

Determinants of Household Expenditure on School Education in Kerala

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5. 1. Introduction

All school educational institutes are intended to promote learning and ample atmosphere for infrastructure development to provide better education outcome and to reduce drop out. Kerala greatly succeeded in this attempt and it is the first ever state in India to achieve universal literacy. Both central and local governments played an important role in promoting the school education system. As a part of that to achieve universal primary education, Kerala government implemented ‘Athulyam’ in 2014 and achieved its target in 2016. Kerala also ranks top in terms of remittances, mainly from Middle East region and accounts for the 25% of GDP from remittances itself and utilizes it mainly for the productive channels like education and health (Kerala Economic Review, 2018). The National Education Policy (2020) seeks to restructure

the school curricula and pedagogy in a new 5+3+3+4 design and universal foundational literacy and numeracy and formation of school complexes.

The government of Kerala spends a high percentage of expenditure for the development of the education sector. Schools in Kerala are run by the government or private trusts and individuals. The state has shown a tremendous growth in the number of educational facilities at all levels during the last 50 years. Even though the status of education is remarkable and there are many land marking achievements in this sector, there are some issues that need to be given much care and attention. The state still requires more improvements to enhance academic quality at school and higher education levels and to make education more inclusive at all levels. The higher education sector in Kerala needs much attention and improvement. The main task of the Kerala government is to focus on the aspect of school education both at the school and higher education levels (George et.al, 2005).

There are some keen areas which need immediate interventions like imparting skills for employability through education, improving academic achievement, updating syllabi by paying heed to emerging demands both at the local levels, and designing new training programs for teachers to improve the standard of teaching and learning in educational institutions. Extra-curricular activities in the areas of arts and sports, specifically designed programs with professional expertise and assistance are needed to meet the needs of the disabled children (Nair, 2004). More focus should be centered on the areas like skill education, incorporating technology in the curriculum, programs and support activities that benefits the differently abled and on gender sensitivity. The demand for better quality schooling and professional education were growing in Kerala. The capacity of a large number of households to pay for education was increasing due to a number of reasons such as growth in per capita state domestic product (SDP), expansion of job markets both within the country and abroad, inflow of remittances, decrease in the number of children, reduction in household size etc. The capacity of the households to meet the growing private costs of education depends, to some extent, on the household income (Nampoothiri, 2004).

The household cost of education in Kerala was largely met by the increased external remittances also. In 1960s, 1970s and 1980s the growth in the per capita net state domestic product (NSDP) was quite low. But along with all these relevant factors, the government's capacity and willingness for public spending on education

has been coming down. Despite large volume of external remittances to the state, the state government has been facing recurrent fiscal crisis and this is the reason why the government has been reducing the budget allocation to education sector.

But at the same time the data brought out by the 61st round of National Sample Survey (2004-05) shows that on an average, the per capita expenditure on education by the rural households in Kerala was more than double the national average (Rs.41 for Kerala against Rs.18 for India). Regarding the per capita educational expenditure in rural areas Kerala ranked third after Haryana and Punjab. But urban Indian people spend more than urban Keralites (Rs.74 for India and Rs.66 for Kerala). The rural-urban differences in educational spending by households was much less was also high in Kerala compared to other Indian states. The proportion of households spending on private tuition was also high in the state.

5.2. Schools and Students in Kerala

Kerala with a literacy rate of 93.91% tops among the Indian states and put a high percentage of budget expenditure for the development of the education sector. In Kerala, schools are run by the government or private trusts and individuals. As per the report of education department of Kerala the state has shown tremendous growth in educational facilities at all levels during the last 50 years (Table 5.1).

Table 5.1

Number of Schools and Students in Kerala 2018-19

Category	Government schools	Aided schools	Unaided schools	Total schools
Number of schools	4693	7216	1042	12951
Number of students	1168586	2158452	389859	3716897
HS	1228	1432	458	3118
UP	870	1873	242	2985
LP	2595	3911	342	6848
Total	4693	7216	1042	12951

Source: Department of Economics & Statistics, Government of Kerala, DPI, 2019-20

There are 1400 + schools, 160k+ teachers and 20 k + non- teaching staff. The schools in Kerala are affiliated to Central Board of Secondary Education (CBSE), Indian Certificate of Secondary Education (ICSE), Kerala State Education Board and National Institute of Open Schooling (NIOS). The total number of schools and students in the schools of Kerala in 2018-19 is shown in the Table 5.1. There are 4693

government schools, 7216 aided and 1042 unaided schools with a total comprising 12951 schools in Kerala in 2018-19. The total numbers of students in the same year are 3716897. It is also clear that majority of the students and schools are in the aided sector followed by government and unaided sectors respectively.

5.3. Literacy in Kerala

Effective literacy skills bring more educational and employment opportunities. There are close and strong linkages between literacy, education and health. The spread of literacy has played a crucial role in the social and economic development of the state. Increased democratization, rights consciousness and civic awareness in the state are no doubt closely related to the high level of literacy which has existed for decades.

Among the Indian states Kerala ranks first and in case of female literacy also the state is far ahead and has made a tremendous progress. The male-female gap also narrowed and the state holds first place in female literacy with 92 per cent. The Kerala State also gave importance to Literacy Mission Authority (KSLMA) and has been implementing so many literacy and equivalency programmes by appointing ‘preraks’, representatives for propagating and continuing literacy programmes.

The literacy rate in Kerala since 1951 to 2011 is compared in the Table 5.2. Kerala has made tremendous achievement in the field of literacy. It also achieved to reduce the gender differences in terms of literacy during these years. The literacy rate in 1951 was 47.18% which increased to 93.91% in 2011. Kerala is also regarded as the first state in India to attain cent per cent literacy. There were 12,971 schools in Kerala in 2017-18. Out of this, 4695 (36.17%) are Government schools, 7216 (55.63%) are aided schools and 1060 (8.17%) are unaided schools.

Table 5.2
Literacy Rate in Kerala

Year	Persons	Male	Female
1951	47.18	58.35	36.43
1961	55.08	64.89	45.56
1971	69.75	77.13	62.53
1981	78.85	84.56	73.36
1991	89.81	93.62	86.17
2001	90.86	94.24	87.72
2011	93.91	96.02	91.98

Source: Kerala State Literacy Mission Authority

More schools are functioning in the Lower Primary (LP) section than Upper Primary (UP) or High School (HS) sections. Malappuram district has the largest number of schools (1559) followed by Kannur (1308) and Kozhikode (1282). Malappuram also has the largest number of Government (553) and unaided schools (199) in the state.

5.4. School Enrollment and Out of School Children in Kerala

So in this context, it is important to know the students enrolled and out of school children in Kerala. School enrollment at the secondary level in Kerala from 2009-10 to 2013-14 is shown in the Table 5.3. It is seen that there was not much increase in every year in the enrollment rate. There are no much differences in the enrollment of boys and girls also. Gross enrollment ratio at the secondary level from 2009-10 to 2013-14 shows that enrollment rate increases and decreases during these years. There are not many differences in the enrollment of boys and girls. GER of boys increased from 98.22 in 2009-10 to 100.9 in 2013-14 and that of girls increased from 96.8 to 97.6 during the same period.

Table 5.3

School Enrollment and GER at the Secondary Level in Kerala

Year	Enrollment Rate					
	Boys		Girls		Total	
2009-10	526033	98.22	509104	96.8	1035137	97.52
2010-11	535480	101.6	518309	99.7	1053789	100.6
2011-12	524403	80.31	522564	78.37	1046969	79.34
2012-13	419215	82.96	397823	77.67	8169598	80.31
2013-14	454699	100.9	426056	97.6	880755	99.2

Source: Census of India 2011 & UDISE 2013-14

Enrollment as a total also has not increased steadily during the same period. Stage-wise enrollment of students in schools in Kerala from 2013-14 to 2018-19 is given in the Table 5.4. There was an increase in the enrollment of lower primary students but there was no significant progress in upper primary and high school student's enrollment rate. The total enrollment also had not shown a progressive change during the same period.

Table 5.4

Stage-wise Enrollment of Students in Schools in Kerala

Year	LPS	UPS	HS	Total
2013-14	1240143	1201682	1406242	3848067
2014-15	1228361	1163276	1397590	3789227
2015-16	1263261	1135287	1364621	3763169
2016-17	1264303	1113277	1325240	3702820
2017-18	1282369	1101772	1296599	3680740
2018-19	1314944	1112767	1276107	3703818

Source: Directorate of Public Instruction

The total number of persons who enrolled in higher secondary and 10th equivalency courses in the years 2018, 2019 and 2020 in Kerala is shown in the Table 5.5. The enrollment of students as a total had not shown a steady improvement; rather it shows an increase followed by a corresponding decrease during the time period. The enrollment of female higher secondary students, male, transgender, SC, ST, differently abled and the total enrolment both at the 10th and higher secondary level showed a decrease from 2018 to 2020.

The stage-wise drop out ratio in the schools of Kerala in different levels of education in 2016-17 and 2017-18 is shown in the Table 5.6. It is clear that the dropout rate at all levels of education, LP, UP and HS decreased during the same period. The dropout rate is comparatively low at high school level. The dropout rate of LP schools decreased from 0.20 to 0.15, UP schools decreased from 0.11 to 0.10 and that of HS decreased from 0.33 to 0.22 during the same period.

Table 5.5

Number of Students Enrolled in Higher Secondary and 10th Classes in Kerala

Course	Year	Female	Male	Transgender	SC	ST	Differently Abled	Total
Higher Secondary	2018	19702	14052	39	9308	1331	288	33793
	2019	19792	12842	36	7779	1220	454	42123
	2020	9524	14252	30	5273	759	371	30209
10 th	2018	15225	21263	40	8925	1620	354	36528
	2019	15567	18460	29	7786	1381	748	43971
	2020	10898	11026	22	5148	839	613	28546

Source: Kerala Economic Review, 2020

The lower dropout rate in the school education in Kerala is definitely an indicator of educational attainment and the students out of schools in the state are reaching to be at zero levels. But in 2019 there were a steady improvement at all these levels and the overall trend in enrollment at these levels not shown a progressive change. The district-wise dropout ratio in Kerala in 2017-18 & 2018-19 in Kerala is given in the Table 5.7. Kerala has achieved a near zero dropout rate compared to other

states in India. It is also apparent that there are no much wide differences in the dropout rate of students among different districts in Kerala.

Table 5.6
Stage-wise Dropout Ratio in Schools in Kerala

Year	2016-17	2017-18
Total	0.22	0.16
LP	0.20	0.15
UP	0.11	0.10
HS	0.33	0.22

Source: Directorate of Public Instruction

The dropout rate is high in ‘Wayanad’ and it is 0.62 and low in ‘Alappuzha’ district and it is 0.02. The district wise classification also shows that there are not many differences in dropout rate among various districts and compared to 2017-18 it shown a decline in 2018-19. Kerala economy has completely revolutionized the education system as a whole. The state with the highest levels of literacy also gives importance to expenditure on education also. A substantial portion of the state government’s expenditure is earmarked for the educational sector. The state also gave importance to female education and with least gender differences in terms of all aspects of education. During the first year of the 12th plan an amount of Rs.590.24 crores had been earmarked for the education sector of which 98.78 percent was expanded.

Table 5.7
District-wise Dropout ratio in 2017-18 & 2018-19 in Kerala

District	SC		ST		Others		Total	
	2017-18	2018-19	2017-18	2018-19	2017-18	2018-19	2017-18	2018-19
Thiruvananthapuram	0.14	0.12	0.51	0.22	0.16	0.11	0.16	0.13
Kollam	0.10	0.07	0.28	0.20	0.08	0.05	0.09	0.06
Pathanamthitta	0.06	0.02	0.11	0.11	0.07	0.03	0.07	0.03
Alappuzha	0.02	0	0	0	0.04	0.02	0.04	0.02
Kottayam	0.12	0.10	0.51	0.04	0.14	0.07	0.14	0.08
Idukki	0.39	0.40	1.2	0.99	0.48	0.21	0.51	0.33
Ernakulam	0.17	0.17	0.41	1.88	0.21	0.20	0.21	0.24
Thrissur	0.11	0.13	1.13	3.24	0.08	0.05	0.09	0.08
Palakkad	0.18	0.06	1.07	0.59	0.24	0.12	0.25	0.14
Malappuram	0.03	0.15	2.64	3.59	0.08	0.06	0.09	0.09
Kozhikode	0.07	0.05	0.42	0.11	0.07	0.05	0.07	0.06
Wayanad	0.38	0.17	2.59	2.11	0.26	0.10	0.84	0.62
Kannur	0.14	0.23	0.63	0.74	0.13	0.04	0.15	0.07
Kasaragod	0.41	0.44	0.18	0.27	0.22	0.13	0.23	0.16
Total	0.13	0.12	1.42	1.29	0.14	0.08	0.16	0.12

Source: Directorate of Public Instruction

The outlay on education was significantly increased during the last five years and in 2016-17 the sector was allocated an amount of Rs.1330.79 crores for education.

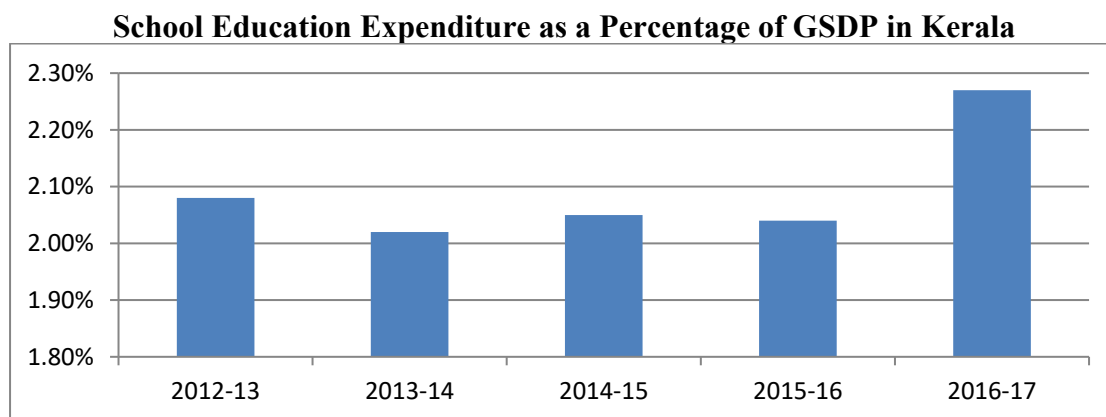
5.5. Expenditure on Education

The government of Kerala has increasing its outlay on education over the past years. Kerala is going through fiscal decentralization. The per capita expenditure per student by the government is also increasing. The effect of the rise in expenditure by the government can be well revealed or reflected through the indicators like number of schools, enrollment, dropout rates, examination results and so on. The improvement and attainment Kerala had attained on all these dimensions helped the government sector to divert more of its resources to the education sector.

5.5.1. Public Expenditure on School Education in Kerala

Spending on education as a percentage of total expenditure in Kerala shows a declining trend over the years. In spite of high improvement in the social sector Kerala's investment in overall education sector shows a slow downfall which shows that the state is unable to invest more on education in the coming future. There are so many reasons for the decrease in the expenditure on education. The school education expenditure as a percentage of GDP from the years 2012-13 to 2016-17 is shown in the Figure 5.1. It is clear that there is not a steady increase or improvement in the school education expenditure as a total % of GDP. In 2012-13 it was 2.08% followed by 2.02% in 2013-14, 2.05% in 2014-15, 2.04% in 2015-16 and a slight improvement of 2.27% in 2016-17. The total share of expenditure on education to the total expenditure of the government need to be improved in Kerala.

Figure 5.1



Source: Centre for Budget & Policy studies (CBPF) Public Expenditure on School Education, 2019

Social sector expenditure will be the major concern to improve the quality of education in Kerala. The expenditure on education as a ratio to aggregate expenditure in Kerala in various years, from 2002-03 to 2019-20 is shown in the Table 5.8. It was 17.6% in 2002-03 and 14% as per the Budget estimates of 2019-20. Throughout the years there was not a steady improvement in the same. The figures also indicates that the ratio of education expenditure as a total of aggregate expenditure increases and decreases in some years. Overall, the trend shows that there was a decrease in the ratio of education expenditure.

Table 5.8

Government Expenditure on Education in Kerala (as a % of Aggregate Expenditure)

Year	Expenditure on Education
2002-03	17.6
2003-04	15.7
2004-05	16.2
2005-06	16.6
2006-07	17.1
2007-08	15.9
2008-09	16.7
2009-10	16.8
2010-11	17.0
2011-12	17.7
2012-13	17.2
2013-14	17.2
2014-15	16.4
2015-16	16.0
2016-17	16.2
2017-18	16.3
2018-19 (RE)	14.8
2019-20 (BE)	14.0

Source: Budget documents of the state governments, Various Years

RE: Revised Estimates, BE: Budget Estimates

Thus the Economic Survey in various years throws light on the fact that there is unimpressive investment in social infrastructure in Kerala, especially in the case of education. Kerala, being a developing and progressive economy it is unable to develop enough fiscal space to increase the expenditure on critical social infrastructure like education and health. Thus in Kerala the recent trend shows that a state which is known for investment in education is cutting outlays on education. Thus it is clear that Kerala needs more investment and more resources for increasing the expenditure on education in the coming years unless and otherwise there is a chance of again cutting the expenditure on education. The trends in per capita expenditure on

school education in Kerala are shown in the figure. Social consumption of education is one of the most important indicators of economy in sustainable economic development. There are various indicators of education such as literacy rates, attendance ratios, incentives received by students, expenditure incurred on education, educational wastage including dropping out and discontinuance etc.

5.5.2 Household Expenditure on School Education in Kerala

Household expenditure or the expenditure incurred by parents for the education of their child plays a very important role in the educational attainment of every child. Private expenditure on education is the expenditure incurred by households to their children who attend educational institutions, in the form of payment of course fees, purchase of books, stationery and uniforms, expenses on conveyance, private coaching etc. It includes a wide variety of items but the major items of expenditure incurred in rural and urban areas are shown in the Table 5.9. The public or government expenditure on school education in Kerala was also analyzed in the previous section. In this context it is important to look into the trend and pattern of household expenditure on education and that of school education in Kerala. Households spend more on technical and professional education. There are rural and urban household differences in terms of education. Urban households spend more on technical and vocational education. In rural areas, Rs.8269 is spent for general education, Rs.76942 for technical/professional education and Rs.24107 for vocational education.

Table 5.9
Average Household Expenditure per Student in Kerala

Sector	expenditure per student in current academic session		
	Type of Education		
	General	Technical/Professional	Vocational
Rural	8269	76942	24107
Urban	10128	90369	16928
Rural+ Urban	9007	83746	21157

Source: NSS 71st round (2014), NSS KI (71/25.2)

In urban areas it is Rs.10128, Rs.90369 and Rs.16928 respectively. In rural and urban areas on an average it is Rs.9007, Rs.83746 and Rs.21157 respectively.

Table 5.10

Average Household Expenditure on General Education in Kerala

Level of general course	Average expenditure (Rs)per student		
	Rural	Urban	Rural+ Urban
Primary	7445	9542	8196
Upper Primary	6499	8469	7314
Secondary	8443	9193	8752
Higher Secondary	9374	11639	10375
Graduate	14697	15447	14996
Post Graduate & above	17811	24867	21649
Diploma	13422	12832	13310

Source: NSS 71st round (2014), NSS KI (71/25.2)

Average expenditure (Rs.) per student pursuing general education during current academic session for different levels of education is shown in the Table 5.10. Households in rural areas spend more on higher education. In the case of school education households in rural areas spend more on higher secondary and secondary education. In urban areas households also spend more on higher education. In the school level they spend more on higher secondary and primary education. In rural and urban areas, in the case of school education, households spend more on higher secondary education, Rs.10375 and spend more on post-graduation, i.e. Rs.21649 in the case of higher education.

Percentage distribution of item wise expenditure for general education and technical/professional education is given in the Table 5.11. Among the various components of expenditure, in the case of general education households spend more on course fee (41%), books (25%), and transport (16%). Private coaching (11%) and other expenditure includes (7%) of the total expenses. In the case of technical / professional education, households also spend more on course fee (66%). Other expenditures include (20%), books (9%), transport (4%) and private coaching only (1%).

Table 5.11
Household Expenditure on Different Items in Kerala

Components of Expenditure	General Education
Course fee	41 %
Books	25%
Transport	16%
Private coaching	11%
Other expenditure	7%
Total	100%
Average expenditure per course	9002

Source: NSS 71st round (2014), NSS KI (71/25.2)

Per student expenditure on general education, technical/ professional education and vocational education of Kerala are being compared with all- India level.

Table 5.12
Average Household Expenditure on Education by Type of Education in Kerala

Type of Education	Per student expenditure	
	Kerala	All- India
General Education	9326	6788
Technical/ professional Education	82232	62841
Vocational Education	19646	27676

Source: NSS 71st round (2014), NSS KI (71/25.2)

Kerala spends more on general education and technical/professional education. It is also noted that per student expenditure on vocational education is much lower than all-India level. Average Expenditure per student pursuing general education during academic session for different levels of education is shown in the Table 5.12. In Kerala rural households spend more on higher education and in the case of school education they spend more on higher secondary and secondary education. Urban households spend in the same pattern as rural households do. On the basis of all-India level also the same trend is seen but compared to Kerala, the amount spent by the households are comparatively low. The average expenditure per student pursuing general education during academic session for different levels of education are shown in the year 2014-15 is shown in the Table 5.13. The different levels of education with respect to rural and urban differences of Kerala and all-India are also shown in the table. In Kerala there are vast differences in terms of primary, upper primary, secondary, higher secondary education in rural and urban areas. In the case of all- India level also this is the same. But compared to all-India level the expenditure at all levels of education and at all areas are higher in Kerala except in urban areas. In

urban areas, the expenditure on school education at all broad levels is higher at all-India level than in Kerala.

Table 5.13
Average Household Expenditure on General Education in Kerala

Geography/Location		Primary	Upper Primary	Secondary	Higher Secondary	Estd (00) students pursuing general course
Kerala	Rural	7073	7126	8248	9595	37462
	Urban	9870	8696	10874	11187	28090
	Rural+ Urban	8330	7771	9296	10268	65551
All-India	Rural	2811	3242	5100	9031	1893318
	Urban	10083	11446	13547	20179	712361
	Rural+ Urban	4610	5386	7459	12619	2605679

Source: NSS 72nd round (2014), NSS KI (71/25.2):

In Kerala the total expenditure on general education is Rs.37462, in urban areas it was Rs.28090 and in total it was Rs.65551 in rural and urban areas. In the case of all India level, it was Rs.1893318, in rural areas it was Rs.712361 in urban areas and Rs.2605679 in rural and urban areas. Average expenditure (Rs.) per student pursuing general education by broad level of education is being compared by using the data from NSSO 52nd round (1995-96) and NSS) 56th Round (2000-01) is given in the Table 5.14. In 1995-96, it is clear that the expenditure is more in the case of higher education. In the case of school education, the expense is more at the secondary and higher secondary level.

The all-India average expenditure at all broad levels of education is also higher than Kerala during the same period. In 2000-01, there had been a change, Kerala's education expenditure at all levels of education except above higher secondary education and all categories had shown a decrease than in 1995-96. Compared to all-India average, Kerala's education expenditure at all levels of education in 2000-01 is higher than 1995-96. In 1995-96, Kerala among the various items of household expenditure spends more on tuition fee followed by private coaching, transportation, uniform, books and stationery, exam fee, other fee and payments and other expenses. In the case of all-India, the expenditure is more in the case of private coaching followed by tuition fee, transportation, uniform, books & stationery, exam fee, other fee and payments and other expenses. In 2007-08, Kerala's

household expenditure on all items increased and spends more on tuition fee followed by books and stationery, transportation, uniform, private coaching, exam fee, other fee and payments and other expenses. In Kerala in 1995-96, the expenditure on education was Rs.1449 and the all-India average was Rs.1686 at all different levels of education. In 2000-01, Kerala's spending was Rs.1066 and that of all India was Rs.904. Thus compared to all India level average expenditure, Kerala's household expenditure on education increased during the same period.

Table 5.14
Average Annual Household Expenditure on Education on Items of Expenditure in Kerala

NSSO (56th Round) 1995-96								
Items of Expenditure								
	Tuition Fee	Exam fee, Other fee & Payments	Books & stationery	Uniform	Transport	Private coaching	Other expenses	Total
Kerala	677	153	314	339	390	602	121	1077
All-India	613	165	290	298	561	732	92	912
NSSO (64th Round) 2007-08								
Items of Expenditure								
	Tuition Fee	Exam fee, Other fee & Payments	Books & stationery	Uniform	Transport	Private coaching	Other expenses	Total
Kerala	1022	308	711	449	575	422	140	3627
All-India	675	340	530	264	204	346	100	2460

Source: NSSO (56th & 64th Rounds)

The average annual expenditure Rs. per student of age group (5-24) years on various items of Expenditure by using the data of various rounds of NSSO, 56 (1995-96) and 64 (2007-08) is shown in the Table 5.15. In the case of all-India, the expenditure is more in the case of tuition fee, books and stationery, private coaching, exam fee, other fee and payments, uniform, transport and other expenses. Thus it is clear that compared to other states in India, Kerala's household expenditure on education on different items of expenditure is remarkable. The amount Kerala devoted to the expenditure of a child also improved considerably during the years. The average expenditure Rs. per student in basic course in current academic year by type of course pursuing general course is being compared in the Table 5.16 by using the data from NSSO various rounds such as 64th round, 2007-08 and 75th round 2017-18. The average expenditure during these years of both Kerala and all-India improved tremendously over these years.

Kerala's education expenditure in the case of male, female and total is higher than all-India average expenditure during the same period. In 2007-08, Kerala's expenditure on education for male was Rs.3035 and for female was Rs.3440 and on an average it was Rs.3230. In all India it was Rs.2595 for male and Rs.2293 for female and on an average, it was Rs.2460. In 2017-18, as per the latest estimates, it was Rs. 11139 for male, Rs.11300 for female and on an average it was Rs.11214. In India, it was Rs.8797, Rs.7742 and Rs.8331 respectively.

Table 5.15
Average Household Expenditure on General Education in Kerala

NSSO (64th Round) -2007-08			
	General Course		
	Male	Female	Person
Kerala	3035	3440	3230
All-India (Average Expenditure)	2595	2293	2460
NSSO (75th Round)-2017-18			
	Broad level of education		
	Male	Female	Person
Kerala	11139	11300	11214
All- India (Average Expenditure)	8797	7742	8331

Source: NSSO (64& 75th Round)

Two important features are clearly depicted in the table. In all the years, Kerala's household expenditure on education is more than that of all- India. Secondly, in Kerala, the expenditure on female is higher than that of male. This is a tremendous and remarkable achievement that Kerala had achieved in the education sector, by bringing about more educational opportunities, access and reducing gender differences than any other state in India.

5.6. Determinants of Household Expenditure on Education in India

All the households spend a considerable amount of money on their child's education. Households from all economic strata, even from lower socio- economic background such as Scheduled Caste, Scheduled Tribes (SC&ST) and low income groups spend a proportion of their income on their child's education. The most important items of school education include fees, uniform, transportation and books. Many of the parents do not discriminate their children, there are household related factors, school related factors and student related factors in determining the

expenditure on school education. There are substantial differences among households in the case of children attending government schools, government- aided schools and private schools (Tilak, 2002).

Expenditure on education is considered as one of the important factors for sustainable development. In India, expenditure on education is of two types: individual and institutional. Individual expenditure refers to the expenditure made by the students or their parents. So it is also known as household expenditure on education. Institutional expenditure is referred to as government or non-government expenditure on education. In India, household expenditure on education is quite sizeable, even households from lower income groups spend considerable amounts on acquiring education.

Even in the case of government primary and upper primary schools, students have to pay the huge amounts of examination and other fees. Household investment enables the utilization of educational facilities. Information on household expenditure on education is very limited (Rao, 2014). There is not much research on the extent of household expenditure and on the determinants of household expenditure on education. Household costs include direct/visible and indirect/invisible cost. The items included in expenditure of school education includes tuition fee, exam fee, other fees and & payments, books & stationery, uniform, transport, private coaching and other expenses. The average annual item-wise expenditure per student in rural and urban areas shows that household expenditure on education is much higher in urban areas than in rural areas. The results indicate that there is nothing like free education in India. Fees & transport form the most important items of expenditure at any level of education.

There is an acute shortage of resources in the education sector in India (Anuradha et.al, 2008). India's total public expenditure on education as a percentage of GDP also declined. Thus it is the duty of the government to provide more incentives to rural households and making education more affordable at each levels of education. Investments in education, thus, are divided into two categories: Individual and Institutional. Individual investment means the investment made by parents or households in their child's education. It is also known as household expenditure on education. Institutional investment means investment made by institutions, that is, public or government expenditure on education (Tilak, 2000). Both are important in

the sense that it is institutional investment that provides educational facilities and only individual investment enables its utilization. These two types of investment are interrelated and interdependent with each other and in the absence of any one, there is underinvestment in education. Thus, economic and non-economic benefits from education lead to the formation of human capital.

The determinants of household expenditure on education can be classified into household characteristics, individual characteristics, school related factors and development characteristics of the economy. Household Characteristics is related to the household related factors in determining the expenditure on education. They are classified into social, economic, demographic and education characteristics. Social characteristics are divided into Caste, Religion, Ethnic Background (it is based on caste & religion).

Economic characteristics are divided into household income, occupational level of the head of the household and landholdings. Demographic characteristics include size of the household. Education characteristics include educational level of the head of the household. Individual characteristics include gender of the student. School related factors include existence of school within the habitation, provision of school related incentives (mid-day meals, free uniforms and text books), Pupil-teacher ratio, trained teachers and the type of institution. Development characteristics of the economy include Village development factor and Village development index.

Among all determinants of household expenditure on education income is the most important factor. The qualities of human and physical infrastructure available in schools are regarded as the school related factors determining the household's decision to invest on their child's education. Apart from this, social, economic and cultural reasons (Religion, caste, household size, educational and occupational levels of parents) also determine parent's decision to spend on their child's education. Gender differences also determine household expenditure on education. In the case of public expenditure on education, richer states spend more on education compared to poorer states. The tax revenue and grants from the central government play a positive impact on education expenditure. Political factors (corruption) also determine government's decision to invest on education. There is a negative relationship between child population share (0-14 years) and public expenditure on education. The willingness of a household to invest in education is affected by a number of factors

such as (I) Personal and cultural perceptions, (II) Institutional factors, (III) Economic factors, (IV) Socio–demographic factors and (V) Cost of education and (VI) Other factors.

1. Personal and Cultural Perceptions

These are the beliefs or perceptions (including cultural) held by an individual or household in a region or a country. Personal and cultural perceptions include different aspects. Education should be financed from public resources. Parent’s sense of responsibility for child’s education plays an important role in shaping their future life. They spend a considerable share of their resources to ensure their children’s future. Parents may even view an investment in their children’s education as a means to guarantee their own safe future when they themselves get old. This can be regarded as a type of insurance policy or pension scheme. After the child grows up, finishes his or her education, and hopefully secures a good job, he or she would be expected to take care of their parents. Parents may feel no sense of responsibility for their children’s education if they consider that education should be provided only from public resources.

2. Institutional Factors

Institutional factors are those which help the parents to spend more on their child’s education. If they think that the quality in state schools is not adequate to ensure the best education possible, households, subject to availability of adequate resources, might feel obliged to invest their own resources in their children’s education. Household spending on education is considered an effective investment in education. Free elementary education in Kerala would certainly affect household expenditure on education, as households would be relieved from the burden of devoting resources on various levels of education. The financial instruments for students are generally aimed to support students through education and training. Examples of such instruments include subsidized school meals, subsidized transportation, grants, loans and scholarships. These instruments can be awarded at any level of education.

3. Economic Factors

These factors include labour market status and financial return from education. Labour market status is an important factor which determines household’s decision to

invest. An employed parent will be more ready to invest than an unemployed one because they expect more from their child. The expectations regarding increased salary in the future, also known as financial return from education also determines the household's decision to invest on their child's education.

4. Socio–Demographic Background

Certain factors have positive and negative effects on household's decision to invest in education. These include educational background of parents, the occupation of parents and participation rates at various levels of education.

5. Cost of Education

The expenditure on education can be classified into direct and indirect, monetary, non–monetary, economic, non-economic, social, private and opportunity costs.

6. Other Factors

These factors may not have any relation with the employment or career related incentives. The computer education for older learners is an example for this type of household investment on education. Therefore, it is enough to get a picture on the explanation of household expenditure on education in India and Kerala. In a nutshell, the total variables can be divided into demand and supply factors. Therefore, it is important to identify and examine some of the relevant factors which can determine the household expenditure on education in India and Kerala.

5.7. Analytical Framework

The analytical framework to find out the determinants of household expenditure on education can be expressed in a functional form. Thus household expenditure on education is a function of its determinants.

$$HEE = f(X)$$

In the equation, HEE is the household expenditure on education, which is the dependent variable, which depends on a set of independent variables, X, which are known as the determinants of household expenditure on education. The equation can be given in the functional form:

$$HEE = a + \beta_i X_i + C$$

Here 'a' is the intercept term which shows the average value of the

dependent variable which are set equal to zero. β_i is the regression coefficient that is to be estimated which measures the extent to which various variables X_i influence on the household expenditure on education and C is the random error term in the equation. By using the theoretical and empirical studies available a large set of variables are selected to relate with the household expenditure on education.

The study uses time period as 't' where $t = 1 \dots n$ and indicates a time trend. Ordinary Least Square estimates are used to account for the heteroscedasticity and panel specific auto-correlation among specific terms. Aggregate expenditure on education is calculated and analyzed at All India and State levels. The study also uses linear and logarithmic regressions to reduce the problem of heteroscedasticity. Linear regression is used to find out the relationship between dependent and independent variables.

5.8. Determinants of Household Expenditure on Education

The models on the determinants of household expenditure on education & financial returns in India & Kerala are given in the Table 5.16.

Table 5.16
Models on the Determinants of Household Expenditure on Education

SI No	Models
1	$HEEI = \alpha + \beta_1 GDPI_{it} + \beta_2 PCII_{it} + \beta_3 TNSI_{it} + \beta_4 GEEI_{it} + \epsilon$
2	$LN HEEI = \alpha + LN \beta_1 GDPI_{it} + LN \beta_2 PCII_{it} + LN \beta_3 TNSI_{it} + LN \beta_4 GEEI_{it} + \epsilon$
3	$GDPI = \alpha + \beta_1 PCII_{it} + \beta_2 TNSI_{it} + \beta_3 GEEI_{it} + \epsilon$
4	$LN GDPI = \alpha + LN \beta_1 PCII_{it} + LN \beta_2 TNSI_{it} + LN \beta_3 GEEI_{it} + \epsilon$
5	$PCII = \alpha + \beta_1 GDPI_{it} + \beta_2 TNSI_{it} + \beta_3 GEEI_{it} + \epsilon$
6	$LN PCII = \alpha + LN \beta_1 GDPI_{it} + LN \beta_2 TNSI_{it} + LN \beta_3 GEEI_{it} + \epsilon$
7	$TNSI = \alpha + \beta_1 GDPI_{it} + \beta_2 PCII_{it} + \beta_3 GEEI_{it} + \epsilon$
8	$LN TNSI = \alpha + LN \beta_1 GDPI_{it} + LN \beta_2 PCII_{it} + LN \beta_3 GEEI_{it} + \epsilon$
9	$GEEI = \alpha + \beta_1 GDPI_{it} + \beta_2 PCII_{it} + \beta_3 TNSI_{it} + \epsilon$
10	$LN GEEI = \alpha + LN \beta_1 GDPI_{it} + LN \beta_2 PCII_{it} + LN \beta_3 TNSI_{it} + \epsilon$
11	$GEEK = \alpha + \beta_1 GSDPK_{it} + \beta_2 PGSDPK_{it} + \beta_3 PCIK_{it} + \beta_4 TNSK_{it} + \beta_5 TRK_{it} + \epsilon$
12	$LN GEEK = \alpha + LN \beta_1 GSDPK_{it} + LN \beta_2 PGSDPK_{it} + LN \beta_3 PCIK_{it} + LN \beta_4 TNSK_{it} + LN \beta_5 TRK_{it} + \epsilon$

Source: Formulated functions; Prepared by the Investigator

Both simple, linear, multiple and logarithmic equations are given and the models are built on the basis of the equations. The study used regression equations to find out the relationship between dependent and independent variables in India and Kerala. The study also used level of significance, two-tailed tests to find out the significance of various determinants on the expenditure on education.

It is also found out that all these variable play an important role in determining the expenditure on education. The macro-economic variables that determine the household expenditure on education in India are Gross Domestic Product of India (GDPI), Per Capita Income of India (PCII), Total Number of Schools in India (TNSI) and Government Expenditure on Education in India (GEEI). In Kerala they are Gross State Domestic Product of Kerala (GSDPK), Per Capita Gross Domestic Product of Kerala (PGDSPK), Per Capita Income of Kerala (PCIK), Total Number of Schools in Kerala (TNSK) and Total Remittances to Kerala (TRK). All these macro-economic variables were formulated to study the influence of determinants on expenditure on education in India and Kerala (Table 5.17).

Table 5.17
Macro- economic Variables of Household Expenditure on Education in India

SI No	Notation of variables	Variables
1	HEEI	Household Expenditure on Education in India (Dependent Variable)
2	GDPI	Gross Domestic Product of India (Independent Variable)
3	PCII	Per Capita Income of India (Independent Variable)
4	TNSI	Total Number of Schools in India (Independent Variable)
5	GEEI	Government Expenditure on Education in India (Independent Variable)

Source: Derived from estimated functions; prepared by the investigator

5.9. Household Expenditure on Education in India

The determinants of Household Expenditure in India from 2004-05 to 2018-19 is shown in the Table 5.18. Household expenditure on education is the expenditure made by the parents on their child's education and also known as private expenditure on education (Uma, 2008).

Table 5.18
Household Expenditure on Education in India over Various Years (in Rs crores)

Year	Household Expenditure on Education (HEEI)	% change
2004-05	35255	0.00
2005-06	35276	0.059
2006-07	36634	3.84
2007-08	37629	2.70
2008-09	37639	0.02
2009-10	36650	-2.60
2010-11	36174	-1.20
2011-12	182378	404.0
2012-13	193725	6.20
2013-14	204453	5.40
2014-15	218080	6.60
2015-16	239029	9.60
2016-17	265188	10.90
2017-18	293953	10.80
2018-19	319656	8.70

Source: National Account Statistics (NAS), Various Years

It is a dependent variable and is a function of several independent variables. In India the estimates of private/household expenditure is given by National Account Statistics (NAS). The growth of household expenditure on education and the related variables (independent variables or determinants) will give insights on the relationship between dependent and independent variables from 2004-05 to 2018-19. So it is important to understand the important determinants of household expenditure on education in India as these determinants play a very important role in increasing the expenditure on education in India. Household expenditure on education in India is determined by a large set of macro-economic variables such as Gross Domestic Product of India (GDPI), Per-capita Income of India (PCII), and Total number of schools in India (TNSI) and Government or Public Expenditure on education in India (GEEI). These independent variables affect the household expenditure on education in India.

5.10. Determinants of Household Expenditure on Education in India

Gross Domestic Product of India (GDPI), Per capita income of India (PCII), Total number of schools in India (TNSI) and Government Expenditure on Education in India (GEEI) are the independent variables or determinants of household expenditure on education in India.

Table 5.19 (a)
Determinants of Household Expenditure on Education in India

Year	Gross Domestic Product of India (GDPI)		Per capita income of India (PCII)	
	Amount (in Rs crores)	Percentage change	Amount (in Rs crores)	Percentage change
2004-05	5480380	0	45611	0
2005-06	5914614	7.9	48387	6
2006-07	6391375	8	51431	6.2
2007-08	6881007	7.6	54649	6.2
2008-09	7093403	3	55101	0.8
2009-10	7651078	7.8	58442	6
2010-11	8301235	7.8	62170	6.3
2011-12	8736331	5.2	63462	2
2012-13	9213017	5.4	65538	3.2
2013-14	9801370	6.3	68572	4.6
2014-15	10527674	7.4	72805	6.1
2015-16	11369493	7.9	77659	6.6
2016-17	12308193	8.2	82931	6.7
2017-18	13175160	7	87623	5.6
2018-19	13981426	6.1	92565	5.6

Source: (MoSPI), Selected Educational Statistics, World Bank, IMF & Economic Survey

The percentage changes in each year are also shown to understand the extent of increase in the independent variables that affect the dependent variable, i.e. household expenditure on education in India. India's GDP (GDPI) increased from Rs.480380 in 2004-05 to Rs.13981426 crores in 2018-19 (Table 5.19 (a)). The changes are at a steady rate. Per capita income of India also showed a positive increase during the same period. It is also clear that per capita income not increased much faster like GDP. It was Rs.45611 crores in 2004-05 and increased to Rs.92565 crores in 2018-19. Total number of schools in India (TNSI) and Government Expenditure on Education in India (GEEI) are the independent variables or determinants of household expenditure on education in India. The total number of schools in India increased from 1194300 in 2004-05 to 1556567 in 2018-19. It is also evident that number of schools is not increased at a positive and steady rate at all years. In some years, i.e. in 2010-11, 2011-12 and 2014-15 it also showed a negative change. But generally, there was an improvement in the number of schools in India (Table 5.19 (b)).

Table 5.19(b)

Determinants of Household Expenditure on Education in India

Year	Total number of schools in India (TNSI)		Government Expenditure on Education in India (GEEI)	
	Number of schools	Percentage change	Amount (in Rs crores)	Percentage change
2004-05	1194300	0.0	81280.85	0.0
2005-06	1220728	2.2	94483.7	16.2
2006-07	1260004	3.2	110340.4	16.7
2007-08	1285991	2.0	125379.6	13.6
2008-09	1330778	3.4	152822.4	21.8
2009-10	1407959	5.7	190136.1	24.4
2010-11	1399408	-0.6	233510.1	22.8
2011-12	1399185	-0.01	270091.8	15.6
2012-13	1500768	7.2	299212.5	10.7
2013-14	1518160	1.1	333231.9	11.3
2014-15	1516892	-0.08	361311.8	8.4
2015-16	1522346	0.3	387155.3	7.1
2016-17	1535610	0.8	476108	22.9
2017-18	1541445	0.3	549310	15.3
2018-19	1556567	0.9	874026	59.1

Source: Selected Educational Statistics, World Bank, IMF & Economic Survey, Various Years.

Government Expenditure on Education in India (GEEI) also increased tremendously during the same period. It was Rs.81280.85 crores in 2004-05 and increased to Rs.874026.0 crores in 2018-19. The percentage change also shows that government expenditure on education increase at a rate of 16.2 per cent to 59.1 percent during the same period. Thus it clearly reflects the importance government has given to the expenditure on education. All these determinants increased during the same period tend to increase the dependent variable, i.e. household expenditure on education. The present study also make use of two sets of regression equations, linear and logarithmic, estimated to identify the causal relationship between household expenditure on education and the selected independent variables in India.

Simple and multiple regression results are used to identify the relationship between selected variables. The estimated results of linear regression equations are presented in Tables 5.20 (a) and 5.20 (b). The regression result shows that there exist marginal positive associations between average household expenditure on education in India and the independent variables. The household expenditure on education is positively related to gross domestic product, per capita income, total number of schools and government expenditure on education in India.

Table 5.20 (a)

Regression Results on the Determinants of Household Expenditure on Education in India

No	Dependent variable	Intercept	Independent variables				R ²	Adj R ²	F- ratio
		(Constant)	GDPI	PCI	TNSI	GEEI			
1	HEEI	-211192.29 (-6.0866)	0.039 -10.6655				0.8974	0.8895	113.7538
2	HEEI	4273.6569 -0.1787				0.4643 -7.0986	0.7949	0.7791	50.3908
3	HEEI	-223322.4 (-3.2944)	0.0414 -3.4762			-0.0318 (-0.2112)	0.8978	0.8807	52.7194
4	HEEI	-327328.57 (-6.5128)		7.1753 -9.6019			0.8764	0.8669	92.1977
5	HEEI	-940652.51 (-5.8093)			0.7683 -6.7286		0.7769	0.7597	45.2751
6	HEEI	-260741.9 (-1.1567)	0.0385 -1.8819		0.0419 -0.1748	-0.0181 (-0.1035)	0.8981	0.8703	32.3171

Note: Figures in parentheses indicates t- Statistic value
Source: Computed from the values of tables 5.18.

The regression coefficients show that there is a positive relationship between dependent and independent variables. If the government expenditure on education increases household expenditure on education also increases.

Table 5.20(b)
Regression Results on the Determinants of Household Expenditure on Education
- Logarithmic Equations – in India

No	Dependent variable	Intercept (Constant)	Independent Variables				R ²	Adj R ²	F-ratio
			GDPI	PCI	TNSI	GEEI			
1	HEEI	-36.4452 (-5.9254)	2.9991 -7.796				0.8237	0.8102	60.779
2	HEEI	-4.1484 (-1.9413)				1.2616 -7.3328	0.8053	0.7903	53.7706
3	HEEI	-37.6109 (-1.2591)	3.1085 -1.123			-0.047 (-0.0399)	0.8238	0.7944	28.0563
4	HEEI	-32.846 (-5.2670)		4.0049 -7.112			0.7955	0.7798	50.5816
5	HEEI	-119.8448 (-5.9899)			9.2775 -6.5647		0.7682	0.7504	43.0962
6	HEEI	-55.0157 (-0.9044)	2.942 -1.0076		1.5256 -0.3327	-0.1705 (-0.1333)	0.8255	0.778	17.355

Note: Figures in parentheses indicates t-Statistic value

Source: Computed from the values of tables 5.18.

The increase in GDP, total number of schools and per capita income also influence household decision to spend more on their child’s education. The positive relationship and complementarity are also reflected through the highest values for R² and adjusted R² and F ratio. The coefficient values are high and different with respect to all independent variables. Simple and multiple regression results on logarithmic equations in India are seen in the Table 5.20 (b).

There is a positive and statistically significant relationship between household expenditure on education and the determinants or independent variables. The results of linear logarithmic regression equations confirm the positive influence of independent variables on the household expenditure on education in India. The results are also in confirmation with regression results. The values also reveal the importance of government expenditure on education in India as it is a complimentary to household expenditure on education. The per capita income also affects household expenditure on education (Anindita, et.al, 2006). The logarithmic regression results thus show the significant relationship of determinants or independent variables on household expenditure on education in India.

5.11. Household Expenditure on School Education in Kerala

Kerala has the highest human development index in India. The socio, educational and human development indices of Kerala are comparable even with the developed countries of the world. Besides this, the priority of households on children’s education is the highest in Kerala when compared to other states in India. Kerala's unique development experience of high human development with low per

capita income has received international attention. The State attained significant achievements in the critical sectors of health and education. Kerala's tremendous achievements in human development indicators are mainly attributed to the State's public interventions in health and education sectors.

Education played an important role in determining Kerala's performance in social development. The network of educational institutions established in the recent years, the social reform movements and government intervention helped the State to establish a strong foundation in the field of education. In the early 1990s, Kerala became the first ever state in the Indian union to attain universal literacy. Therefore, it is important to identify the determinants of household expenditure on education in Kerala.

5.12. Determinants of Expenditure on Education in Kerala

The all-India results will provide an insight into the Kerala level analysis to find out the determinants of education in Kerala. The private household expenditure on education is significant in Kerala. The level of expenditure may be high at higher levels of education in the state. There are so many determining factors of government expenditure on education in Kerala (Table 5.21). Thus there is a need to find out a large set of state level macro-economic variables such as gross state domestic product of Kerala, per capita government expenditure on education, per capita income of Kerala, total number of schools in Kerala and the amount of total remittances to Kerala to identify the determinants of government expenditure on education in Kerala. The possible relationship with government expenditure on education and these independent variables, growth rate of variables and regression results are explained in the present section. The determinants of household expenditure on education in Kerala are thus analyzed with the help of these independent variables.

Table 5.21

Macro- economic Variables Determining Government Expenditure on Education in Kerala

Sl No	Notation of variables	Variables
1	GEEK (Dependent variable)	Government Expenditure on Education in Kerala
2	GSDPK (Independent variable)	Gross State Domestic Product of Kerala
3	PGSDPK(Independent variable)	Per Capita Gross State Domestic Product of Kerala
4	PCIK (Independent variable)	Per capita Income of Kerala
5	TNSK(Independent variable)	Total Number of Schools in Kerala
6	TRK(Independent Variable)	Total Remittance to Kerala

Source: Prepared by the Investigator

To measure the level of economic development of Kerala, the variables such as Gross State Domestic Product of Kerala (GSDPK) and Per Capita Income of Kerala (PCIK) are used. The macro-economic variables determining government expenditure on education in Kerala are given in the Table 5.21. Government Expenditure on Education in Kerala (GEEK) is selected as the dependent variable in the study due to the non-availability of time series data of household expenditure on education in Kerala. Gross State Domestic Product of Kerala (GSDPK), Per Capita Gross State Domestic Product of Kerala (PGSDPK), Per capita Income of Kerala (PCIK), Total Number of Schools in Kerala (TNSK) and Total Remittance to Kerala (TRK) are the selected independent variables or determinants of Government Expenditure on education in Kerala.

All these variables tend to play a positive and important role in influencing the increase in the government's expenditure on education. It is also expected to be true that, higher the level of economic development of a state, higher may be the level of the household expenditure on education. Secondly, government expenditure on education may have a positive effect on household expenditure on education in Kerala. To measure the level of economic development of Kerala, the variables such as Gross State Domestic Product of Kerala (GSDPK) and Per Capita Income of Kerala (PCIK) are used. The macro-economic variables determining Government Expenditure on education in Kerala are given in the Table 5.21. Government Expenditure on Education in Kerala (GEEK) is selected as the dependent variable in the study due to the non-availability of time series data regarding household expenditure on education in Kerala. Government Expenditure on Education in Kerala (GEEK) from 2004-05 to 2018-19 is shown in the Table 5.22. It is increased from Rs.3207.56 crores to Rs.19441 crores during the same period. The percentage change in the government expenditure also shows that there was a steady and positive improvement and commendable progress towards the same highlighting the importance of government's positive role towards education expenditure in Kerala. So it is important to look into the determinants of government expenditure on education in Kerala.

Table 5.22**Government Expenditure on Education in Kerala (GEEK) over Various Years**

Year	(GEEK)	Percentage change
2004-05	3207.56	0.0
2005-06	3382.65	5.4
2006-07	3838.82	13.4
2007-08	4434.50	15.5
2008-09	5293.67	19.3
2009-10	6143.85	16.0
2010-11	6648.29	8.2
2011-12	9323.0	40.2
2012-13	10316.0	10.6
2013-14	11420.33	10.7
2014-15	12300.42	7.7
2015-16	14712.0	19.6
2016-17	16926.0	15.0
2017-18	19043.0	1.2
2018-19	19441.0	2.0

Source: Economic Review and Kerala Budget Documents, Various Years

Thus it is clear from the Table 6.7 that government expenditure on education from the year 2004-05 increased considerably. At present it is important to look into the independent variables or determinants of government expenditure on education in Kerala. The determinants of Government Expenditure on Education in Kerala are given in the Table 5.23 (a). Gross State Domestic Product of Kerala (GSDPK), Per Capita Gross State Domestic Product of Kerala (PGSDPK), Per capita Income of Kerala (PCIK), Total Number of Schools in Kerala (TNSK) and Total Remittance to Kerala (TRK) are the determinants. Gross State Domestic Product of Kerala (GSDPK) increased from Rs.216054.43crores in 2004-05 to 772894.00 in 2018-19. The percentage change also shows that the GSDP in Kerala is much improved in 2018-19, i.e. 48.4 per cent. The PGDSK is also increased from Rs.66710 crores in 2004-05 to 161374 crores in 2018-19. But the changes undergone were at a slow rate compared to the increase in GSDPK clearly depicted by the percentage changes in per capita gross state domestic product. The per capita income of Kerala also improved and increased at a steady rate during the same period, it was Rs.29071 crores in 2004-05 and Rs.225484 crores in 2018-19.

Table 5.23(a)
Determinants of Household Expenditure on Education in Kerala

Year	Gross State Domestic Product of Kerala (GSDPK)		Per Capita Gross State Domestic Product of Kerala (PGSDPK)	
	Amount (in Rs crores)	Percentage change	Amount (in Rs crores)	Percentage change
2004-05	216054.43	0.0	66710	
2005-06	237847.42	10.0	73089	0.0
2006-07	256638.35	7.9	78486	9.5
2007-08	279148.83	8.7	84960	7.3
2008-09	294667.63	5.5	89251	8.2
2009-10	321681.95	9.1	96961	5.0
2010-11	343926.81	6.9	103163	8.6
2011-12	364047.89	5.8	108666	6.3
2012-13	387693.46	6.4	115158	5.3
2013-14	402781.33	3.8	119105	5.9
2014-15	419955.55	4.2	123573	3.4
2015-16	451210.02	7.4	132116	3.7
2016-17	485301.54	7.5	141396	6.9
2017-18	520578.51	7.2	150922	7.0
2018-19	772894.00	48.4	161374	6.7

Source: Kerala Budget Analysis, Selected Educational Statistics, MoSPI & Kerala Economic Review

Total Number of Schools in Kerala (TNSK) and Total Remittance to Kerala (TRK) are regarded as the important determinants of government expenditure on education in Kerala. The Total Number of Schools in Kerala (TNSK) increased from 12322 in 2004-05 to 12961 in 2018-19 (Table 5.23 (b)). In some years, i.e. in 2006-07, 2017-18 and 2018-19 there was a negative change in the number of schools in India. Total remittances to Kerala are an important determinant of government expenditure on education in Kerala. It increased from Rs 28975.96 crores in 2004-05 to Rs 97712.13 crores in 2018-19. But remittances also showed negative changes in the years 2006-07, 2008-09 and 2013-14. Remittances to Kerala also increased tremendously in the years 2005-06, 2007-08, 2011-12, 2016-17 and 2018-19. It is clear that Kerala economy benefitted largely from the remittances. It had profound influence in increasing the GDP, per capita income and overall growth rate of the economy. That is why the total remittances to Kerala are regarded as an important determining factor of government expenditure on education in Kerala (Table 5.23(c)). It is positively related with the expenditure on education in Kerala, whether it is household or public.

Thus it is important to analyze the simple and multiple regressions to find out the impact of these independent variables on the dependent variables. Simple and

Multiple Regression Results in Kerala are given in the Table 5.24(a). The government expenditure on education in Kerala is positively related to gross state domestic product, per capita gross state domestic product, per capita income, total number of schools and total remittances to Kerala. The regression coefficients show that there is a positive relationship between dependent and independent variables. If the gross state domestic product increases government expenditure on education also increases. The increase in per capita gross state domestic product, total number of schools, per capita income and total remittances to Kerala also influence government decision to spend more on education.

Table 5.23 (b)

Determinants of Household Expenditure on Education in Kerala

Year	Per capita Income of Kerala (PCIK)		Total Number of Schools in Kerala (TNSK)	
	Amount (in Rs crores)	Percentage change	Amount (in Rs crores)	Percentage change
2004-05	28975.96	0.0	12322	0.0
2005-06	35498.95	22.5	12650	2.6
2006-07	34899.71	-1.6	12644	-0.04
2007-08	54097.72	55.0	12646	0.01
2008-09	47191.53	-12.7	12649	0.02
2009-10	47997.37	1.7	12649	0.0
2010-11	53156.86	10.7	12652	0.02
2011-12	64090.0	20.5	12657	0.03
2012-13	66283.44	3.4	12692	0.2
2013-14	58355.56	-11.9	12712	0.1
2014-15	58850.75	0.8	12768	0.4
2015-16	63053.78	7.1	12882	0.8
2016-17	76247.31	20.9	12981	0.7
2017-18	80227.87	5.2	12971	-0.07
2018-19	97712.13	21.7	12961	-0.07

Source: Kerala Budget Analysis, Selected Educational Statistics, MoSPI & Kerala Economic Review

The positive relationship and complementarity are also reflected through the highest values for R^2 and adjusted R^2 . The F ratio is also high reflecting the high association and relationship between variables. Simple and multiple regression results of the determinants of school education in Kerala is shown in the table 5.24 (b). There is a positive relationship between government expenditure on education and the

determinants or independent variables. The values also reveal the importance of Gross State Domestic Product, Per-Capita Gross State Domestic Product, Per-capita Income, Total Number of Schools and Total Remittances to Kerala as it is a complimentary to government expenditure on education in Kerala. Thus the determinants of government expenditure on education in Kerala were analyzed with the help of selected independent variables and found out that these variables play an important role in determining the government expenditure on education in Kerala. At the same time it is important to determine or analyze the financial impact of expenditure on education in Kerala.

Table 5.23 (c)
Determinants of Household Expenditure on Education in Kerala

Year	Total Remittances to Kerala (TRK)	
	Amount in Rs crores	Percentage change
2004-05	29071	0.0
2005-06	36958	27.1
2006-07	41318	11.7
2007-08	46865	13.4
2008-09	54560	16.4
2009-10	62114	13.8
2010-11	69943	0.13
2011-12	97912	39.9
2012-13	110314	12.6
2013-14	123388	11.8
2014-15	135537	9.8
2015-16	148011	9.2
2016-17	163475	10.4
2017-18	184000	12.5
2018-19	225484	22.5

Source: Kerala Budget Analysis, Kerala Economic Review, various years

There are some structural differences between Indian and Kerala economy; it will be helpful to get a comparative picture of the country and state level situations with respect to the determinants of expenditure on education.

Table 5.24 (a)
Simple and Multiple Regression Results – Kerala

No	Dependent Variable	Intercept (Constant)	Independent Variables					R ²	Adj R ²	F-ratio
			GSDPK	PGDSPK	PCIK	TNSK	TRK			
1	GEEK	-4530.1208 (-2.5105)	0.03725 (-8.4027)					0.8445	0.8325	70.6065
2	GEEK	-6160.6685 (-3.0669)	0.0187 (-1.4909)				0.1508 (-1.5551)	0.8705	0.849	40.365
3	GEEK	-6829.4704 (-3.3346)					0.2871 (8.4709)	0.8466	0.8348	71.7572
4	GEEK	-4199.1721 (-1.4418)		0.0714 (-1.5267)	0.06006 (-2.6827)			0.9828	0.98	344.2201
5	GEEK	-365352.47 (-6.7360)				29.4845 (-6.9166)		0.7863	0.7698	47.8395

Note: Figures in parentheses indicates t-Statistic value
Source: Computed from the values of tables 5.22 and 5.23.

In India, household expenditure on education is determined by a number of independent variables or determinants such as GDPI, PCII, TNSI and GEEI. A change or increase in all these variables affects positively the household expenditure on education in India. The comparison of the determinants of expenditure on education also implies the fact that there are some forces or factors which increase the expenditure on education.

From the study it is clear that these variables are different for India and Kerala. In Kerala, the factors or variables are different than India. In the study instead of household expenditure on education, Government Expenditure on Education (GEEK) is taken as the dependent variable and it is determined by a number of independent variables or determinants such as Gross State Domestic Product of Kerala (GSDPK), Per-Capita Gross State Domestic Product of Kerala (PGSDPK), Per-capita Income of Kerala (PCIK), Total Number of Schools in Kerala (TNSK) and Total Remittances to Kerala (TRK).

Table 5.24 (b)
Simple and Multiple Regression Results on Logarithmic Equations – Kerala

No	Dependent Variable	Intercept (Constant)	Independent Variables				R ²	Adj	F-ratio
			GSDPK	PGSDPK	TNSK	TRK		R ²	
1	GEEK	-14.0758 (-6.9693)	1.8032 (-11.4342)				0.9095	0.9026	130.7418
2	GEEK	-13.6382 (-6.5575)	1.3797 (-2.908)			0.4565 (-0.9467)	0.9158	0.9018	65.2979
3	GEEK	-10.4038 (-4.7192)				1.7785 (-8.81)	0.8565	0.8455	77.6166
4	GEEK	-5.0576 (-1.3122)		0.4287 (-0.7658)	0.8021 (-3.4312)		0.9913	0.9898	684.7077
5	GEEK	-372.3151 (-5.9665)				40.3474 (-6.1109)	0.7417	0.7219	37.3431

Note: Figures in parentheses indicates t-Statistic value
Source: Computed from the values of tables 5.22 and 5.23.

It is clear from both level of analysis that Gross domestic product, per capita income and total numbers of schools are the common determinants of both India and Kerala economy. In Kerala, remittances play an important role because of the large dependence of population of Kerala for foreign remittances especially for education purposes. This is also well reflected in the expenditure on education in Kerala.

5.13. Determinants of Expenditure on Education in India and Kerala

There are some structural differences between Indian and Kerala economy. It will be helpful to get a comparative picture of the country and state level situations with respect to the determinants of expenditure on education. In India, household expenditure on education is determined by a number of independent variables or determinants such as GDPI, PCII, TNSI and GEEI. A change or increase in all these variables affects positively the household expenditure on education in India. The comparison of the determinants of expenditure on education also implies the fact that there are some forces or factors which increase the expenditure on education. From the study it is clear that these variables are different for India and Kerala. In Kerala, the factors or variables are different than India. In the study instead of household expenditure on education, Government Expenditure on Education (GEEK) is taken as the dependent variable and it is determined by a number of independent variables or determinants such as Gross State Domestic Product of Kerala (GSDPK), Per Capita Gross State Domestic Product of Kerala (PGSDPK), Per capita Income of Kerala (PCIK), Total Number of Schools in Kerala (TNSK) and Total Remittances to Kerala (TRK). It is clear from both level of analysis that Gross domestic product, per capita income and total numbers of schools are the common determinants of both India and Kerala economy.