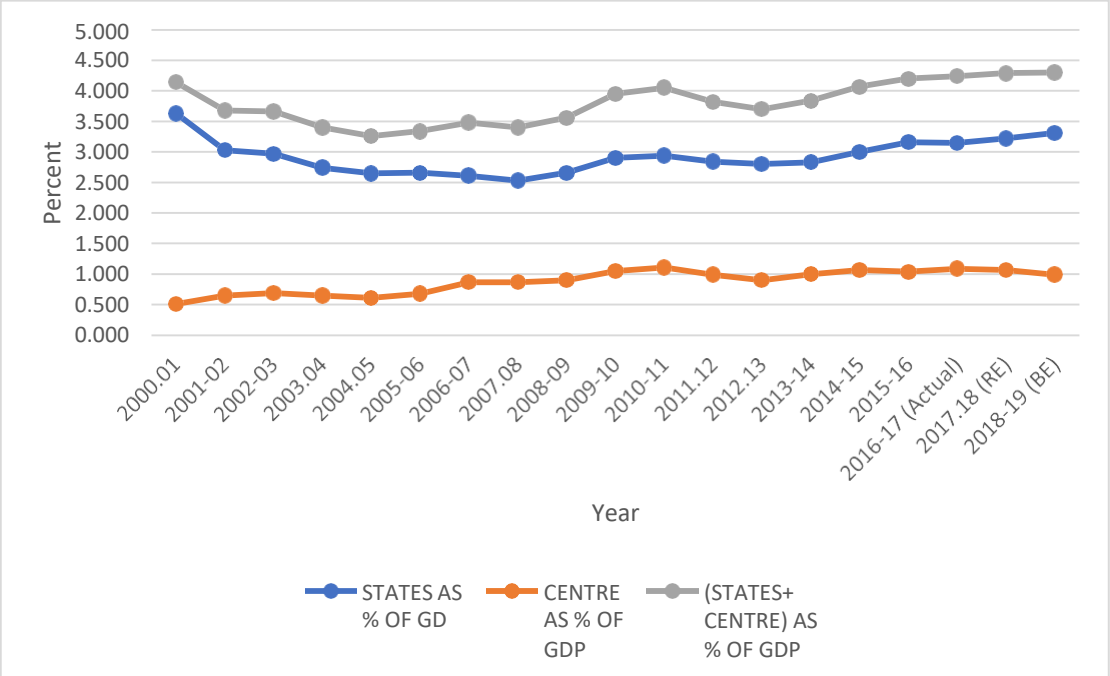
Source: World Bank Development Report 2013.

A World Bank survey on the percentage expenditure of GDP on Research and Development of selected nations indicates that India is one of the low expenditure nations in the peer group. While China is almost more than double, Russia and Brazil are quite ahead in the relative share of GDP. European nations like Finland and Denmark and Asian nations like Korea and Japan are the leaders in research and development expenditure (Table 5.2).

The percentage share of education expenditure to GDP shows an increasing trend over a long time (Figure 5.1 and Figure 5.2). In 2001-02, the share of education expenditure was 3.17 per cent which decreased and remained at 2 percent during 2001/2-2006/07. Then it rose to 4 percent in 2016/17 and further declined to 3.1percent in 2018/19. It may be seen here that total expenditure on education as percentage of GDP has started showing increasing trend from 3.84% in the year 2013-14 to 4.3% in the year 2018-19. If we look at the percentage share of GDP for Centre and States separately, it may be seen that centre‟s share shows an increasing trend over the years and gone up from 0.51% in 2000-01 to highest in 1.11% in 2016/17 and to 0.99% in the year 2018-19. While the state‟s share has declined from 3.63% in the year 2000-01 to 3.31% in 2018-19.

Figure 5.1

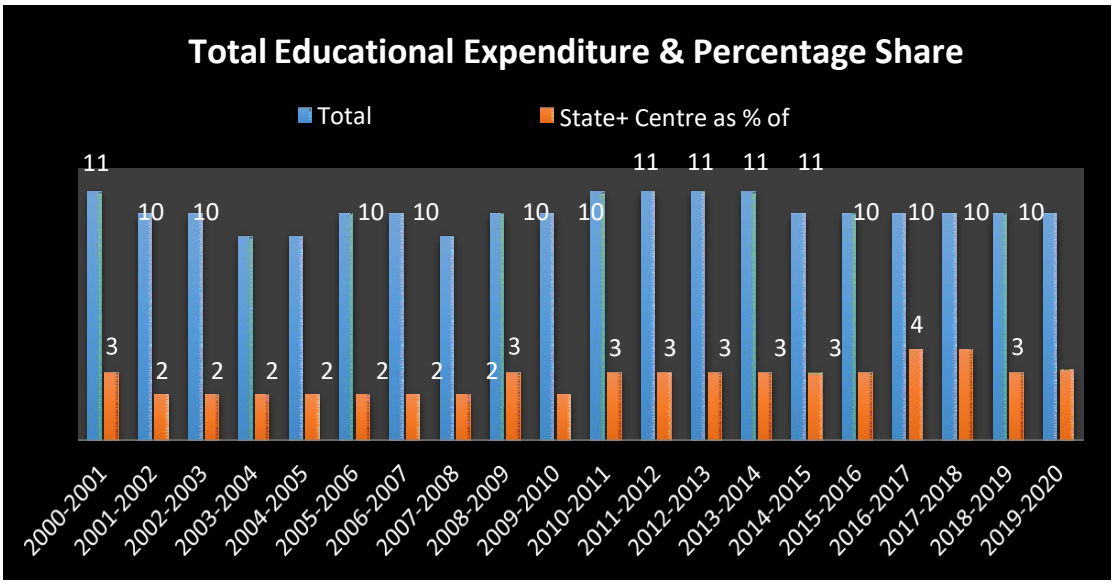
Total Educational Expenditure & Percentage Share to GDP, 2000/01-2018/19



Source: MHRD (2016-19).

Figure 5.2

Total Educational Expenditure & Percentage Share to GDP



Source: GOI, Economic survey 2005-06, 2010-15, 2019-20

Table 5.3 reveals that total expenditure on education by the centre and states increased from Rs 82486 crores in 2000/01 to Rs 815437 crores in 2018/19 (budget estimate) which reveals an increase of 10 times. During this period GDP at current prices by factor cost increased from Rs.1991982 crores to Rs. 18971237 crores.,an increase of 9.5 times over the period. But the total expenditure on education in the states as percent of GDP dipped from 3.63 to 3.31 during the period while that of the Centre as percent of GDP rose from 0.51 to 0.99 and the share of both States and centre marginally improved from 4.1 to 4.3. It shows that the share of education expenditure in GDP is not keeping pace with the requirements of the education sector in the present context of the fast growing knowledge world. It has adverse impact on the nation and its development of human capital.

It is also found from Table 5.4 that the growth rate of public expenditure on education by Centre and States was higher than that of GDP at current prices at factor costduring 2005/6-2010/11 while the expenditure and GDP growth rates were almost similar in the latter periods from 2010/11. It shows that India and the states did not spend much on education as per the requirements of the fast growing

knowledge economy. During 2017-19, centre‟s growth rate of expenditure 3-8 percent while the GDP growth rates were near to 11 percent.

Table 5.3

Public Expenditure on Education by Centre and States and GDP in India, 2000/01-2018/19 (Rs. crores)

Year	States	Centre	States + Centre	GDP at Current Prices at Factor Cost
2000-01	72290.53	10195.95	82486.48	1991982
2001-02	65746.19	14119.52	79865.71	2167745
2002-03	69350.7	16156.63	85507.33	2338200
2003-04	71978.28	17100.97	89079.25	2622216
2004-05	78668.14	18025.96	96694.10	2971464
2005-06	90018.94	23209.77	113228.71	3390503
2006-07	103147.47	34236.52	137383.99	3953276
2007-08	115877.9	39919.37	155797.27	4582086
2008-09	141091.25	47977.59	189068.84	5303567
2009-10	177232.79	64023.23	241256.02	6108903
2010-11	212817.5	80660.73	293478.23	7248860
2011-12	247855.86	86074.52	333930.38	8736329
2012-13	278375.27	89757.6	368132.87	9944013
2013-14	318249.79	112629.03	430878.82	11233522
2014-15	373457.32	133391.82	506849.14	12467959
2015-16	435229.55	142562.97	577792.52	13771874
2016-17 (Actual)	484777.08	168322.25	653099.33	15391669
2017-18 (RE)	551258.87	182421.63	733680.50	17098304
2018-19 (BE)	627736.46	187700.77	815437.23	18971237

Source: MHRD (2016-19).

Table 5.4
Growth Rate of Public Expenditure on Education and GDP in India, 2000/01-2018/19 (in percent)

Year	State	Centre	States + Centre	GDP at Current Prices at Factor Cost
2001-02	-9.05	38.48	-3.18	8.82
2002-03	5.48	14.43	7.06	7.86
2003-04	3.79	5.84	4.18	12.15
2004-05	9.29	5.41	8.55	13.32
2005-06	14.43	28.76	17.10	14.10
2006-07	14.58	47.51	21.33	16.60
2007-08	12.34	16.60	13.40	15.91
2008-09	21.76	20.19	21.36	15.75
2009-10	25.62	33.44	27.60	15.18
2010-11	20.08	25.99	21.65	18.66
2011-12	16.46	6.71	13.78	20.52
2012-13	12.31	4.28	10.24	13.82
2013-14	14.32	25.48	17.04	12.97
2014-15	17.35	18.43	17.63	10.99
2015-16	16.54	6.88	14.00	10.46
2016-17 (Actual)	11.38	18.07	13.03	11.76
2017-18 (RE)	13.71	8.38	12.34	11.09
2018-19 (BE)	13.87	2.89	11.14	10.95
CAGR	**12.05**	**16.57**	**12.82**	**12.59**
AAGR	**13.02**	**18.21**	**13.79**	**13.38**

Source: MHRD (2016-19).

Correlation study (Table 5.5) indicates that in the case of states, there is relatively good relationship (r=0.564) between the growth in GDP and the growth in expenditure on education; in the case of centre‟s expenditure, the relationship is very weak (r=0.16), which means that the Centre is not much interested in spending more on education including higher education. The relationship is also good with r=0.581for both centre and states taken together.Correlation coefficients are found significant for the states and both centre and states taken together with P values less than 0.05. Over all there is positive and good relationship between expenditure and

GDP; though the relationship is not strong.

Table 5. 5
Correlationbetween Growth in GDP and Expenditure on Education

Expenditure		GDP growth rate
State: Growth Rate of Expenditure on Education	Pearson Correlation	.564*
	Sig. (2-tailed)	.015
	Number	18
Centre: Growth Rate of Expenditure on Education	Pearson Correlation	.160
	Sig. (2-tailed)	.525
	Number	18
State + Centre: Growth Rate of Expenditure on Education	Pearson Correlation	.581*
	Sig. (2-tailed)	.011
	Number	18

Source: Computed by author

Regression analysis is undertaken after conducting unit root test(Table 5.6). In the case of GDP growth rates, only the first difference in growth rates is found significant based on P values. At the same time, in the case of expenditure on education, the first difference is considered for testing the hypothesis for the centre and the centre and states taken together while in the states the level of expenditure is used. Table 5.7 reveals that there is cause and effect relationship between expenditure on education and GDP growthrate; the coefficient of GDP growth rate for the states is 1.294 with a P value of 0.015. It shows that for every one unit rise in the GDP growth rate, the expenditure on education increases by 1.294 units. R^2 value of 0.318 reveals that 31.8 percent of the variation in expenditure on education is determined by the variation in GDP alone while the rest is determined by other factors. Durbin Watson statistic further reveals the absence of autocorrelation in the study. However for the Centre, the coefficient of public expenditure of 0.47 is not found significant as the P value is 0.77(Table 5.8). In the case of both centre and states taken together, expenditure coefficient is 1.262 while the P value is at comfortable level of 0.011 and the Durbin Watson value is comfortable at 1.81(Tables 5.9). Thus we reject the null hypothesis that there is no relationship between the education expenditure and the GDP. It means that there is relationship

between the two variables; positive and good relationship between the two variables is found in the study. However the relationship is not strong as evident from the GDP share of less than 4 percent spent on education throughout the period under analysis.

Table 5.6

Unit Root Test (ADF) of Education Expenditure and GDP

Variable	P Value			
	Level		First Difference	
	C	C and T	C	C and T
GDP growth rate	0.3601	0.6891	0.0143	0.0185
State: Growth Rate of Expenditure on Education	0.0068	0.1253	0.0877	0.0692
Centre: Growth Rate of Expenditure on Education	0.0223	0.0296	0.0006	0.0033
State + Centre: Growth Rate of Expenditure on Education	0.2300	0.3538	0.0155	0.0056

Note: C stands for Constant and T Stands for Linear Trend
Ho: There is a unit root (series is non-stationary).
Source: Calculated by the author

Table 5.7

Regression: State- Growth Rate of Expenditure on Education and GDP

Dependent Variable: State: Growth Rate of Expenditure on Education				
Independent Variable: First Difference of GDP growth rate				
Method: Least Squares				
Sample (adjusted): 2002-2018				
Included observations: 17 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-4.307	6.529	-0.660	0.519
D (GDP Growth Rate)	1.294	0.474	2.728	0.015
R-squared	0.318	Adjusted R Square		0.275
Std. Error of the Estimate	6.472	Durbin-Watson stat		1.61

Note: D (GDP Growth Rate) is the first difference of GDP growth rate,
Source: Calculated by the author

Table 5.8

Regression: Centre- Growth Rate of Expenditure on Education and GDP

Dependent Variable: First Difference of Centre: Growth Rate of Expenditure on Education				
Independent Variable: First Difference of GDP growth rate				
Method: Least Squares				
Sample (adjusted): 2002 2018				
Included observations: 17 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-2.155	3.921	-0.549	0.591
D (GDP Growth Rate)	0.489	1.651	0.296	0.771
R-squared	0.006	Durbin-Watson stat		1.954
Adjusted R-squared	-0.060			
S.E. of the estimate	16.146			

Note: D (GDP Growth Rate) is the first difference of GDP growth rate,

Source: Calculated by the author

Table 5.9

Regression: State and Centre- Growth Rate of Expenditure on Education and GDP

Dependent Variable: First Difference of State + Centre: Growth Rate of Expenditure on Education				
Independent Variable: First Difference of GDP growth rate				
Sample (adjusted): 2002 2018				
Included observations: 17 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-3.095	6.085	-0.509	0.618
D (GDP Growth Rate)	1.262	0.442	2.854	0.011
R-squared	0.337	Durbin-Watson stat		1.807
Adjusted R-squared	0.296			
S.E. of the estimate	6.032			

Note: D (GDP Growth Rate) is the first difference of GDP growth rate,

Source: Calculated by the author

GSDP and Public Expenditure on Higher Education in the States

Among the major states, Andhra Pradesh witnessed an increase in the share of GSDP to education from 2.93 percent in 1990/91 to 4.05 percent in 2012/13 and then a decline to 2.27 percent in 2018/19 (Table 5.10 and Figure 5.3). Assam had very good allocation right from the early years; it increased from 4.29 percent and reached its peak of 6.23 percent in 2018/19. It is interesting to find that

the low literacy state like Bihar could spare 8.39 percent in 1999/00; but its results are not seen in the education front. It shows that higher allocation is only a necessary condition for education development, but not a sufficient condition. Gujarat, Haryana, Maharashtra and Punjab always allocate smaller shares for the development of education. States like Assam, Bihar, Himachal Pradesh, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh earmark higher shares for the development of education. Himachal Pradesh and Jammu and Kashmir always led in front. In 2018/19, Gujarat and Karnataka had the lowest share of 1.71 percent.

Kerala‟s case is peculiar. It has shown an overall decrease in allocation for education as percent of GSDP. In 1990/91, expenditure share in the GSDP of Kerala was 5.64; it witnessed a continuous decline to 3.49 in 2000/01; then further fell to 2.63 in 2010/11 and finally to 2.52 in 2018/19. On the whole, its share declined continuously from the highest of 5.64 percent in 1990/91 to 2.52 percent in 2018/19; a decline by half over the 29 year period Thus it had a very good start, but lagged the momentum later. The average of all major states (last row of the Table 5.10) indicates that the share of GSDP spent towards education declined from 3.9 percent to 3.6 during 1990/91 -1996/97; improved to 4 percent in 1999/00; declined to 2.9 percent in 2007/08; then improved to 3.6 in 2018/19. The compound annual average decrease of percentage share of GSDP for education over 29 year period for Kerala was 2.74 while for all India was 0.28. Thus over the period of time, the government has been shirking from the responsibility of providing education to the people. The decline in expenditure is more pronounced during the 20 year period since 2000/01. It is also interesting to find that after 2003/04, the percent of education expenditure to GSDP in Kerala lies below All India average, showing that there are states spending more on education than Kerala. This indicates that in order to sustain the development so far achieved in the education sector, Kerala needs to spend more and here the role of the state is pertinent

Table 5.10

State-Wise Expenditure on Education as Percentage of GSDP in Major States, 1990-2018/19

Year / State	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
AP	2.93	2.77	3.07	2.54	2.46	2.17	2.22	2.36	2.48	2.57	2.58	2.47	2.43	2.47	3.5
AS	4.29	4.76	4.98	5.25	4.99	5.06	4.95	5.12	5.36	4.81	5.28	4.89	4.6	5	4.69
BH	4.7	4.38	4.2	6.18	6.52	8.28	6.86	7.49	6.6	8.39	7.01	5.34	5.02	5.45	4.06
GU	3.27	3.52	2.84	2.8	2.47	2.63	2.4	2.53	2.98	3.11	3.32	2.64	2.57	2.2	1.97
HR	2.43	2.3	2.56	2.14	2.1	2.22	2.13	2.24	2.85	2.46	2.29	2.26	2.01	1.86	1.75
HP	6.72	6.18	6.24	5.63	5.22	5.48	5.43	6.06	6.55	5.93	5.78	5.36	5.06	4.85	4.51
J&K				5.72	5.77	5.78	5.83	5.97	5.59	5.1	5.19	5.19	4.7	4.4	3.96
KA	3.45	3.21	3.34	3.13	3.04	3.05	2.97	3.03	3.04	2.98	3.22	3.11	2.95	2.88	2.62
KE	**5.64**	**4.87**	**4.69**	**4.45**	**4.31**	**3.76**	**3.7**	**3.62**	**3.54**	**3.8**	**3.63**	**3.2**	**3.44**	**3.2**	**2.75**
MP	3.16	3.2	3.13	3.41	3.36	3.54	3.55	3.37	3.77	3.82	3.49	2.45	2.66	2.31	2.28
MH	2.7	2.87	2.61	2.39	2.36	2.35	2.37	2.51	2.55	2.95	3.73	3.44	2.99	2.77	2.45
OR	4.24	3.94	4.17	3.75	3.73	3.49	4.07	3.76	4.17	4.51	4.06	3.75	3.83	3.12	2.57
PN	2.74	2.62	2.39	2.34	2.28	2.36	2.38	2.69	3.1	2.7	2.49	2.3	2.54	2.31	2.2
RJ	4.01	3.89	3.95	3.75	3.53	3.62	3.46	3.37	3.82	3.76	3.99	3.77	3.76	3.27	3.11
TN	4.13	3.96	3.65	3.04	2.82	2.86	2.84	2.83	3.32	3.29	3	2.89	2.63	2.43	2.15
UP	3.85	3.18	3.63	2.98	3.1	3.23	3.06	3.09	3.74	3.27	3.4	3.2	2.97	2.78	2.83
WB	3.98	3.29	3.19	3.08	2.9	2.67	2.97	2.6	2.64	3.7	3.19	2.9	2.62	2.39	2.39
Mean	**3.9**	**3.7**	**3.7**	**3.7**	**3.6**	**3.7**	**3.6**	**3.7**	**3.9**	**4**	**3.9**	**3.5**	**3.4**	**3.2**	**2.9**

Source: MHRD, Various Years.

Table 5.10 (Continued)

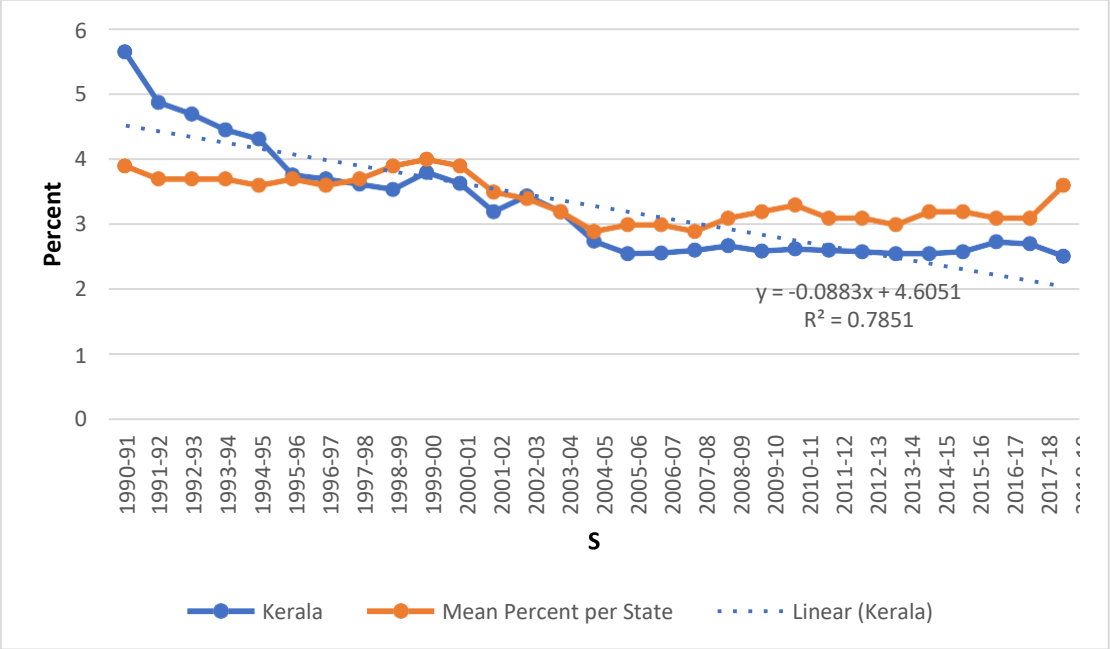
State-Wise Expenditure on Education as Percentage of GSDP in Major States, 1990-2018/19

Year / State	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (1990-2019
AP	3.64	3.51	3.17	3.05	3.1	3.94	3.97	4.05	4.03	3.21	2.81	2.54	2.52	2.27	-0.88
AS	4.24	4.26	4.29	4.06	4.26	5.06	4.28	4.42	4.73	5.7	4.7	4.97	4.9	6.23	1.29
BH	5.36	5.32	4.88	4.84	4.76	4.05	4.13	5.12	4.75	4.82	5.15	4.79	5.12	6.79	1.28
GU	1.76	1.76	1.74	1.65	1.93	2.19	2.03	1.94	1.94	1.93	1.87	1.69	1.68	1.71	-2.21
HR	1.83	1.81	1.87	2.16	2.38	2.29	2.14	2.06	1.89	2.17	2.04	1.99	1.88	1.96	-0.74
HP	4.47	4.7	4.82	4.88	4.75	5.03	4.25	4.33	4	4.12	3.88	4.17	4.3	4.79	-1.16
J&K	4.2	4.18	4.22	4.44	5.26	5.57	4.82	4.42	4.48	4.59	5.64	5.05	5.72	8.55	1.56
KA	2.5	2.53	2.56	2.8	2.6	2.73	2.07	2.15	2.03	2.01	1.86	1.75	1.66	1.71	-2.39
KE	**2.56**	**2.57**	**2.61**	**2.68**	**2.6**	**2.63**	**2.61**	**2.59**	**2.56**	**2.56**	**2.59**	**2.74**	**2.71**	**2.52**	**-2.74**
MP	2.38	2.59	2.43	2.61	2.86	3.25	3.16	2.9	3.15	3.45	3.3	3.38	3.35	3.54	0.21
MH	2.21	2.13	2.01	2.23	2.62	2.58	2.35	2.33	2.32	2.24	2.19	2.07	2.01	N. A	-1.05
OR	2.72	2.43	2.53	3.03	3.41	3.35	2.99	2.79	2.85	3.24	3.52	3.09	3.34	3.61	-0.55
PN	2.12	1.84	1.79	1.87	1.93	1.92	2.04	2.29	2.04	2.15	2.25	2.12	1.96	2.2	-0.75
RJ	3.3	2.91	2.82	3.34	3.49	3.03	2.69	2.65	2.79	3.15	3.12	3.24	3.25	3.84	-0.15
TN	2.05	2.01	2.02	2.22	2.31	2.37	2.08	2.09	2.22	2.32	2.23	2.07	2.02	2.02	-2.44
UP	3.11	3.27	3.22	3.11	3.19	3.61	3.63	3.66	3.42	3.49	4.06	4.2	3.22	3.45	-0.38
WB	2.42	2.39	2.37	2.34	3.03	3.12	3.07	2.92	2.76	2.95	2.7	2.73	2.51	2.57	-1.5
Mean	**3**	**3**	**2.9**	**3.1**	**3.2**	**3.3**	**3.1**	**3.1**	**3**	**3.2**	**3.2**	**3.1**	**3.1**	**3.6**	**-0.28**

Source: MHRD, Various Years.

Figure 5.3

Expenditure on Education as Percentage of GSDP in Kerala 2018/19



Source: Drawn from Table 5.10

GSDP and Public Expenditure on Higher Education among States

Though education comes under concurrent list, the most essential responsibility of higher education expenditure lies with the state governments. During the pre- reform period from 1980/81-1990/91, higher education expenditure in GSDP in India slightly improved from 0.36 and 0.45 percent (Table 5.11). Higher education expenditure accounted for 0.48 percent of total spending in 2000-01, but fell to 0.41 percent in 2009-10. Technical education expenditures have climbed from 0.13 percent in 2000-01 to 0.16 percent in 2009-10. The majority of the states have followed a similar pattern. Among the major states of the country, Karnataka, Kerala and Tamil Nadu could spend a higher share of their GSDP on higher, technical, and overall education for all of the time periods studied. The data also demonstrate that after 1990-91, proportionate expenditure in most states, as well as India, has been dropping in all levels except technical education. The data plainly show how low higher education is on the priority list. One of the causes for the bad state of these two levels of education could be the government's long-term neglect of higher and technical education in its budget. Bihar, Uttar Pradesh, Orissa, Rajasthan and Kerala

were above the all India average while all other states stand below the all India average of 3.2 percent. However in Kerala, the share of GSDP for higher education witnessed serious decline from 0.52 in 1990/91 to 0.36 in 2009/10 and for technical education from 0.21 to 0.11 during the period. In fact Kerala is behind Bihar, Odisha and West Bengal and also behind the all India average.

Table 5.11
Revenue Expenditure on Higher, Technical and Total Education as percentto GSDP

Major States	Higher Education Expenditure as % to GSDP				Technical Education Expenditure as % to GSDP				Total Education Expenditure as % to GSDP			
	1980/81	1990/91	2000/01	2009/10*	1980/81	1990/91	2000/01	2009/10*	1980/81	1990/91	2000/01	2009/10*
Bihar	0.11	0.49	0.02	0.57	0.05	0.08	0.02	0.02	2.79	4.53	0.51	4.49
Karnataka	0.48	0.48	0.51	0.21	0.09	0.10	0.06	0.05	2.73	3.35	3.02	2.46
Kerala	**0.52**	**0.66**	**0.53**	**0.36**	**0.21**	**0.22**	**0.15**	**0.11**	**4.92**	**5.40**	**3.52**	**2.63**
Odisha	0.40	0.59	0.48	0.58	0.05	0.16	0.05	0.04	2.86	4.08	3.88	3.31
Rajasthan	0.34	0.35	0.27	0.15	0.03	0.06	0.04	0.02	3.09	3.85	3.81	3.35
Tamil Nadu	0.51	0.42	0.35	0.24	0.11	0.14	0.09	0.05	2.91	4.03	2.93	2.21
Uttar Pradesh	0.22	0.30	0.28	0.22	0.06	0.09	0.05	0.03	2.23	3.75	3.24	3.26
West Bengal	0.36	0.52	0.47	0.39	0.08	0.07	0.05	0.09	2.37	3.89	3.12	2.70
India	**0.36**	**0.45**	**0.48**	**0.41**	**0.10**	**0.15**	**0.13**	**0.16**	**2.55**	**3.34**	**3.25**	**3.20**

- *Budget Estimate*

Source: Analysis of Budgeted Expenditure (Different Years), Ministry of Human Resources Development, Various Reports, RBI

5.4 Conclusion

Public expenditure on education as percent of GDP at the level of the state was 3.13 and at the level of the centre was only 1.16 in 2013/14 which slightly improved at the state level and drastically declined at the level of the Centre in

2016/17. Together, they spent only 4.29 percent which was lower than that of many developing countries in the world which further declined to 4.24 percent in 2016/17. Among the sub sectors of education, the largest share of 2.85 percent of GDP goes to elementary and secondary education in 2013/14 which declined to 2.39 in 2016/17. In the case of university and higher education in India, the share declined from 0.89 percent to 0.57 percent; the share is too marginal to make an impact on higher education in India. Further the share is too small to make an impact towards reaping the benefits of demographic dividend in India. Poor GDP share adversely affects research and development in the country. World Bank survey on the percentage expenditure of GDP on Research and Development of selected nations indicate that India is one of the low expenditure nations in the peer group. While China is almost more than double, Russia and Brazil are quite ahead in the relative value. European nations like Finland and Denmark and Asian nations like Korea and Japan are the leaders in the research and development.

The correlation study finds that there is positive and good relationship between education expenditure and GDP over a long time. Thus we reject the null hypothesis that there is no relationship between the education expenditure and the GDP. However the relationship is not strong as evident from the GDP share of less than 4 percent spent on education throughout the period under analysis.

A decomposition of education expenditure among the states reveals that the low literacy state like Bihar could spare 8.39 percent of its expenditure on education in 1999/00; but its results are not seen in the education front. It shows that higher allocation is only a necessary condition for education development, but not a sufficient condition. Gujarat, Haryana, Maharashtra and Punjab always allocate smaller shares for the development of education. States like Assam, Bihar, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh earmark higher shares for the development of education.

Kerala‟s case is peculiar. It has shown an overall decrease in allocation for education as percent of GSDP. In 1990/91, expenditure share in the GSDP of Kerala was 5.64; it witnessed a continuous decline to 3.49 in 2000/01; then further fell to

2.63 in 2010/11 and finally to 2.52 in 2018/19. On the whole, its share declined continuously from the highest of 5.64 percent in 1990/91 to 2.52 percent in 2018/19; a decline by half over the 29 year period. Thus it had a very good start, but lagged the momentum later. The compound annual average decrease of percentage share of GSDP for education over 29 year period for Kerala was 2.74 while for all India was 0.28. Thus over the period of time, the government has been shirking from the responsibility of providing education to the people. The decline in expenditure is more pronounced during the 20 year period since 2000/01. It is also interesting to find that after 2003/04, the percent of education expenditure to GSDP in Kerala lies below All India average. This indicates that in order to sustain the development so far achieved in the education sector, Kerala needs to spend more and here the role of the state is pertinent.

During the pre- reform period from 1980/81-1990/91, higher education expenditure in GSDP in India slightly improved from 0.36 and 0.45 percent. The proportion was 0.48 percent during 2000-01, which declined to 0.41 percent in 2009-10. Proportionate expenditure on technical education had increased from 0.13 percent in 2000-01 to 0.16 percent in 2009-10. For most of the states as well as India, proportionate expenditure has shown a declining trend for all the sectors except technical education after 1990-91.In Kerala, the share of GSDP for higher education witnessed serious decline from 0.52 in 1990/91 to 0.36 in 2009/10 and for technical education from 0.21 to 0.11 during the period. In fact Kerala is behind Bihar, Odisha and West Bengal and also behind the all India average. The figures visibly point towards the negligible priorities accorded to higher education. Relative disregard of higher and technical education in the government budget over the years might be one of the reasons for poor situation of these two sectors. Relative neglect of higher and technical education in the government budget over the years will have its impact on quality and justice in higher education In India and Kerala.

CHAPTER VI
SUMMARY AND CONCLUSION

The present study mainly focussed on the growth and pattern of public expenditure on education in general and higher education in particular in India and Kerala during pre and post reform periods. The study had the primary objective of examining the trend and pattern of public expenditure on higher education in India and Kerala. It also examined the structural shift in government expenditure on higher education during the reform period and analysed the relationship between the GSDP and public expenditure on education particularly higher education.

For analysing the objectives, the researcher had examined the secondary data for 41 years from 1975/76 to 20198/19, from various budgetary reports of the state and central governments. Other secondary sources like the reports of MHRD and RBI were also made use of. To examine the development of higher education in Kerala since 1956, the existing secondary sources were used for analysing the growth of higher education in the pre and post liberalisation periods.In order to examine whether there is a structural shift in public expenditure on education in general and higher education in particular during the reform period since 1991, we have sorted data for two periods namely pre-reform period, 1975/76-1990/91 and reform period, 1991/92- 2018/19. This classification is made based on the availability of secondary data from sources like MHRD and Budget documents of Central and State governments.

6.1 Major Findings

The developments in higher education in Kerala in the pre- reform period reveals that the state has moved fast forward in the number of institutions, enrolment and the number of teachers. Burt the focus in this period was on Arts and Science college sector; the technical and professional education was not given adequate importance. This realisation has come to the successive governments and in the reform period more attention was given for the development of technical and

professional education, but with a focus on self-financing. The efforts of the government since 1991 have resulted in the rapid growth of higher education in Kerala. The reforms of the government at the level of higher education have resulted in the opening of more colleges, introduction of the shift system, the private registration system, the system of direct payment to private college teachers, unification of fees and finally with the massive opening of colleges in the self-financing sector. Owing to these reforms, educational development during the period since 1991 has been impressive both in terms of growth rate of institutions, enrolment and expenditure. In fact, the Kerala experience of educational achievement has few parallels among the states in India and countries in the world. However, much remains to be done in uplifting the Malabar region to the level of the Travancore-Cochin region particularly at the level of higher education. With 41.5% of the total population of Kerala, Malabar has only 30% of the Arts and Science colleges. The picture is similar in the case of professional and technical education. Though sweeping changes have taken place, the SC/ST and the backward communities, particularly the Muslims, lag behind the rest of the population. Further the quality of higher education has been fast deteriorating. Above all the relatively low importance given to modern professional and technical education is a major shortcoming.

It is found that expenditure on total education and higher as well as technical education has improved substantially during the past few decades. This is the case for both plan and non-plan expenditure. In the five year plan as well as in the annual budget allocations, the funds allocated for education has been increasing over the period of time. The share of plan expenditure of the central government significantly improved over the period while that of the state government did not show much rise. It indicates that the states are burdened with the committed expenditure like salary and maintenance of the staff and the institution. It is also found that Kerala‟s plan component for both higher and technical education in total allocation for education is small as compared to many other major states in India. It calls for a relook in the allocation of more plan funds in the present context of skill requirement for reaping the benefits of demographic dividend.

However, as compared to other industrialised countries, India's proportionate spending on education in general and higher education in particular is comparatively low. The amount of money spent on technical education in major states is well below what is desired. The country is still far away from the limits prescribed by the Kothari Commission and the New Education Policy. The poor space occupied by the higher and technical education sectors shows that the state does not give much importance to this core sector of education which can contribute directly to raise the productivity of human capital, which is most instrumental for developing the economy. In order to reap the benefits of the present demographic dividend, the country needs to spend heavily for the development of university and higher education. But if the spending pattern is like this, achievement out of demographic dividend is a distinct possibility.

The study reveals a significant gap across states in terms of public spending on higher and technical education. The majority of states that spend relatively little money on higher education have a lower college population index and a lower gross enrolment ratio. It shows that though finances do not resolve all problems, they are extremely essential for any progress, even for maintenance of the system. Finances are not a sufficient condition for development, but they surely form a crucial necessary condition for development of higher education". Less government spending on higher education has resulted into lesser availability of quality courses and poor academic infrastructure in states. Inadequate funding certainly would seriously affect the quality and quantum of our higher education, which will have far reaching implications for growth and equity.

In Kerala, during the period 1975/76-1989/90, the share of university and higher education in the total expenditure on education had seen only marginal rise from 12.2 to 13.16 percent. The share of technical education only marginally improved from 3.5 to 3.97 percent. In the post reform period also, higher and technical education had witnessed a decline from 23 percent to 17 percent during the period. Thus there takes place a clear structural shift in the allocation to education in the reform period. Similar to Kerala, all India figures also indicate smaller proportion for higher and technical education at 17.5 percent in 1989/90 and at

17.97 percent in 2017/18. It shows that both Kerala and India are not able to break the traditional chain in allocation of funds and re-orienting the priorities in education by allocating more funds for higher and technical education as demanded by the economy. It is also found that during the period before 1991, average growth of expenditure of the centre and the states taken together on higher education was 94.67 percent while the same during the reform period was only 18.65 percent. Further it is found that the growth of expenditure by the centre (35.45 percent) is higher than that by the states (26.18 percent) with wide gap in growth rates between the two agencies. The percentage growth rate of higher education expenditure is five times lower in the reform period than the pre reform period.

In Kerala the percent of higher education expenditure to total expenditure fell from 3.4 percent from 1980/81 to 3.3 percent in 1990/91. But in the reform period, the speed of decrease is high, and it fell to 2.7 percent in 2009/10 and then to 0.69 percent in 2018/19. The situation is more pathetic for technical education which decreases from 1.3 percent to 0.8 percent and then to 0.87 during the period. It is also interesting to find a drastic fall in the allocation of total expenditure on education; it fell from 31.6 percent to 19.7 percent during the period 1990/91 – 2017/18.This is a clear sign of the negative impact of economic reforms and the consequent shift towards other economic activities. However the situation at all India level is more pathetic because the allocation to higher education had seriously declined from 1.9 percent to 1.5 percent during 1980/81- 2009/10. With this paltry allocation, the youth of Kerala can‟t be properly trained to suit the requirements of the fast growing knowledge economy. The null hypothesis is rejected and thus we find that there is significant difference in the growth of public expenditure on higher education in India and Kerala with a significant fall in expenditure during the reform period.

The study revealed that public expenditure on education as percent of GDP at the level of the state was 3.13 and at the level of the centre was only 1.16 in 2013/14 which slightly improved at the state level and drastically declined at the level of the Centre in 2016/17. Together, they spent only 4.29 percent which was lower than that of many developing countries in the world which further declined to

4.24 percent in 2016/17. Among the sub sectors of education, the largest share of 2.85 percent of GDP goes to elementary and secondary education in 2013/14 which declined to 2.39 in 2016/17. In the case of university and higher education in India, the share declined from 0.89 percent to 0.57 percent; the share is too marginal to make an impact on higher education in India. Further the share is too small to make an impact towards reaping the benefits of demographic dividend in India. Poor GDP share adversely affects research and development in the country. World Bank survey on the percentage expenditure of GDP on Research and Development of selected nations indicate that India is one of the low expenditure nations in the peer group. While China is almost more than double, Russia and Brazil are quite ahead in the relative value. European nations like Finland and Denmark and Asian nations like Korea and Japan are the leaders in the research and development.

Researcher also found positive and good relationship between education expenditure and GDP over a long time. Thus we reject the null hypothesis that there is no relationship between the education expenditure and the GDP. However the relationship is not strong as evident from the GDP share of less than 4 percent spent on education throughout the period under analysis.

Analysis of GSDP shares among states in India indicated that low literacy state like Bihar could spare 8.39 percent of its expenditure on education in 1999/00; but its results were not seen in the education front. It shows that higher allocation is only a necessary condition for education development, but not a sufficient condition. Gujarat, Haryana, Maharashtra and Punjab always allocate smaller shares for the development of education. States like Assam, Bihar, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh earmark higher shares for the development of education.

Kerala‟s case is peculiar. It has shown an overall decrease in allocation for education as percent of GSDP. In 1990/91, expenditure share in the GSDP of Kerala was 5.64; it witnessed a continuous decline to 3.49 in 2000/01; then further fell to 2.63 in 2010/11 and finally to 2.52 in 2018/19. On the whole, its share declined continuously from the highest of 5.64 percent of GSDP in 1990/91 to 2.52 percent in

2018/19; a decline by half over the 29 year period. Thus it had a very good start, but lagged the momentum later. The compound annual average decrease of percentage share of GSDP for education over 29 year period for Kerala was 2.74 while for all India was 0.28. Thus over the period of time, the government has been shirking from the responsibility of providing education to the people. The decline in expenditure is more pronounced during the 20 year period since 2000/01. It is also interesting to find that after 2003/04, the percent of education expenditure to GSDP in Kerala lies below All India average. This indicates that in order to sustain the development so far achieved in the education sector, Kerala needs to spend more and here the role of the state is pertinent.

Analysis of GSDP share s by levels of education revealed that for most of the states as well as India, proportionate expenditure had shown a declining trend except technical education after 1990-91. In Kerala, the share of GSDP for higher education witnessed serious decline from 0.52 in 1990/91 to 0.36 in 2009/10 and for technical education from 0.21 to 0.11 during the period. In fact Kerala is behind Bihar, Odisha and West Bengal and also behind the all India average. The figures clearly point out the negligible priorities accorded to higher education. Relative neglect of higher and technical education in the government budget over the years could be one of the reasons for poor state of these two sectors. Relative neglect of higher and technical education in the government budget over the years will have its impact on excellence and equity in higher education In India and Kerala.

The study reveals the shift in public expenditure on education is phenomenal in the reform period. The education financial needs are rising faster than the growth of expenditure from the government. In a country where nearly 35 percent of the people remain illiterate, promotion of literacy and education is the need of the hour which calls for more allocation to education. Further to reap the benefits of demographic dividend, imparting rightful skills to youth and children calls for more funds for higher education. No doubt, the withdrawal from the higher education scene indicates a shift in priorities of both the central and state governments. This will adversely affect India‟s Research and Development which

call for more government funds, essential to keep pace with the fast growing knowledge economy. The situation is not different in Kerala also.

It all shows that the dominant role of government in financing higher education sector has come to an end and, at present, expansion of the sector does not rely heavily on public funds. The role reversal in funding higher education has taken place due to the reform measure of privatization of public institutions and promotion of private institutions in the sector. Over the period of time since the introduction of reforms in 1991, there has been a fall in higher education expenditure by government which would adversely affect the expansion, equity and efficiency of higher education system in Kerala and other parts of India.

6.2 Suggestions

1 For the last several decades, Kerala has been maintaining its first position in school education and most of the funds allotted to the education sector is gone for school education sector. As a result, higher education sector is constrained of resources. Hence state government should allocate more funds for the development of higher education in Kerala.

2 Since government is constrained of resources, effective and rational utilization of whatever resources allocated is the need of the hour. So measures should be taken for the same.

3 Alternative sources of financing education should also be tapped. Raising student fees based on the capacity to pay, encouraging projects and consultancy which fetch a portion of such funds to the institutions by the teachers, generating income from the institutional properties, introduction of higher education cess, etc. are examples.

4 Graduates and post-graduates who permanently migrate to foreign countries can be directed to pay at least a part of the educational recurring costs during the immediate period after their employment outside. Bonds can be executed for the same.

6.3 Scope for Future Research

- Public and private expenditure on higher education: A pre and post liberalization comparison in selected Indian states.
- There is a scope for analyzing the trend and pattern of public expenditure on higher education in India in general and all states in particular. .
- A study on the structural shift in other sectors of the education like secondary, technical and school education in India during the reform period.
- Efficiency and effectiveness of public expenditure on higher education: A pre and post liberalization analysis.
- Determinants of public expenditure on higher education: A comparison of pre and post liberalization period.
- Due to the resource constraints, government can't fully finance the higher education sector. Hence alternative sources of financing education should also be tapped.

BIBLIOGRAPHY

Abdullah, F. (2006). "Measuring service quality in higher education: three instruments compared". *International Journal of Research Method in Education*, Vol. 29 No. 1, pp. 71-89.

Abrol, D. (2010). Governance of Indian Higher Education: An Alternate Proposal. *Social Scientist*, 38(9/12)

Agarwal, P. (2006). Higher Education in India: Need for Change. *Indian Council for Research on International Economic Relations* (ICRIER), Working Paper No. 180.

Aiya, V Nagam, (1906), Travancore State Manual, Vols. I and II, Government Press, Trivandrum.

Ajit, R. G. (1984). Parallel Colleges in Kerala- Enrolment, Costs and Employment. *Economic and Political Weekly*, 1840-1847.

Altbach, G.P.(2009). The Giants Awake: Higher Education Systems in China and India. *Economic & Political Weekly*, June 6, 2009.

Anand, Smitha (2014). Inter-State Variations in Public Spending on Higher Education in India. *International Journal of Humanities and Social Science Invention*, 3(9), 23-31.

Anandakrishnan, M. (2006) Privatization of Higher Education: Opportunities and Anomalies. „*Privatization and commercialization of higher education'* organized by NIEPA, May 2, New Delhi

Ansari, Tahir Hussain (2018). An Analysis of Public Expenditure on Education, *World Wide Journal of Multidisciplinary Research and Development* , 89-92.

Anvar, P (2016), World Class State without Word Class Higher Education, Southern Books, Thiruvananthapuram.

Araf, Tasleem. (2016). Trends, Growth and Changing Patterns of Public Expenditure on Education in India. *Journal of Global Economics*, 4(4), 1-4.

Arimoto, Akira. (2006). Structure and Functions of Financing Higher Education in Higher Education in the World 2006, GUNI (2006) series on the social commitment of universities. *Palgrave*, New York

Basu, M., & Gupta, A. (2010).Higher Education. *Economic and Political Weekly*, Vol. XLV No 37.

Bhushan, S. (2019). A Dithering Higher Education Policy. *Economic & political weekly*, 54(24).

Chaudhuri, A. B. (2018, June). "Skill Formation, Public Expenditure on Education and Wage Inequality: Theory and Evidence," *Journal of Quantitative Economics*, 16(2), 553-571.

De, A. and Endow, T. (2008). Public Expenditure on Education in India: Recent Trends and Outcomes, Research Consortium on Educational Outcomes and Poverty, *Working Paper* No. 18.

Dreze Jean and Amarthya Sen (1996) India: Economic Development and Social Opportunity, Clarendan Press Publication, New Delhi

Evangeline,J and Sheela Bel.l (2019). Commissions and Committees on Education since Independence in India. *Pramana Research Journa*l, Volume 9, Issue 5, ISSN NO: 2249-2976

Dhingra, I C (2014), Indian Economic Development, Sulthan Chand and Sons, New Delhi

Dubey, S. (2019). Impact of Public Education Expenditure across Different Levels on Higher Education Access in India: A Panel Data Study. Springer, Singapore.

Education Commissions and Committees. Retrieved from: http://openlrn.wordpress.com/education-policy-in-india/

Endow, A. D. (2008). Public Expenditure on Education in India: Recent Trends and Outcomes. Exclusion?. *Economic and Political Weekly*, 44(41), 55–61.

Fahad Fayaz, Ms. Shivani Mehta. (2018). "Analysis of Education Sector – Study of Kerala and Jammu & Kashmir . *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)*"Volume 23, Issue 3, Ver. 10 PP 44-51e-ISSN: 2279-0837, p-ISSN: 2279-0845.

Franke W Richard and Chasin, H Barbara (1992), Kerala Development Through Radical Reform, Promilla and Co, New Delhi.

Gangadharan Nair, K (1989)"Higher Educational Institutions of Kerala", Ph.D.Thesis (Unpublished), Cochin University of Science and Technology, Cochin

George, K. K. and N. Ajith Kumar (1997). Kerala- The Land of Development Paradoxes. *Working Paper No. 2*, Kochi: CSES.

Kumar, N Ajith and K. K. Gorge (2009), Kerala‟s Education System: From Inclusion to Exclusion, Economic and Political Weekly, Vol XlIV, No.41, P.55-61.

George, Ann (2014), Education of Poor in Kerala: Achievements, Aspirations and Orientation, NEUPA, Journal of Educational Planning and Administration, Vol.xxviii, No.3, P. 235-248.

George, K.K. and Tharakan, P.K.M 2005, "Sustainable Human Development in Kerala: Some Issues", *Advances in Arts and Ideas*, Vol.1, 125-128.

Ghosh Dastidar.(2012). The relationship between public education expenditure and economic growth: The case of India. *Dundee Discussion Papers in Economics*, 273, University of Dundee

Ghosh, A. S. (2000). Indian Education Scene and the Public Gap. *Economic and Political Weekly*, 35(16), 1396-1406.

Gupta, D., & Gupta, N. (2012). Higher education in India: Structure, Statistics and Challenges. *Journal of education and Practice*, 3(2)

Gupta, S., & Chattarji, S. (2019). Protests, Repression, Restructuring: Contemplating Indian Higher Education in 2018. *Postcolonial Studies*, 22(1)

Government of India (1950), „Report of the University Education Commission (1948-49)", NCERT, New Delhi.

Government of India (1966), „Report of the Education Commission (1964-66)", NCERT, New Delhi.

Hatekar, N. (2009). Changing Higher Education Scenario in India. *Economic & Political Weekly*, Vol. XLIV, No. 38, pp. 22-24.

Holzer, H. J. (2018). A "Race to the Top" in Public. *The Russell Sage Foundation Journal of the Social Sciences*, 4(3), 84-99.

Houqi Hong, S. A. (2009). Government Spending on Public Goods: Evidence on Growth and Poverty. *Economic and Political Weekly*, 44(31), 102-108.

Imana, D. K. (2017). The Determinants of Public Education Expenditure: An Empirical Analysis of Changing Patterns. *Journal of Public Administration and Governance*, 7(4).

Innes, C A (1951), Madras District Gazatteurs-Malabar,1933, Government Press, Madras(Reprint)

Nair, K. N. and Nair, P. R. Gopinathan (2012). Studies in Local-Level Development-7 Higher Education in Kerala: Micro-Level Perspectives (Studies In Local-Level Development-7). *Daanish Books.*

George K.K. and N. Ajith Kumar.(1999). What Is Wrong With Kerala"s Education System?. *CSES Working Paper* No.3.

Kumar, N. Ajith and George, K.K. (2009).Kerala"s Education System: From Inclusion to Exclusion? Economic and Political Weekly, 44(41), 55–61.

George K.K. and Parvathy Sunaina (2005), Dynamics of Change in Kerala‟s Education System: The Socio-economic and Political Dimensions, Working Paper 12, Centre for Socio-economic & Environmental Studies, Cochin.

James K S (2008), Glorifying Malthus: Current Debate on Demographic Dividend in India, Economic and Political Weekly, 43(25),63-69.

Karnam, G. (2018). Public Expenditure in India: Some Issues and Concerns. 91-107.

Keeley B. (2010). Human Capital: How what you know shapes your life (Indian Edition). *New Delhi*: *Academic Foundation*, *OECD* (2007).

Kerala State Planning Board, (1984). High Level Committee on Higher Education, Government of Kerala.

Kerala State Higher Education Council. http://www.kshec.kerala.gov.in/

Kerala State Higher Education Council (2015) Retrieved December25, http://www.kshec.kerala.gov.in/images/documents/new final.pdf

Khatei, P. K. (2018). An Analysis of Public Finance on Education Sector in India. *Journal press India*, 5(2), 72-83.

Kodoth, Praveena. (2010). Globalisation and Higher Education in Kerala: Access. Trivandrum.

Kothari V. N. (2002). Should Higher Education in India be Self-Financing, *Economic and Political Weekly*, Vol. 42, Issue No. 10.

Seeta Prabhu & Sudarshan R. (Ed.), “Reforming India's Social Sector: Poverty, Nutrition, Health and Education”, New Delhi: Social Science Press

Kulandaiswamy, V. C. (2006). Reconstruction of higher education in India. *Hyderabad: The ICFAI University Press*

Kumar, A. (2008). Private cost of medical and para-medical education in Kerala.

Lam Y. Y. and Lau R. (2007). Globalization Urges Evaluation on Tertiary Design Education: Discourse on the Strategic Planning and Curriculum Reviews in

the Higher Education in Hong Kong. *Sustaining Culture through Design Education Conference Proceedings*, designed Asia 07 Hong Kong: School of Design, the Hong Kong Polytechnic University. Pp23-32

Lester, Simon. (2013). Liberalizing Cross-border Trade in Higher Education: The Coming Revolution of Online Universities. *Policy Analysis*, 20, 5 February

Martin, Michaela. (Ed.).(2007). Cross-border higher education: Regulation, quality assurance and impact (Vol.1). Paris: IIEP

Mathew, E. T. (1996). Financial Aspects of Privatisation of Higher Education: Issues and Options. *Economic and Political Weekly*, 31(14), 866-869.

Mathew, E. T (1991) Financing Higher Education, Concept, New Delhi

Menon, Sreedhara (1988) Kerala History and its Makers, Government Press, Trivandrum

Ministry of Finance (2009).Expenditure Budget Vol.12009-10, *Government of India*, New Delhi.

Ministry of Human Resource Development. (2018). *All India Survey of Higher Education*, Government of India, New Delhi

Ministry of Human Resource Development (1983).A Handbook of Educational and Allied Statistics. New Delhi: *Ministry of Human Resource Development*

Ministry of Human Resource Development (2008-09). Statistics of Higher and Technical Education. New Delhi: *Ministry of Human Resource Development*.

Ministry of Human Resource Development (2009-10). Statistics of Higher and Technical Education. New Delhi: *Ministry of Human Resource Development*.

Ministry of Human Resource Development (MHRD), Government of India (2011). Annual report 2010–11. New Delhi: *Ministry of Human Resource Development*, Government of India

Ministry of Human Resources Development (2011). Analysis of Budgeted Expenditure on Education 2007-08 to 2009-10. *Government of India*, New Delhi

Ministry of Human Resources Development, (1986). National Policy on Education 1986, New Delhi: Government of India.

Mishra, J. K., Abidi, N. and Sharma, R. (2008). Indian Higher Education: Global Challenges and Local Issues. *JBS Working Paper Series*.

Mishra, J. K., Abidi, N. and Sharma, R. (2008). Indian Higher Education: Global Challenges and Local Issues. *JBS Working Paper Series*

Mitra, Ashok (Chairman). (1999). Report of the Kerala Education Commission. Kochi: Kerala *Sastra Sahitya Parishad* (KSSP).

Shivani Jaswal (2016) „Efficient Education Sector in Kerala: Lessons to be learnt by other Indian States". *IOSR Journal of Humanities And Social Science* (IOSR-JHSS) Volume 21, Issue 10, Ver. 2 (October 2016) PP 57-64e-ISSN: 2279-0837, p-ISSN: 2279-0845

Naik, P. K. (2015). „Globalization and its Impact on Higher Education in India". *International Journal of Humanities and Management Sciences (IJHMS)*, Volume 3, Issue 6 (2015), ISSN 2320–4044 (Online).

Nair, K.N., & Nair, P.R.G. (2008). Higher education in Kerala: Access, Equity and Quality. In K.N. Nair and P.R.G. Nair. (eds.) Higher Education in Kerala: Micro-Level Perspectives (1–18). Delhi: Danish Books.

Nair, P. R. Gopinathan (1974), Education and Socio-economic Change in Kerala1793-1947, Social Scientist, Vol.4, PP 28-43

Nair, P. R.Gopinathan (1981) Primary Education, Population Growth, and Socio-economic Change: a Comparative Study with Particular Reference to Kerala. New Delhi, Allied.

Nair, P. R.Gopinathan (1974) Decline in Birth Rate in Kerala: A Hypothesis, *Economic and Political Weekly*, Special Number9, February.

Tharakan, P.K. Michael (2006) Kerala Model Revisited: New Problems, Fresh Challenges. *Working Paper No*. 15

Patnaik, Patnaik. (2009). Challenges Before Higher Education In Developing Societies. *Social Scientist,* 37(7/8), 21–32.

Perna, L.W. & Titus, M.A. (2005). The relationship between parental involvement as social capital and college enrolment: An examination of racial/ethnic group differences. *The Journal of Higher Education,* 76(5), 485–518.

Prakash, V. (2007). Trends in Growth and Financing of Higher Education in India. *Economic and Political Weekly,* 3249-3258.

Pratiba Khanna,(2005).“Changing Sceneries of Higher Education: Challenges to Quality Assurance and Sustenance” *University News,* 43 (07), Feb. 14-20, 2005, Vol.43, p.4.

Jaleel, K.A., (1997) “Education in Kerala: The Post-Independence Period”, Kerala Calling, Aug.1997, Vol.17,p.48

Rawat, D. and Chauhan, S. S. (2007). The relationship between public expenditure and status of education in India: An Input Output Approach, Paper to be presented at Special Session on “Modelling Micro-Macro Interdependencies in Input Output Framework”. *Sixteenth International Input Output Conference at Istanbul Technical University,* Istanbul (Turkey), 2-7 July, 2007.

Reforming Education Financing (2000). National Institute of Education, Planning and Administration (NIEPA), New Delhi

Registrar General & Census Commissioner. (2014). *Census of India* 2011. New Delhi.

Richards, Ken. (2002). Reforming Higher Education Student Finance in the U.K.: The Impact of recent Changes and Proposals for the Future. *The Welsh Journal of Education,* II (I), 18-36.

Richard, Mussa (2009)Rural Urban Differences in Parental Spending on Children‟s Primary Education in Malawi, MRPA paper16090, University Library of Munich, Germany.

Richardson Kojo Edeme, C. N. (2017). Distributional impact of public. *International Journal of Social Economics*, 44(12), 1683-1693.

Sumithra, S., S. R. Vishnu Vardhan and C. Aruna (2014) Public Expenditure and Scheduled Community Enrolment in Higher Education: A Comparison Across Indian States. *Higher Education for the Future* 1(2) 227–246

Salim A. Abdul (2021) Expansion, Equity and Efficiency of Higher Education in Kerala, DC Books, (https://ebooks.dcbooks.com/expansion-equity-and-efficiency-of-higher-education-in-kerala)

Salim A. Abdul, Economic Reforms and Inclusive Growth of Higher Education, *Productivity* Vol.55, No.3, October-December, *2014*, P. 309-313.

Salim, A Abdul. (1993). Private Cost of Higher Education in Kerala: Socio-Economic Analysis. *Journal of Higher Education*, 443-452.

Salim, A.Abdul and P.R. Gopinathan Nair (2002) Educational Development in India: The Kerala Experience Since 1800. Anmol Publications PVT. LTD, New Delhi

Salim, A. Abdul (2004). Opportunities for Higher Education: An Enquiry into Entry Barriers. *KRPLLD, Discussion Paper* No.71.Thiruvananthapuram: CDS.

Salim, A Abdul (2018), „ Higher Education for Kerala's Development‟ in Prakash, B A and Jerry Alwin (Ed), Kerala‟s Economic Development, Sage International , New Delhi

Sathyaseelan P (1989) Interest Groups in Kigher Education in Kerala since 1960, Ph.D Thesis, (Unpublished), University of Kerala, Trivandrum

Schultz, T. W. (1961). Investment in Human Capital. *American Economic Review* 5(1), pp.1-17

Shah.K.R. (1969, November). Expenditure on elementary education:1950-51 TO 1960-61. *Economic & Political Weekly.*

Shariff, Abusaleh and Prabir Ghosh (2000), Indian Education Scene and the Public Gap, Economic and Political Weekly, 35(16):1396-1406.

Sharma, V. (2007). Indian Higher Education: Commodification and foreign direct investment. *The Marxist,* Vol.XXIII, No. 02.

Singh, Shailendra, (2016), „Impact of Globalization on Higher Education in India: Issues, Challenges and Alternatives". *The International Journal of Indian Psychology,* ISSN 2348-5396 (e), ISSN: 2349-3429 (p), Volume 3, Issue 2, No.4,http://www.ijip.in, January - March, 2016.

Solaki, M. (2013). Relationship between Education and GDP Growth: A Bi-variate Causality Analysis for Greece. *International Journal of Economic Practices and Theories,* 3(2), 133-139.

Tahir Hussain Ansari, D. M. (2018). An Analysis of Public Expenditure on Education in. *World Wide Journal of Multidisciplinary Research and Development,* 89-92.

Tharakan, P. K. (2017). Experiments in Favour of a Publicly Funded and Socially Responsive Higher Education System in the State of Kerala: A Study in the Context of Fast Changing National Preference for Private Funding. *Higher education for the future,* 4(1), 82-100.

Tharakan, P.K.Michael (1984). "Socio-Economic Factors in Educational Development: Case of Nineteenth Century Travancore", *Economic and Political Weekly,* Vol. XIV, No.46-47, 1913-28, 1955-67.

Thorat, S. (2008). Emerging issues in higher education: Approach and strategy in 11th Plan. In Higher education in India: Issues related to expansion, inclusiveness, quality and finance. New Delhi: *University Grants Commission.*

Tilak, J. B. G. (1989). 'Education and its Relation to Economic Growth, Poverty, And Income Distribution: Past Evidence and Further Analysis'. *Discussion Paper* No. 46. Washington D.C.: World Bank.

Tilak, J. B. G. (1995); "Funding Higher Education in India". *Economic and Political Weekly*, Vol. 30, No. 9 (Mar. 4,), pp. 426-429

Tilak, J. B. G. Absence of Policy and Perspective in Higher Education. *Economic and Political Weekly* Vol. 39, No. 21

Tilak, J. B. G. (1990). 'The political economy of education in India', Special Studies in Comparative Education No. 24. Buffalo*: State University of New York at Buffalo*, in collaboration with the University of Virginia.

Tilak, J. B. G (1993), „Financing Higher Education in India: Principles, Practice, and Policy Issues". *Higher Education*, *26*(1), 43-67.

Tilak, J. B. G. (1992b). 'Financing higher education' in Higher Education Reforms in India (Eds P. G. Altbach and S. Chitnis) New Delhi: Sage (in press).

Tilak, J. B. G. (2005). Higher education: A public good or a commodity for trade? Commitment to higher education or commitment of higher education to trade.

Tilak, J. B. G. (2015). How inclusive is higher education in India? Social Change, 45(2), 185–223

Tilak, J. B. (2018). Higher Education, Public Good and Markets. Routledge*: India*

Tilak, J. B. (2018). The Dilemma of Reforms in Financing Higher Education in India, OUP, New Delhi

Tilak, J. B. G., & Choudhury, P. K. (2019). Inequality in access to higher education in India between the Poor and the rich: An analysis of the 64th and 71st Rounds of NSSO Data (2007–08 and 2013–14). (*Working paper CSD-2/2019). New Delhi, India: Council for Social Development*.
Retrieved from http://csdindia.org/wp-content/uploads/2019/05/Prof-Tilak-Inequality-in-Access-to-Higher-Education-in-India.pdf

Tilak, J.B.G. (2005). Post-Elementary Education, Poverty and Development in India. Post-Basic Education and Training. *Working Paper, No. 6,* in Beyond the Basics: Education and Poverty funded by the British Department for International Development

Tilak, J.B.G.(2006b). Cess-Driven Allocationsf or Education. *Economic and Political Weekly*, Vol. 41, No. 14.8 April.

Valima, J. (2004). Nationalization, Localization and Globalization in Higher Education. *Higher Education*, Vol. 48, pp. 27-54.

Varghese, N.V (2013). Globalization and higher education: Changing trends in. Analytical Reports in International Education, 5(1), 7-20.

Varghese, N. V. (2008), „Globalization of Higher Education and Cross Boarder Students Mobility".*Research Paper, International Institute of Educational Planning*

Varghese, N.V (2015), Challenges of Massification of Higher Education in India, Centre for PolicyResearch in Higher Education, New Delhi: NUEPA.

Varghese, N.V., Panigrahi, J. & Rohatgi, A. (2018). Concentration of higher education institutions in India: A regional analysis. CPRHE Research Paper 11, *Centre for Policy Research in Higher Educatio*n. New Delhi.

Varughese, Rajan. (2006). Privatization of Public Assets in Higher Education Emerging Trends in Private Aided Colleges in Kerala. *Journal of Educational Planning and Administration* 20 (3) (July): 313-320

Velayudhan, K V (2010) Economic Development: Retrospect and Prospect, Rainbow Books (online)

Yogish, S. N. (2006). Education and Economic Development. *Indian Journal of Social Development*, 6 (2), pp. 255-270.

Zachariah, George. (2010). Changing Enrolment Patterns in Arts and Science Colleges in Kerala, Report submitted to Kerala State Higher Education Council Government of Kerala, Centre for Socio-economic & Environmental Studies (CSES), Kochi.

Appendix 1

Table 1

Test Statistics: Difference in theGrowth of Expenditure on Higher education Between Pre and Post Reform Periods

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Centre	4.646*	25	.000	104.97	22.59
State	6.608*	25	.000	74.22	11.23
Total	6.546*	25	.000	76.03	11.62

** Equal variances are assumed, Source: estimated by author*

Table 2

Chow Breakpoint Test: Structural Break in Growth Rate of Education Expenditure in Union Budget

	Break Year	F-Statistics (df)	P-Value
Centre	1991-92	5.250 (1,25)	0.0306
State	1991-92	6.694 (1,25)	0.0159
Both	1991-92	5.907	0.0226

Source: Estimated by Author

Table 3

Difference in the Growth of Expenditure on Education between Pre and Post Reform Periods: State Wise

State	Period	Average Growth Rate	Std. Deviation	Std. Error Mean	t	df	p
Andhra	Pre	125.63	31.53	18.20	2.246	7	.060
	Post	51.47	51.52	21.03			
Assam	Pre	133.80	50.08	28.91	1.448	7	.191
	Post	63.67	74.59	30.45			
Bihar	Pre	254.63	396.77	229.08	-.266	7	.798
	Post	344.30	505.76	206.48			
Gujarat	Pre	139.37	19.19	11.08	1.955	7	.092
	Post	57.98	68.60	28.00			
Haryana	Pre	147.80	58.71	33.89	1.704	7	.132
	Post	65.15	72.19	29.47			
Himachal Pradesh	Pre	607.80	902.59	521.11	1.579	7	.158
	Post	65.08	70.53	28.80			
Jammu & Kashmir	Pre	87.20	28.61	16.52	-.018	7	.986
	Post	88.18	91.68	37.43			
Karnataka	Pre	97.67	34.67	20.02	.592	7	.572
	Post	68.13	80.52	32.87			
Kerala	Pre	79.17	57.36	33.12	.090	7	.931
	Post	74.02	89.00	36.34			
MP	Pre	112.40	42.60	24.59	1.145	7	.290
	Post	50.77	85.91	35.07			
Maharashtra	Pre	171.23	166.50	96.13	1.074	7	.318
	Post	74.73	107.25	43.79			
Orissa	Pre	106.47	19.86	11.47	.652	7	.535
	Post	70.42	91.60	37.40			
Punjab	Pre	112.63	12.75	7.36	1.261	7	.248
	Post	51.88	80.20	32.74			

State	Period	Average Growth Rate	Std. Deviation	Std. Error Mean	t	df	p
Rajasthan	Pre	91.90	17.04	9.84	.960	7	.369
	Post	54.38	64.48	26.32			
Tamil Nadu	Pre	175.67	125.14	72.25	2.004	7	.085
	Post	45.55	74.43	30.38			
Uttar Pradesh	Pre	97.90	9.85	5.69	1.260	7	.248
	Post	43.95	71.39	29.15			
West Bengal	Pre	792.13	1230.17	710.24	1.542	7	.167
	Post	72.83	60.94	24.88			
All Major States	Pre	119.80	28.62	16.53	1.697	7	.133
	Post	58.28	57.89	23.63			

Source: Estimated by Author

Table 4

Data Set Used for Analysis (in Main Chapters)

Chow Test data Set	Mann-Whitney U	Regression
Share of Education Expenditure in Union Budget (percent)	Growth Rate of Expenditure on Higher Education (pre and post)	Growth Rate of Public Expenditure on Education and GDP in India, 2000/01-2018/19 (in percent): First Difference and Constant
Share of Plan and Non-Plan Expenditure on Education by Centre and States, 1980/81-2017/18 (in Percent)		
Percent of share: Inter-Sectoral Allocation of Public Expenditure on Education in India		
Inter-Sectoral Allocation of Total Expenditure for Education under Five Year Plans (in percent), India		