

# 12 CHAPTER

## Education





# Education

**E**ducation in the present day context is perhaps the single most important means for individuals to improve personal endowments, build capacity levels, overcome constrain, and in the process enlarge their available set of opportunities and choices for a sustained improvement in wellbeing. It is not only a means to enhance human capital, productivity and hence, compensation to labour, but it is equally importance for enabling the process of acquisition, assimilation and communication of information and knowledge, all of which augments a person's quality of life. Education is important not merely as means to other ends, but it is an attribute that is valued in itself, by most individuals. The education system has achieved the objective of providing access, but we need to take determined steps to align the overall system to the national system, requiring some structural changes.

12.2 Public spending on education has been more or less equitably distributed between the sexes and among different social groups and regions in the state. The state is making concerted efforts in sustaining the achievements in the elementary education sector and improving the quality of secondary, higher, technical education and research.

## Literacy

12.3 Literacy is a basic step towards education, which is a process of life learning and an entry point to the world of communication and information. Traditionally literacy has been commonly defined as the ability to read and write at an adequate level of proficiency that is necessary for communication. More recently however, literacy has taken on several meanings.

12.4 As literacy development is concerned; Kerala has the distinction of being a historic state in India so far. Kerala's literacy rate is comparable to the most advanced regions of the world. Kerala's literacy rate which was only 47.18% in 1951 has almost doubled to 93.91% in 2011. The male, female literacy gap which was 21.92% in 1951 has narrowed down to 4.04% in 2011. Kerala's literacy rate from 1951-2011 is given in Appendix.12.1.

12.5 District wise analysis of Kerala's literacy rate according to 2011 census shows that Pathanamthitta district (96.93) has the highest literacy rate in the state followed by Kottayam (96.40) and Alappuzha(96.26) districts. Palakkad district has the lowest literacy rate in the state (88.49). Literacy rate by sex for districts in 2001 and 2011 census are given in Appendix 12.2.

12.6 Kerala State Literacy Mission is implementing the literacy and equivalency programmes by appointing 'Preraks'. 31472 people were newly literated during 2010-11 of which 21012 are women literates.52838 people were benifited in the equivalency programme in 2010-11. In the 7th batch class IV equivalency programme 27608 people have registered and 12324 partici-



pated in the examination and 10592 people passed in the examination. Details of the number of people benefited from Equivalency programme of Literacy Mission from 2001-02 to 2010-11 are given in Appendix 12.3.

## Right to Education Act

**12.7 From April 1, 2010 the Right to Education has come into force ensuring free education to more than 92 lakh out-of-school children in India. This Act gives every child the right to a quality elementary education. The main features of the Act are summarized in box 12.1**

### BOX 12.1

#### The Right of Children to Free and Compulsory Education

- All children aged 6-14 shall have the right to free and compulsory education at a neighbourhood school.
- No direct (school fees) or indirect cost on uniforms, textbooks, mid-day meals, transportation etc need to be borne by the child or parents to obtain elementary education.
- The govt will provide schooling free of cost until the child's elementary education is completed.
- All schools must comply with certain infrastructure and teacher norms. Two trained teachers will be provided for every 60 students at the primary level.
- Schools shall constitute School Management Committees comprising local officials, parents, guardians and teachers. The SMCs will monitor utilization of govt grants and the school environment.
- RTE mandates inclusion of 50% women and parents of children from disadvantaged groups in SMCs.

**12.8 Teachers will be at the core of implementation of RTE that seeks to work towards a heterogeneous and democratic class room where all children participate as equal partners. To ensure 25% reservation for children from disadvantaged and weaker sections schools will have to disclose the lists of children taken in this category and ensure that diversity is maintained. The state governments will undertake household school mapping to ensure that all children are sent to school. State governments and local bodies will have to establish primary schools within one km of the neighbourhood. For the children of Class VI to VIII the school should be within 3 km of the neighbourhood. In the absence of a school in small hamlets the state government shall make adequate arrangement like free transportation and residential facilities.**

## School Education

**12.9 There were 12644 schools in Kerala during 2010-11. Out of these 4504 were government schools, 7277 aided schools and 863 unaided schools. In the state, during 2010-11, 57.55% of total schools were aided schools, 35.62% government schools and 6.83% unaided schools. Compared to government upper primary and high schools more number of LP schools are functioning under government sector. Aided schools outnumber government schools in all sections.**

**12.10 Malappuram District has the largest number of schools (1472nos) in the state followed by Kannur (1293nos) and Kozhikode Districts (1237nos). Malappuram District has also the larg-**

est number of government ( 543 nos) and unaided schools (145 nos) in the state. But largest number of aided schools is functioning in Kannur district (967 nos). Details of district-wise, management wise and stage-wise number of schools in Kerala during 2010-11 are given in Appendix 12.4. Stage-wise and District wise number of schools in the state in 2010-11 is given in Table 12.1&12.2.

**Table 12.1**  
**Stage wise number of schools -2010-11**

	High schools	UP schools	LP schools	Total
Government	1066	899	2539	4504
Private Aided	1429	1870	3978	7277
Unaided	379	217	267	863
<b>Total</b>	<b>2874</b>	<b>2986</b>	<b>6784</b>	<b>12644</b>

Source: Directorate of Public Instructions

**Table 12.2**  
**District-wise number of Schools in Kerala:2010-11**

Sl. No	District	No of schools
1	2	3
1	Thiruvananthapuram	989
2	Kollam	927
3	Pathanamthitta	736
4	Alappuzha	763
5	Kottayam	911
6	Idukki	478
7	Ernakulam	1011
8	Thrissur	1009
9	Palakkad	972
10	Malappuram	1472
11	Kozhikode	1237
12	Wayanad	292
13	Kannur	1293
14	Kasargod	554
	<b>Total</b>	<b>12644</b>

Source : Directorate of Public Instructions

**12.11** 946 schools in the state are offering syllabus other than the one prescribed by the state government. These include 797 CBSE schools, 108 ICSE schools, 27 Kendriya Vidhyalaya and 14 Jawahar Navodayas. Compared to 2009-10, 33 CBSE schools have newly started functioning during 2010-11. One Jawahar Navodaya Vidhyalaya each is functioning in all the districts. District-wise details of schools with syllabus other than state syllabus in the year 2010-11 are given in Appendix 12.5.

## Physical infrastructure and facilities in Government Schools


**12.12 Most of Government Schools in Kerala are functioning in pucca buildings. All L.P government schools in the state are functioning in pucca buildings. There is no LP/UP school having thatched sheds in 2011 in the state. Six high schools are in thatched and they are situated in Thiruvananthapuram District. Own buildings have to be constructed for 167 government schools which are now working in rented buildings. District-wise details of government schools having building facilities are given in**

**12.13 Local Self Government Institutions and programmes like SSA have contributed much to the overall development and improvement of physical infrastructure and common facilities in government schools in the state. Data available in 2011 shows that 98.40% of government schools have access to drinking water and 99.49% of government schools in the state have urinals/latrine facilities. District –wise details of government schools having drinking water/latrines/urinal facilities in Kerala in 2011 are given in Appendix 12.7.**

## Enrolment of Students

**12.14 Enrolment of students in the state has been showing a slight decline in the recent years. In 2008-09, 45.46 lakh students were enrolled in schools in the state. In 2009-10 this has got reduced to 44.58 lakh students and during 2010-11 it has further reduced to 43.51 lakh students. Enrolment of students in 2011-12 has again reduced to 42.35 lakh and has decreased 2.67% over the previous year. Change in demographic pattern of the state due to low birth rate is the main reason attributed for this phenomenon. The decline of students in LP section has 73925 numbers in 2011-12 from 2010-11. While the decline in UP section is 32888 numbers 2011-12, and in the high school section shows a decrease of enrolment of 9552 students over the previous year. The stage-wise enrolment of students in schools in Kerala from 2007-08 to 2011-12 are given in Table 12.3.**

**Table-12.3**  
**Enrolment of Students in Schools in Kerala stage-wise 2008-09 to 2011-12 (₹. in lakhs)**



Year	LPS	UPS	HS	TOTAL
2008-09	16.66	14.53	14.27	45.46
2009-10	15.91	14.24	14.43	44.58
2010-11	15.04	13.93	<b>14.54</b>	43.51
2011-12	14.30	13.59	14.45	42.35

*Source: Directorate of Public Instructions*

**12.15 In 2010-11 enrolment of students in lower primary, upper primary and high school sections are 33.77%, 32.09% and 34.12% respectively. 29.86% of total students are studying in Government schools. 61.33% of students are enrolled in aided schools and the remaining 8.81% in unaided schools. Details of management-wise and standard wise enrolment of students in schools in Kerala during 2011-12 are given in Appendix 12.8. District-wise and stage-wise enrolment of students in schools in the state during 2011-12 is given in Appendix 12.9.**

## Enrolment of Girl students

**12.16 Girl students constitute 49.26% of the total student enrolment in schools. Boys outnumbered girl students in all the districts except Thiruvananthapuram. Generally, in Kerala there is a more or less uniform pattern in the enrolment of girl students across districts.**

## SC/ST Enrolment

**12.17 As per the figures of 2011-12, SC students constitute 11.04% of total students in the state. The percentage of SC students, government schools, private aided schools and private unaided schools are 13.82%, 10.73% and 3.73% respectively.**

12.18 ST students constitute 1.86% of total enrolment in schools in the year 2011-12. The percentage of ST students in government schools, private aided schools and private unaided schools are 3.37%, 1.33% and 0.37% respectively in 2011-12. The standard-wise strength of SC/ST students in the state in 2011-12 is given in Appendix 12.10.

## Drop-out rate

12.19 Kerala has achieved the distinction of having the lowest dropout rate of school students among the Indian states. In the year 2009-10 dropout ratio among school students in Kerala was 0.51%. The drop-out ratio in Lower Primary Section, Upper Primary Section and High School Section were 0.38%, 0.32% and 0.85% respectively.

12.20 Among the Districts, Wayanad has the highest drop out ratio in the lower primary section (0.88%), upper primary section (0.94%) and high school section (1.64%). District-wise/stage-wise dropout ratio in schools in 2009-10 is given in Appendix 12.11. Drop-out ratio among SC students in Kerala as per the figures of 2009-10 was 0.58% and that of ST students was 2.33%. Standard wise details of drop out among SC and ST students in Kerala for the year 2009-10 are given in Appendices 12.12 and 12.13.

## Number of Teachers

12.21 The number of school teachers in Kerala including TTI teachers during 2010-11 was 168062. Out of this 101965 teachers are working in aided schools and 13692 teachers working in private unaided schools. This means that 68.81% of total teachers in the state are working in private management schools. The remaining 31.19% of teachers are working in government schools.

12.22 50.49% of total teachers in the state are teaching in high schools, 25.65% in upper primary schools, 23.40% in lower primary schools and the remaining 0.46% in TTI's. 71.48% of total teachers in the state are women. The teacher pupil ratio during 2010-11 works out to be around 1:26. Stage-wise and management-wise number of teachers in Kerala during 2010-11 is given in Appendix 12.14.

## Protected Teachers

12.23 There are 2957 protected teachers in Kerala during 2010-11. Out of this 1282 teachers are deployed in Government schools, 826 are retained in parent school and 412 are deployed in other aided schools. The remaining 437 protected teachers are undeployed. Kozhikode district (482 nos) has the largest number of protected teachers in the state followed by Kannur (480 nos) and Kollam (382 nos) districts. The details of protected teachers in the state in 2010-11 are given in Appendix 12.15.

12.24 Govt. have approved a teachers package for setting up of a teachers bank for managing the transition and introducing a scientific method of recruitment for teachers in aided sector. The bank is a temporary arrangement for retaining excess teachers for suitable deployment to schools and ensures payment of their salary without any hindrance. The bank will also provide the services of teachers to schools for filling up of leave vacancies.

## Uneconomic Schools

12.25 There are 4280 uneconomic schools in Kerala as per the figures of 2010-11. Out of these 2147 are government schools and 2133 are in the aided sector. District-wise analysis shows that highest number of uneconomic schools is in Kannur district (635nos). 23.86% of uneconomic aided schools in the state are in Kannur district. In government sector Ernakulam district has the largest (257nos) number of uneconomic schools followed by Kottayam district (237 nos). Among the government uneconomic schools, 76.11% are of lower primary schools. In the aided sector also 85.56% of uneconomic schools are lower primary schools. District wise details of uneconomic schools in the state in 2010-11 are given in Appendix 12.16.

## Sarva Shiksha Abhiyan

12.26 The Sarva Shiksha Abhiyan is also known as the Education for All movement or 'Each One Teach One'. It was introduced in 2000-2001 as the flagship programme run by the Government of India. This scheme is framed to provide useful and relevant elementary education for all children in the age group of 6 to 14 by 2010 irrespective of any social, regional,

economic and gender barriers, with the active participation of the community in the management schools. It encompasses all activities of school education-providing physical infrastructure, free text book for children, encouraging enrolment of girls and teacher training. The fund sharing between the central and the states was 75:25 in the Tenth Plan. The funding pattern for the Eleventh Plan was modified to 65:35. The implementation of the programme to the real essence is extra emphasised in the event of the constitution of the Right to education act in the country.

12.27 Major goals of SSA are

- All children are enrolled in schools.
- Bridging all gender and social category gaps in primary stage and at elementary education level.
- Focus on elementary education of satisfactory quality with emphasis on education for life.
- Universal retention by 2010

The financial progress of the scheme during the first four years of the Eleventh Plan is given in table 12.4

**Table-12.4**  
**The outlay and expenditure of SSA from 2007-08 to 2010-11**

Allocation and Expenditure(Rs in Crore)	2007-08	2008-09	2009-10	2010-11	Total(2007-11)
GOI Release	103.23	108.54	119.89	196.60	528.26
GOK(including LSG) Release	48.20	61.43	68.81	133.66	312.10
<b>Total Expenditure</b>	<b>137.60</b>	<b>176.95</b>	<b>192.33</b>	<b>251.26</b>	<b>758.14</b>

Source: Sarva Shiksha Abhiyaan

12.28 There are 159 Block Resource Centres (BRC)/URC's functioning in all districts in Kerala. On an average every BRC has 84 schools. There are 954 Block Resource Persons approved by Government of India. More over MHRD has approved 159 computer programmers, 159 data entry operators and 159 accountants in all BRCs. SSA has a special focus on girls' education and children with special needs. About 1.22 lakh children were identified as children with special needs. SSA also seeks to provide computer education to bridge the digital divide. SSA is earmarking considerable amount of money for the construction of Block Resource Centres, Cluster Resource Centres, boundary walls for the schools, drinking water facilities in schools, construction of toilets etc. Free text books/ work books/evaluation tools are supplied to all children from standard II-VIII. At present 1385 cluster resource centres and 793 cluster resource persons were approved by GOI.

## Higher Secondary Education

12.29 Education after the first 10 years was a part of the higher education system for many decades. Higher Secondary courses were introduced in the state during 1990-91 to reorganize the secondary level of education in accordance with National Education Policy. Higher Secondary Course is the turning point in the entire school education in our state. The department serves as a professional institution in formulating and maintaining the standards of Higher Secondary Education and in providing need based timely, scientific, effective and sustainable services to the students and teachers at the Higher Secondary level.

12.30 1907 Higher Secondary schools were there in 2011 in the state. Out of these 760 (39.86%) are Government schools, 686 (35.97%) are Aided schools and the remaining 461 (24.17%) are Unaided schools. Among the districts Malappuram has the largest number of Higher Secondary schools (233 nos) in the state followed by Thrissur (190 nos) and Ernakulam (179 nos) districts respectively.

12.31 There are 6449 batches for higher secondary courses in 2011. The total number of sanctioned seat in 1907 Higher Secondary Schools was 361440. Malappuram district had the largest no of batches (904nos) with an enrolment capacity of 44834 students. District wise/Management-wise number of higher secondary schools and number of batches are given in Appendix-12.17.

12.32. 323560 students are admitted to the higher secondary schools in the state during the year 2010-11. Out of these



150231 (46.43%) are studying in government schools, 143665(44.40%) students are studying in aided schools and the remaining 29664(9.17%) are studying in unaided schools. District wise enrolments of students in higher secondary schools are given in Appendix 12.18.

12.33 The pass percentage of students in higher secondary courses has increased to 82.25% in 2010-11 from 74.93% in 2009-10. The pass percentage of SC and ST students in Higher Secondary schools also increased in 2010-11 compared to 2009-10. During 2011, 2821 students got A+ for all subjects and 227112 students were eligible for higher studies. The details are given in Appendices 12.19 & 12.20. The pass percentage of SC students also increased from 50.80% to 60.46% and ST students from 41.16% to 52.31% during 2010-11. Details are given in Appendices 12.21 and 12.22

## Vocational Higher Secondary Education

12.34 Vocational Higher Secondary Education was introduced in the state in 1983-84 Vocational Higher Secondary Education in the state impart education at plus two level with the objective to achieve self/wages/direct employment as well as vertical mobility. The course is designed to prepare skilled work force at middle level in one group or more of occupations, trade or job after matriculation at 10+2 stage of education. 389 Vocational Higher Secondary Schools are there in the state with a total of 1100 batches.

12.35 Out of the 389 Vocational Higher Secondary Schools 261 are in the Government sector and 128 in the Aided sector. Kollam District( 52 nos) has the largest number of Vocational Higher Secondary Schools in the state. District wise details of Vocational Higher Secondary Schools and courses during 2010-11 is given in Appendix.12.23.

12.36 The percentage of school going students eligible for higher education in Vocational Higher Secondary examination in 2011 March is 77.26%, while the pass percentage in 2010 March was 75.56%. The number of students who appeared and those who passed Vocational Higher Secondary examination from the year 2001 to 2011 and the results of school going students are given in Appendices 12.24 & 12.25.

## State Institute of Educational Management and Training (SIEMAT)- Kerala

12.37 SIEMAT Kerala was established in July 2005. Major functions of SIEMAT include developing network of institutions engaged in identical task and playing supportive and collaborative role, acting as a clearing house of ideas and information on research, training and extension activities in educational planning and administration. SIEMAT undertook large number of management development programmes and training. SIEMAT has also published many handbooks, bulletins and reports. SIEMAT- Kerala has given 244 training programme for 9656 participants during 2010-11. During the first three years of the XIth plan period 682 training programme were given to 20807 participants.

## University and Higher Education

12.38 There are a total of 9 universities functioning in the state. Out of these four universities viz. Kerala, Mahatma Gandhi, Calicut and Kannur are general in nature and are offering various courses. Sree Sankaracharya University of Sanskrit, Cochin University of Science and Technology and Kerala Agricultural University offer specialized courses in specified subject areas. Besides these, the National University of Advanced Legal Studies (NUALS) established in 2005 and the Central University established in Kasargode district are also functioning.

12.39 The various programmes that have been included in the state plan have a significant impact in the overall performances of the universities. Programmes such as the Erudite, Aspire (scholarship to researchers and PG students to undertake short term research programmes within research institutions and universities in India), and Acquire for social science have been implemented in the universities. The presence of Nobel laureates and other eminent academics as scholars in residence for longer periods (up to 15 days) has a significant impact in the university community. Several scholars have expressed their willingness to further collaborate with the universities in this regard. The Nobel Laureate, Zhores Alferov during his visit has signed an MOU with CUSAT as he is the Vice President of the Russian Academy of Science and President of its St. Petersburg Scientific Center. Nobel Laureate Robert Huber has agreed to intervene to establish a centre of Max Plank Institute in Kerala. Several scholars have agreed to take students from universities here as post doctoral students in

their research groups. The various scholarships for fostering excellence in studies also have a significant impact among the student community.

12.40 Inter University Centres within the universities in Kerala were established in 2009. These centres provide academic support to the faculties and students of various universities and co-ordinate major projects undertaken in their respective fields. The Inter University Centre has the objective of developing post graduate programmes in the relevant discipline and serving as an Inter University Centre for research in the relevant discipline and strengthening the ongoing Ph.D programmes and research activity in the concerned areas of advanced study. The establishment of the Inter University Centres has a significant impact. The Inter University Centres are interdisciplinary centres for conducting cutting edge research programmes synergizing available academic expertise in the universities. Several scholars have expressed their willingness to work in these centres (Pawan Dhar, former researcher in RIKEN University headed by Nobel Laureate Ryoji Noyori, has joined the Inter University Centre in Bioinformatics) and the researchers of the various research institutions with in Kerala are invited as adjunct professors in these centres. A cluster of such centres has been established in the field of Bio Sciences. The centres are Centre for Bio - Informatics (Kerala University), Centre for Bio Science (Kannur University), Centre for Plant Biotechnology (Calicut University), Centre for Marine Biotechnology (CUSAT), Centre for Genomics and Gene Technology (Kerala University) and Centre for Bio Medical Science (MG University)

## Grant to Universities

12.41 The State Government provides Plan and Non plan grants to universities which are a major source of their revenue. ₹ 313.06 crore is earmarked as grant to universities in the year 2011-12. Out of this, ₹ 246.06 crore (78.59%) is provided under non plan head. ₹ 67 crore is earmarked under plan head in the year 2011-12. Kerala University has received the maximum assistance from state government in the year 2011-12. In the current year, 17.08% increase is registered in financial assistance to Universities over 2010-11 Revised Estimate. Details are given in Table. 12.5

**Table 12.5**  
**Plan and Non plan grant to Universities in Kerala (₹. Crore)**

Name of University	2009-10 Accounts			2010-11 Revised Estimate			2011-12 Budget Estimate		
	Plan	Non Plan	Total	Plan	Non Plan	Total	Plan	Non Plan	Total
Kerala	6.50	74.81	81.31	14.75	74.45	89.20	12.00	89.34	101.34
Calicut	6.50	49.16	55.66	8.00	54.08	62.08	10.00	64.89	74.89
Mahatma Gandhi	9.50	28.16	37.66	8.00	30.99	38.99	10.00	37.17	47.17
Sree San-karacharya	2.3	12.89	15.19	5.00	14.18	19.18	8.00	17.01	25.01
Kannur	5.34	6.12	11.46	12.00	9.72	21.72	12.00	8.40	20.40
Cochin University of Science and Technology (CUSAT)	14.00	22.16	36.16	10.83	24.38	35.21	12.00	29.25	41.25
National University of Advanced Legal Studies	0	0	0	1.00	0	1.00	3.00	0	3.00
<b>Total</b>	<b>44.14</b>	<b>193.30</b>	<b>237.44</b>	<b>59.58</b>	<b>207.80</b>	<b>267.38</b>	<b>67.00</b>	<b>246.06</b>	<b>313.06</b>

Source: Detailed Budget Estimates 2010-11, Vol .1 Government of Kerala

## Arts and Science Colleges

12.42 Including 150 Private Aided Colleges and 39 Government Colleges there are 189 Arts and Science Colleges in the State. Ernakulam district (25nos) has the largest number of Arts and Science colleges in the state followed by Kottayam (22 nos), Thiruvananthapuram (20 nos) and Thrissur (20 nos) districts. A new Govt. Arts and Science college has started functioning in Ambalapuzha, Alappuzha district with BSc. Maths, BA Economics, and B.Com during the academic year 2010-11. Thiruvananthapuram district has the largest number of Government colleges (8 nos) in the state. District-wise number of Arts and Science colleges in the state in 2010 is given in Appendix 12.26.

## Enrolment of Students

12.43 The total number of students enrolled in various Arts and Science colleges (excluding unaided colleges) under the four general universities in Kerala during 2010-11 is 1.82 lakh. Of this 1.27 lakh (69.78%) are girls.

12.44 Out of the total 1.65 lakh students enrolled for degree courses, 45.10% are enrolled for BA degree courses, 39.63 % enrolled for BSc degree courses and 15.55% enrolled for B.Com degree courses. Girls constitute 69.05% of total enrolment for degree courses. 27 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 Mathematics has the largest number of student enrolment. Details of enrolment of students in Arts and Science colleges for BA, BSc and B.Com are given in Appendices 12.27 to 12.29. 15601 students are admitted to post graduate course in the state in 2010-11. 79.28% of those enrolled in PG courses are girls. Details of enrolment of students in Arts and Science colleges for MA, MSc and M.Com courses are given in Appendices 12.30 to 12.32.

## SC, ST Students

12.45 The enrolment of SC students in degree and post graduate courses is 23622 and 1716 respectively. SC students constitute 13.92% of total students in 2010-11. Girls constitute 65.58% of total SC students in Arts and Science colleges.

12.46 2882 Scheduled Tribe students were enrolled for courses in arts and science colleges in 2010-11. The enrolment of ST students in degree and post graduate courses are 2528 and 354 respectively. Girls constitute 60% of total ST students in Arts and Science colleges. Enrolment of SC and ST students in Arts and Science Colleges in Kerala during 2010-11 is given in Appendix 12.33.

## Scholarships

12.47 About 16 type of central and state sector scholarships are given to students. Various scholarships including merit cum means scholarships (1592 nos) and post metric scholarships (59116 nos) are given during 2010-11. The Directorate of Collegiate Education has erected LED display board giving the details of scholarships offered by the Government of Kerala and India. The details of number of scholarships given from 2008-09 to 2010-11 is given in Appendix 12.34

## Teachers

12.48 The number of teachers in Arts and Science colleges in 2010-11 is 8880. Out of this 47.52% are women. University-wise number of teachers in Arts and Science colleges in the year 2008-09, 2009-10 and 2010-11 is given in Appendix 12.35

12.49 4285 teachers in Arts and Science colleges in the state have Ph.D degree. Details are given in Appendix 12.36. A total of 1693 Guest Lecturers are working in Arts and Science colleges of the state in 2011. Details are given in Appendix 12.37.

## Kerala State Higher Education Council

12.50 On the basis of Kerala State Higher Education Council Ordinance 2006, Kerala State Higher Education Council was set up on 16th March 2007. The Higher Education council is responsible for providing policy advice to the Government on Higher Education in general and on specific issues referred to the council by the government. The Council has a three tier structure consisting of Advisory Council, Governing Council and an Executive Council. The major functions of the council are:

- 12.51 a) Render advice to the Government, universities and other institutions of higher education in the state.  
 b) Co-ordinate the roles of the Government, universities and apex regulatory agencies in higher education within the state.  
 c) Initiate new concepts and programmes in higher education.  
 d) Provide common facilities in higher education without impinging upon the autonomy of other institutions of higher education.

12.52 In accordance with the above mandate, Council has been undertaking activities like setting up a data bank on higher education, framing state policy on higher education, restructuring of undergraduate education and setting up of clusters of colleges, setting up of a higher education scholarship fund, teacher exchange programme, scholars in residence programme and a journal for convergence studies. During 2007-08, a comprehensive database of higher education in the state was published and its digitized version was put online for public access. During 2008-09 more elaborate data and educational statistics were collected and compiled from 884 higher education institutions and the data are available in the Council website in the search software "EDUSEARCH"

## Centre for Continuing Education

12.53 Kerala State Civil Service Academy under Centre for Continuing education is offering free coaching for Civil Service mains and interview for all Keralites who cleared the preliminary examination and mains examination respectively. The Centre has given free coaching to all SC/ST students and BPL category students for the state level Engineering/ Medical entrance examinations. During 2011, 86 candidates were undergoing the free coaching programme for the Civil Service main examination.

## Kerala Council for Historical Research (KCHR)

12.54 Kerala Council for Historical Research is an autonomous academic institution committed to scientific research in History and Social Sciences. It is a recognized research centre of the University of Kerala and has academic affiliations with leading research institutions and universities inside and outside the country. Major activities which are undertaken by KCHR in the past include creating and maintaining people's archives of Kerala, writing local/micro histories, life histories and institutional histories, archives on family histories, biographies etc. KCHR has planned to publish a comprehensive volume on the scientific history of Kerala from pre-historic to the present times.

12.55 A sustainable/historical tourism project is conceived in the Kodungallur-Parur zone and KCHR is identified as the nodal agency to provide technical assistance. From 2006-07 onwards KCHR has successfully undertaken the multi disciplinary excavation at Pattanam. The excavation has yielded significant evidences for re-conceptualizing the early history of Kerala.

12.56 Scholars in residence fellowship is a unique research support instituted by KCHR and is meant to support senior scholars who wish to complete some of their ongoing projects.

## Technical Education

12.57 Directorate of Technical Education is the nodal department for Technical Education in the state. The details of technical institutions under the administrative and financial control of Directorate of Technical Education is given in Table-12.6

**Table – 12.6**  
**Technical Institutions under Directorate of Technical Education-2011**

Sl. No.	Institutions	Nos
1	Government Engineering Colleges	9
2	Private Aided Engineering Colleges	3
3	Government Polytechnic Colleges	36
4	Government Women's Polytechnic Colleges	7
5	Private Aided Polytechnics	6





Sl. No.	Institutions	Nos
6	Fine Arts Colleges	3
7	Government Technical High Schools	39
8	Government Commercial Institutes	17
9	Tailoring and Garment making training centres	42
10	Vocational Training Centres	4
	<b>Total</b>	<b>166</b>

Source: Directorate of Technical Education

12.58 Some of the major activities undertaken by the department during 2011 are

- Implementation of DDFS system in the directorate
- Quality improvement programme centres in two engineering colleges at Thiruvananthapuram and Thrissur through which the faculty all over India has the opportunity to undergo PhD programmes in these institutions
- All the engineering colleges and polytechnic under the control of directorate were provided with broad band connectivity of 512 kbps
- Initiatives are taken for the upgradation of 30 polytechnics with the financial assistance of MHRD
- Initiatives are taken for the construction of women's hostel in 31 polytechnics with the financial assistance of MHRD

## Engineering Colleges

12.59 There are 142 engineering colleges in the state with a total sanctioned intake of 45147 in 2011. Out of these engineering colleges, 128(90.14%) are self financing colleges, 11 (7.7%) are government colleges and 3 (2.11%) are private aided colleges. Mahatma Gandhi University has the largest number of engineering colleges affiliated to it. During 2011, 23 self financing engineering colleges started in the state. Comparing to 2010, the percentage of increase in the number of engineering colleges is 19.32% and the percentage increase of sanctioned intake is 18.8%. The University wise and Districtwise details of colleges are given in Table. 12.7&12.8

**Table-12.7**  
**University wise Engineering Colleges in Kerala 2011**



Sl. No.	Name of University	No. of Colleges
1	Kerala University	39
2	Mahatma Gandhi University	40
3	Calicut University	33
4	Kannur University	8
5	CUSAT	20
6	Agricultural University	2
	<b>Total</b>	<b>142</b>

Source: Directorate of Technical Education

**Table-12.8**  
**District wise Engineering Colleges in Kerala 2011**



Sl. No	Name of District	No of colleges
1	2	3
1	Thiruvananthapuram	24
2	Kollam	15
3	Pathanamthitta	8
4	Alappuzha	9

Sl. No	Name of District	No of colleges
5	Kottayam	9
6	Idukki	5
7	Ernakulam	26
8	Thrissur	15
9	Palakkad	8
10	Malappuram	7
11	Kozhikode	6
12	Wayanad	1
13	Kannur	6
14	Kasargod	3
	<b>Total</b>	<b>142</b>

Source: Directorate of Technical Education

12.60 Among the 11 government engineering colleges in the state, 2 Colleges are under the control of Kerala Agricultural University. These colleges are college of Dairy Science and Technology, Mannuthy and Kelappaji College of Agricultural Engineering and Technology, Thavanur, Malappuram.

12.61 Ernakulam district has the largest number of engineering colleges in the state followed by Thriuvananthapuram, Kollam and Thrissur districts with an intake capacity of 9568, 7523, 4440 and 4795 respectively. Kollam, Pathanamthitta, Alappuzha, Ernakulam and Kasargode districts do not have Government engineering colleges. District-wise and management wise number of engineering colleges and sanctioned intake are given in Appendix-11.38. The sanctioned intake during 2011 of Govt. colleges was 2894 (6.4%), aided colleges 1550 (3.43%) and unaided colleges 40703(90.16%). The sanctioned intake of unaided colleges has increased by 21.12% during 2011 compared to the previous year.

12.62 Of the engineering colleges in Kerala, the largest number of branch wise seats was in Electronics and Communication (10200) followed by Computer science (8280) and Electrical and Electronics (6900). Branch-wise distribution of seats in engineering colleges in 2010-11 is given in Appendix. 11.39. 4564 students were studying in government and aided engineering colleges for graduate courses in the year 2011-12. Out of these 40% are girls. 906 students were studying in government and aided engineering colleges for post graduate courses in the year 2011-12. Girl students constitute 55.3% of total students in government and aided engineering colleges studying for post graduate courses. Details are given in Appendix 12.40&12.41.

12.63 The visiting faculty programme enables the teachers and students of the institution to share the experience and expertise of the eminent faculty from premier engineering institutions. Lectures were arranged in 9 Govt. Engineering colleges as part of this programme during 2010-11. Also 30 short term training programmes were organized in various Govt. Engineering Colleges for the knowledge enrichment of engineering college teachers.

12.64 Under capacity development 42 training programmes were organized through various agencies for the teaching and non-teaching staff and more than 250 staff members participated in the programme. During 2011-12, 13 faculty members were deputed for M.Tech and 26 were deputed for Ph.D programme.

12.65 More than 850 smart class rooms with all advanced teaching aids were established in all Govt. Engineering Colleges and polytechnics. Job oriented short term courses of 2 to 10 months for SC/ST students through Engineering colleges, polytechnics and technical high schools were conducted and 3190 students benefited through the programme.

12.66 Merit Cum Means Scholarships is given to financially weaker students belonging to the minority community. During 2010-11 scholarship were given to 2883 students. The central release for the scholarships was `786.29 lakhs.

## Polytechnics and Technical High Schools

12.67 43 government polytechnics and 6 private aided polytechnics were functioning in Kerala during 2011. The annual intake of students in government polytechnics and private aided polytechnics are 10378 and 1617 respectively. The total number of students in government polytechnics during the year 2011 was 26583 and that of private aided polytechnics

4400. The female percentage in polytechnics in 2011 has increased to 32.59% from 27.34 % in 2010. Details of annual intake and student's strength in polytechnics from the year 2009-10 to 2011-12 are given in Appendices 12.42 & 12.43. Details of trade-wise annual intake of students in polytechnics of the state in 2011-12 are given in Appendix 12.44. 6.3% of total students in polytechnics belong to SC community and 1.00 % belongs to ST community.

12.68 Total number of teachers working in polytechnics of the state is 1879. Women teachers constitute 27.94% of the total teachers in polytechnics. SC/ST teachers constitute 8.41% of teachers. Details of number of students and teachers in polytechnics are given in Appendix 12.45. Number of SC/ST students and SC/ST teachers in polytechnics in the report year are given in Appendix 12.46.

12.69 Finishing schools were established in 17 polytechnics including three women's polytechnics to make the polytechnic pass outs competent to meet the need of the industries in the country and develop their employment schemes.

12.70 39 government technical high schools are functioning in the state. Total number of students in technical high schools in the year 2010-11 was 7488, out of which girls share has increased to 8.03% in 2011 from 7.77% in 2010. There are 905 teachers working in technical high schools of the state. Women teachers constitute 19.90% of teachers in technical high schools. Number of students and teachers in technical high schools from 2009-10 to 2011-12 are given in Appendix 12.47. SC students in technical high schools accounted for 13.64% of total students. ST students in technical high schools constitute 0.60% of total students. Details are given in Appendices 12.48 and 12.49.

## Institute of Human Resource Development (IHRD)

12.71 IHRD is an autonomous institution fully owned and controlled by Government of Kerala. IHRD was established in 1987 for imparting quality education especially in the technical education sector for development of manpower of the required level of competence to match the growing demand of the industry in the field of Electronics, Computer, IT and other emerging technologies. IHRD has a network of 94 institutions which include 9 Engineering Colleges, 7 Model Polytechnics, 35 College of Applied Science, 4 model colleges, 26 Technical Higher Secondary Schools, 6 extension/ study centres, 2 model finishing schools, 1 skill development centre, 1 academic staff college, 1 information technology division and 2 regional centers. The college of applied science at Mananthavady in Wayanad has been set up to bring up the educational standards of the SCs and STs. 50% of the total seats have been reserved for ST students and 30% for SC students.

## Kerala State Science and Technology Museum and Priyadarsini Planetarium

12.72 Government of Kerala established the Kerala State Science and Technology Museum in 1984. The institution was registered under Travancore-Cochin Literary Scientific and Charitable Societies Act with a view to create scientific temper among all sections of the society with emphasis in taking science and technology to the common man. Many developmental activities are undertaken by the Museum. The Science and Technology museum has plans to work in collaboration with other Museums, industrial organizations, research centres, professional institutions, educational institutions and other suitable agencies in India and abroad for mutual benefit in general and for updating the museum in particular. Science and Technology museum has started many new ventures such as second mobile exhibition unit, astronomy van with most modern telescope, modification of galleries etc. In 2009 Museum has implemented 'Inculcate' scholarship programme with the objective of nurturing the inborn talents of students for scientific learning and research. In the first year there were about 6500 applicants, out of which 260 students from general category and 25 students from SC/ST category were selected for the 1st phase of the programme.

## Kerala State Centre for Advanced Printing and Training(C-apt)

12.73 Kerala State Centre for Advanced Printing and Training(C-apt) formerly known as Kerala State Audio Visual and Reprographic Centre was established in the year 1992. The main objective of the centre is to undertake printing and reprographic works for the Government Departments/Autonomous Bodies/public as per the rate approved by the Governing Body of the centre from time to time. Centre has the head office complex at Vattiyoorkavu, Thiruvananthapuram and city centre at Punnapuram, Thiruvananthapuram. In addition, centre has sub centers at 9 places in the state. The Centre has undertaken and executed printing works of highly confidential nature. Centre has launched C-apt Multi Media Academy for imparting training in the field of animation and multimedia through out the state on franchisee basis. The centre has generated income to the tune of `28.28 crore by a way of printing, reprographic works and training during 2010-11 and made a provisional profit of `2.74crore

## LBS Centre for Science and Technology

12.74 LBS Centre for Science and Technology was constituted in 1976 with the main objective of acting as a link between technical institutions, universities and other professional bodies in the state and industry including public utility undertakings. For the last three decades, the centre is actively involved in consultancy services and its core capacity is civil engineering with emphasis on site surveying, preparation of architectural design, geo-technical investigation, foundation design, structural design, quantity survey and preparation of tender documents. Two Engineering Colleges one at Thiruvananthapuram and the other at Kasargode are functioning under the LBS.

## Expenditure on Education

12.75 ₹. 9662.62 crore is earmarked for Education under plan and non plan heads in 2011-12. 78.9% of total outlay on education is earmarked for Elementary and Secondary Education. 94.03% of total assistance under education in 2011-12 is given as Non-plan assistance. ₹. 5767.18 crore is the total expenditure reported in the Education sector in 2009-10. Though the expenditure during 2008-09 for Education sector in the second year of the XI th Five Year Plan period is ₹5293.67 crore, the budget estimate during 2011-12 is ₹. 9662.62 crore which shows an increase of 83%. The details are given in Table 12.9

**Table: 12.9**  
**Budget Estimate and Expenditure on Education (₹. Crore)**

Sl. No	Stage	Accounts 2009-10			Revised Budget Estimate 2010-11			Budget Estimate 2011-12		
		Plan	Non plan	Total	Plan	Non plan	Total	Plan	Non plan	Total
1	Elementary Education	19.52	2302.87	2322.39	95.91	2502.08	2597.99	93.22	3588.35	3681.57
2	Secondary Education	165.43	2146.50	2311.93	119.73	2559.56	2679.29	223.06	3719.40	3942.46
3	University and Higher Education	72.36	710.17	782.53	106.98	891.96	998.94	122.33	1418.84	1541.17
4	Adult Education	4.00	0	4.00	8.90	0.00	8.9	8.80	0	8.80
5	Language Development	3.54	25.49	29.03	4.16	27.32	31.48	3.70	6.37	10.07
6	General	35.89	6.64	42.53	12.21	18.66	30.87	50.75	31.44	82.19





Sl. No	Stage	Accounts 2009-10			Revised Budget Estimate 2010-11			Budget Estimate 2011-12		
		Plan	Non plan	Total	Plan	Non plan	Total	Plan	Non plan	Total
	<b>Sub Total General Education</b>	<b>300.76</b>	<b>5191.69</b>	<b>5492.41</b>	<b>347.89</b>	<b>5999.58</b>	<b>6347.47</b>	<b>501.86</b>	<b>8764.42</b>	<b>9266.28</b>
7	Technical Education	58.00	216.77	274.77	61.97	243.61	305.58	74.58	321.76	396.34
	<b>Total Education</b>	<b>358.76</b>	<b>5408.46</b>	<b>5767.18</b>	<b>409.86</b>	<b>6243.19</b>	<b>6653.05</b>	<b>576.44</b>	<b>9086.18</b>	<b>9662.62</b>

Source: - Demand for Grants and Detailed Budget Estimates 2010-11 vol. 1. Government of Kerala

## Sports and Youth Services

12.76 Kerala is a state renowned for its commendable achievement in sports both at national and international levels. Kerala is one of the few states in the country which has legislated a bill (Kerala Sports Act 2000) and thus provided an impetus to the growth of sports and games in the state. In Kerala, sports and games are today seen as a way of life. Sports and its related activities is helping the state to emerge as a dominant sporting power in our country.

12.77 The Kerala State Sports Commission had recommended the integration of sports and physical education into the school curriculum from the academic year 2009-10 onwards. The syllabus for introducing Physical Education as a part of school curriculum has been approved. The books and other materials are being prepared by the experts. The programme has been initiated in the academic year 2010-11. The introduction of physical education and sports as a subject of study in schools is certainly to add another feather to Kerala's achievements across various sectors dealing with the day-to-day life of the people.

## 35th National Games

12.78 Government of Kerala is hosting the 35th National Games. There will be 36 medal events and two demonstration events. National Games Secretariat has been constituted as a charitable society to carry out all the works needed for the successful conduct of the games. As the time available is limited, it has been decided to conduct the games in stadia which are to be renovated. About 24 stadia are selected for upgradation/renovation package. Four Greenfield stadiums are also proposed at Karyavattom, Vattiyoorkavu, Central Stadium in Thiruvananthapuram and Kozhikode and the project is envisaged to be taken up under Design Built Operate and Transfer mechanism with the participation of private entrepreneurs. A Games village is also to be made available, where all the athletes and team officials are to stay during the games, as agreed in the Host City Contract. It was decided to construct a Games village accommodating about 5000 persons. Roads leading to the stadium have to be upgraded and other facilities like water supply, games equipments has to be ensured. All the works are progressing.

12.79 National Games will certainly improve the sports infrastructure in the State. National Games will boost the sports ethos of the people of the state, especially the younger generation and it will be a boon for further development of sports in Kerala in the coming years.



## Kerala State Sports Council

12.80 Kerala State Sports Council is an autonomous body formed in 1954. It has been made a statutory body with the enactment of Kerala Sports Act 2000 which extends the concept of sports for all. There are District Sports Councils to look after the affairs at district level. In accordance with the objectives of the Act, the entire spectrum of sports promotion and allied activities in the state has been brought under the purview of Kerala State Sports Council.

12.81 Kerala State Sports Council is the apex agency for the promotion and development of sports and games and allied activities. The council currently has 59 administrative staff and 172 coaches in its roll. There are 25 centralized sports hostels, 32 sports hostels in colleges and 15 sports hostels in schools which are financially supported by KSSC. The centralized sports hostels are directly maintained by KSSC and the school and college hostels are maintained by respective managements. There are about 1600 students in these hostels. The Council has been organizing coaching camps and tournaments, upgrading sports infrastructural facilities and assisting District Sports Councils for the conduct of district level tournaments.

12.82 In order to popularize football in Asian Countries, a project named Vision India has been introduced by Asian Football Confederation. As part of this, State Sports Council and State Football Association have jointly undertaken a project named Vision India with the help of Education Department. As an initial step it was implemented in seven selected districts. The scheme intends identification of talented school students at the age of 11 years and imparts advance training in football for moulding them into players of international standard. Altogether there are 91 schools and 2225 students are getting training under the scheme. The scheme was extended in 2009-10 to the remaining districts.

12.83 Medal winners in the national and international sports events were given cash awards. State Championship Tournament 2010-11, district and state level rural sports tournaments were conducted. Sports events were also organized for women, from block to state level. Kerala State Sports Council have conducted refresher course for coaches and deputed coaches/officials as observers to National and International meets, mini games, etc.

12.84 The KSSC is also the nodal agency for the implementation of the centrally sponsored PYKKA (Panchayath Yuva Krida Aur Khel Abhiyan) in the state. Sanction has been received for the implementation of the project in 300 panchayaths and 43 block panchayaths. It is a 75% centrally sponsored scheme. The scheme is intended to promote sports and games among youths, especially in rural areas by providing basic infrastructure and equipments at grass root level.

## Directorate of Sports and Youth Affairs

12.85 Directorate of Sports and Youth Affairs was established in 1986 for the development of proper and quality infrastructure for sports and games, imparting awareness on sports and games among public, providing facilities for proper training for grooming sports persons of international standards.

12.86 The Directorate financially supports sports infrastructural development activities and maintenance of sports assets in the state. Financial assistance is given to recognized sports associations for conducting tournaments, training and coaching camps to sports persons for participation in international tournaments, to facilitate treatment of injured sports persons, for purchase of sports equipments, providing facilities/ assistance to talented sportspersons to participate in tournaments abroad and giving cash awards in having won tournaments.

12.87 Under the scheme for the maintenance/ development of play fields in the state an amount of `150.00 lakh was sanctioned for maintenance/development of play fields of 43 institutions.

12.88 Government has implemented a scheme for providing pension to circus artists in indigent circumstances. The rate of monthly pension is fixed as `525 (`500 pension + `25 money order charges). During the period under review an amount of Rs. 45.70 lakh was sanctioned to circus artists. The monthly income of `1500 is fixed as the eligibility of an applicant for the pension.

12.89 Taekwondo is a Korean martial art which has gained worldwide acceptance to be included as a competitive sports item for Olympics as well. A training programme to school children below the age of 18 years was started for boys & girls. The training programme has been conducted in 55 schools in the State and in each training centres 25 children were trained during the period. During 2010-11, the Taekwondo trainees won 7 gold, 6 silver and 13 bronze medals in the national school Taekwondo championship held at Bombay.

12.90 Similar other sports disciplines which are being promoted in Kerala include Karate, Judo etc. Karate is a martial art to achieve physical fitness, improve mental discipline and emotional equanimity, learn self defense skills and develop sense of responsibility for oneself and others. During 2010-11, Directorate of Sports sanctioned `6 lakh for the implementation of Karate training for 200 students. Judo adopted from traditional Japanese martial art is an item of Olympic Games. The Directorate of Sports & Youth Affairs launched a scheme for imparting Judo training by starting 14 district training centers, by identifying a school in each District for this purpose and an amount of `9.06 lakh has been utilized during 2010-11. Judo trainees won 1 gold, 3 silver and 4 bronze medals in the national school Judo championship held at New Delhi.

12.91 As part of the development and promotion of ancient martial arts of Kerala a festival on Kalarippayattu is conducted every year and arranged as a joint venture of Kerala Kalarippayattu Association and the Directorate of Sports and Youth Affairs. About 380 participants including women from different districts of Kerala participated in the festival. During the year 2010-11 an amount of 0.25 lakh rupees was sanctioned for the conduct of the state festival.

12.92 Rajiv Gandhi Sports Medicine Centre at the Directorate of Sports is the only sports medicine centre in the state to promote excellence in sports by lending scientific and prompt medical assistance and rehabilitation therapy to sports persons. Under the period the centre has given medical treatment to 1400 sports persons. Financial assistance to 449 institutions was given for the purchase of sports equipment under the report period.

## Kerala State Youth Welfare Board

12.93 Kerala State Youth Welfare Board is an autonomous body constituted in 1985 to function as an apex body for co-ordination and implementation of all youth welfare schemes in the state. Kerala State Youth Welfare Board with its headquarters at Thiruvananthapuram have a state youth centre and 14 district youth centres, a National Adventure Academy at Devikulam, Idukki district and a sub centre of the Academy at Muzhuppilangadu, Kannur district.

12.94 As part of spreading Board's activities into youths it has established youth centres in all districts and these are working as youth development centres. Through these centres youth can get information about career guidance, self employment training and various other activities. These centres are very active in ensuring the involvement of various clubs and NGOs. Youth centres have organized youth leadership camp, exhibition for youth, adventure activities etc.

12.95 Keralotsavam a unique festival for the rural as well as urban youth of Kerala enables them to participate in the cultural, artistic, sports and games competitions. This mega fest is conducted through local self government departments at four

levels .The primary level is at Grama Panchayat/ Municipality/ Corporation level. The second phase is at Block level. The third level is at District level and the fourth is at State level. The winners of district level and state level Keralotsavam are given prize money in addition to the certificates. About 15 lakh youths are participating in this festival every year. During the report year Keralotsavam was held at Thiruvananthapuram district from 2011 January 2nd to 5th. About 5000 youngsters participated in the mega programme. The winners of the state level Keralotsavam programme were selected to participate in the 16th national youth festival held in Rajasthan from 12th to 16th of January 2011.

12.96 Board has launched the Yuvasakthi project to involve the rural and urban youth for its developmental activities through the panchayathraj and nagarapalika system. The project has started in 978 grama panchayaths, 60 municipalities and 5 corporations of Kerala. A state level training for the panchayath youth co-ordinators were conducted. Various self employment trainings, agricultural club activities, awareness programmes etc. are continuing under the scheme. Youth coordinators are appointed for coordinating the day to day activities of the youth centres and conducting various activities in the youth centres.

12.97 As part of the yuvasakthi project, a new project viz; Yuvakarmasena has started functioning. The main objective of the scheme is to channelize youth resource for rural development. This sena was formed in all districts through district youth centres which provide the youth groups training on disaster management, first aid application, community work etc. to extend voluntary service in periods of emergency. As part of 100 days programmes of Govt., Yuvakarmasena regional training camps were conducted at Kozhikkode and Kottayam.

12.98 For encouraging spirit of adventure among youth, training in various adventure sports like trekking, paragliding etc are conducted. Financial assistance to adventure clubs for conducting adventure activities was also provided.

12.99 The youth clubs play a vital role in organizing and implementing various environment awareness programmes, social forestry programmes and formation of nature clubs at local levels. Board has formulated several awareness building programmes such as seminars, workshops and publicity through media against substance abuse, HIV/AIDS, social evils like dowry, child marriage, gender injustice etc.

12.100 Kerala State Youth Welfare Board has given financial assistance to youth clubs. The scheme provides training to unemployed youth for promoting self employment in the areas like DTP, mobile phone servicing, computerized financial accounting, auto driving, electrical and electronic equipment maintenance, agriculture production, processing marketing etc. The expenditure on training cost of materials and trainers cost are met by the Board. During 2010-11 an amount of ₹ 25.79 lakh was utilized under the scheme. District wise details of financial assistance to youth clubs for conducting self employment training are given in Table 12.10

**Table 12.10**  
**District wise Details of Financial Assistance to Youth Clubs during 2010-11**

Sl. No.	District	Number of Clubs allotted Financial Assistance	Sanctioned Amount (₹ lakh)
1	Thiruvananthapuram	20	3.44
2	Kollam	20	1.97
3	Pathanamthitta	18	1.47
4	Alappuzha	17	1.88
5	Kottayam	33	1.65
6	Idukki	15	1.65
7	Ernakulam	11	1.17
8	Thrissur	19	2.23
9	Palakkad	13	2.97
10	Malappuram	18	1.67
11	Kozhikkode	16	2.24
12	Wayanad	16	1.60
13	Kannur	18	1.25
14	Kasargod	10	0.60
	<b>Total</b>	<b>244</b>	<b>25.79</b>

Source: Kerala State Youth Welfare Board



12.101 Information and guidance centers named Jalakam are functioning in the district youth centres with computer internet facilities, services of counselors etc. Information and guidance for higher studies, employment etc, are available from the District Youth Centers at Thiruvananthapuram, Ernakulam, Pathanamthitta, Kozhikode and Malappuram.

## Outlay and Expenditure of Sports and Youth Affairs sector during 2010-11

12.102 The outlay and expenditure of various schemes implemented in Sports and Youth Affairs sector is shown in Table 12.11 .The total expenditure of the sector up to March 2011 is ₹ 3248.90 lakh.

**Table.12.11**  
**Outlay and expenditure during 2009-10 and 2010-11 (₹. lakh)**

SI No	Name of Scheme	2009-10		2010-11	
		Budgeted outlay	Expenditure	Budgeted outlay	Expenditure
1	Kerala State Sports Council	1000	1000	1200	800
2	Directorate of Sports and Youth Affairs	421	2612.99	450	969.28
3	Kerala State Youth Welfare Board	420	420.00	800	800
4	National Games	300	5800.00	6700	500
5	Other schemes	64	62.84	300	179.62
	<b>Total</b>	<b>2205</b>	<b>9895.83</b>	<b>9450</b>	<b>3248.90</b>

Source: Budget Estimates 2010-11, Govt. of Kerala

## Art And Culture



Kerala's culture is distinct and unique with an enviable tradition of numerous art forms. The cultural heritage of Kerala is revealed in its varied dance forms, martial arts and cuisine. Preservation of our rich heritage is possible only through the popularization of ancient art forms, which are deeply rooted in our culture. Kerala society is nurtured to a considerable extent, through the enrichment of local art forms. There are many institutions solely set apart for the promotion and encouragement of these art forms.

12.104 Academies, publishing houses, cultural centres, institutions of fine arts and folk arts, research centres and directorates like Museums and Zoos, Archives, Archaeology etc., are some of these institutions. During 2010-11, an amount of Rs 3405 lakh has been provided as plan assistance to this sector and an amount of Rs 2887 lakh has been utilized for the development of the sector. The following section presents a brief summary of activities carried out by the institutions during the year 2010-11.

## 1. Kerala Sahitya Academy

12.105 The Kerala Sahitya Academy is an autonomous institution established for the promotion and development of Malayalam language and literature. The Academy organizes literary programmes, publishes books, honours writers and participates in literary exhibitions.

12.106 The periodicals like Sahitya Chakravalam, Sahitya Lokam and Malayalam Literary Survey were published by the Academy. Also books published in Malayalam before 1950 are preserved in micro film in the library. Academy also has an audio cassette library of 700 audio cassettes. This includes recorded sounds of cultural personalities. The Academy is recognized as an apprentice training centre for library graduates by Central Human Resources Development Department. The academy also functions as a research centre. Forty research scholars are undergoing research activities in the centre and 210 research scholars are utilizing the reference facilities in the Academy library. Academy published 44 books during 2010-11.

12.107 During 2010-11 awards were given to eminent writers who contributed to language and literature. The Academy also conducted many cultural exchange programmes and book exhibitions.

## 2. Kerala Sangeetha Nataka Academy

12.108 The Academy is the nucleus of all amateur arts clubs and training institutions in the state and it always stands for the betterment of art forms. The Academy is affiliating all cultural institutions in the state. The Academy conducts festivals, competitions and seminars for promoting dance, drama and music. The Academy conducted the 'International Drama festival 2011' during the year. Dance festival, Swathi Sangeetha Festival, State professional drama competition and other cultural events were organized during the year.

## 3. Kerala Lalithakala Academy

12.109 The Academy promotes the talents of painters and sculptures through camps, demonstrations and exhibitions. During 2010-11, the academy organized many national and state level camps and exhibitions on drawing, sculpture, photography etc in which renowned artists took part.

12.110 As an attempt to search the roots of the pictorial art of Kerala, Academy has organized the 16-day Kalamezhuthu programme. The Academy has organized exhibitions, video film melas, 'kalari' programmes for children and speeches during 2010-11. The Academy assisted many artists during the year for exhibiting their paintings and drawings.

## 4. Kerala State Chalachitra Academy

12.111 The Kerala State Chalachitra Academy is the only academy for motion pictures in India. During 2010-11, the Academy organized many programmes for promoting film and TV media. The Academy organized 15th International film festival in December 2010. About 220 movies were screened in the festival. The Academy also conducted Documentary-Short Film Festival, National Film Festival of Kerala; Touring Talkies programme Visual Appreciation Camps for Children etc., during the year.

## 5. Kerala Folklore Academy

12.112 The Kerala Folklore Academy is an autonomous institution closely associated with folklore subjects. The objectives of the Academy are promotion of traditional folk arts of Kerala, dissemination of folk performing arts, welfare of the folk artists

and scientific documentation of these arts and their classification and publication of books, journals promoting culture and traditional art forms.

12.113 During 2010-11 the Academy carried out many programmes for popularizing folk art forms. Stipends to students were given for imparting training in folk arts. Awards/fellowships were given to outstanding artists. Artists were given financial assistance for treatment. Various programmes were held in collaboration with art clubs in the different parts of Kerala. Two issues of Poli, journal of the Academy were released.

## 6. State Institute of Children's Literature

12.114 The Institute was established with the ultimate aim of all-round literary and cultural prospects of the children of the state. With a view to promote the creative and cultural growth of the children belonging to the different strata of the society, the Institute organises programmes, literary competitions and publishes children's books and periodicals. The Institute provides good quality reading material for children in Kerala

12.115 The children's monthly magazine 'Thaliru' has been brought out in new form since June 2007. The Institute organizes 'Thaliru vayana matsaram', possibly the largest reading promotion campaign in the country. One of the main objectives of the Institute was the publication of an Encyclopaedia in eight volumes.

## 7. The State Institute of Languages

12.116 The State Institute of Languages Kerala has been publishing academic books in pursuit of knowledge. The Institute during the year 2010-2011 published 105 books on informatics literature as part of its objective of strengthening Malayalam language. The Institute has organized book fairs in all parts of the State including an International Book Fair in Kozhikode in 2011.

12.117 A new book shop of the Institute has been opened in Trivandrum city during the year 2010-2011. 18 volumes of the Collected Works of Dr. B.R. Ambedkar were published during the year. The royalties to the authors have been increased from 10 per cent to 15 per cent of the face value of books. Sales division of the Institute has been computerized and the Institute has become the first in computerizing the book fairs with the application of open source software.

12.118 A series of subject based glossaries have been published in association with the Commission for Scientific and Technical Terminology, working under the Department of Higher Education, Ministry of Human Resource Development, and Government of India. An amount of Rs 1.165/- crore has been utilized during 2010-2011 of which Rs.1 Crore is of plan assistance and the balance expended from the revolving fund.

## 8. Kerala Book Marketing Society

12.119 Kerala Book Marketing Society is an agency for selling publications of Government Institutions, Kerala Sahitya Academy and National Book Trust. Books are sold through their eleven branches and one mobile sales counter. Two new branches were opened at Thrissur & Thodupuzha and two new mobile sales counters started during 2010-11. The society participates in exhibitions and organized 46 bookfairs for promoting sales. During 2010-11, books worth `7.1 crore were distributed to 1001 schools.

## 9. Kerala State Library Council

12.120 Kerala State Library Council is the apex body of the libraries in the State. There are 7191 libraries affiliated to State Library Council. Library Council is collecting the library cess. The Council undertakes projects to increase the infrastructure facilities of the libraries and for the activities in the cultural and information fields. The projects are implemented through the District Library Councils.

12.121 Balavedi, Vanitha Vedi, Students corner, Akila Kerala Vayana Matsaram etc were implemented through libraries to enhance reading habits and to strengthen the library service.

12.122 A model village library has been started in all the 14 districts function as social and cultural development centres with separate wings for women, children, youths, farmers etc. The Council has started academic study centres in one selected library from each district. Reference facilities are provided for college students and researchers in these centres. Financial assistance was provided to jail/juvenile libraries, seven hospital libraries and six orphanage libraries.

## 10. State Central Library

12.123 State Central Library is functioning under the Higher Education Department. The Library is the first one of its kind in the nation which is fully computerized and provided with most modern technology of Radio Frequency Identification System and Digital Wing. The library has 42812 members. Upto October 2011, the number of documents available in various branches of the library is 367243. The library is now subscribing to all leading dailies in English, Malayalam, and Tamil along with 544 periodicals of different nature.

12.124 The library is fully computerized and books and periodicals are issued through Libsys software. Online book reservation and renewal system has been introduced in the library. Radio Frequency Identification System enables self check in and check out system, stock verification of the books and prevention of theft. The digitization of old Government Gazettes from 1904 to 1954 has been initiated during 2010-11. 700 students participated in the summer school programme

12.125 The library has also taken charge of the British Library collections and it is functioning as a separate section. More than 5000 books are being issued every month from this section. The library has converted its computerized catalogue into an Online Public Access Catalogue (OPAC) and intends to provide access to its digital library globally by creating an internet portal.

## 11. The Centre for Heritage Studies (CHS, Thrippunithura)

12.126 Centre for Heritage Studies was incepted in the year 2000 as an autonomous academic and research centre for promoting heritage and cultural studies. The centre conducts P.G. diploma in three subjects viz. Archaeology & Museology, Archival Studies and Conservation. PG diploma course in Heritage Ship Technology was also started during the year. It is also a training centre for teachers and demonstrators in theoretical and practical subjects like primitive, ancient, medieval and modern art.

The centre has conducted work shop on Muziris Heritage Project ,one day seminar on 'Accessibility to the Museums' and Hortus Malabaricus Project Awareness programme during the year. The CHS has set up a conservation laboratory for the Muziris Heritage Project at North Paravur

## 12. Margi

12.127 Margi is a cultural centre for promoting 'Kathakali' and 'Koodiyattam'. Koodiyattam has been proclaimed as a World Heritage art by UNESCO in 2001. Margi has a permanent group of forty traditionally trained senior artists of which 28 are for Kathakali and 12 for Koodiyattam. Margi staged 84 Kathakali and 39 Koodiyattam during the year 2010-11.

12.128 Part time training in Kathakali is given to school students without fees to promote interest in youngsters in traditional arts. Special training is given with stipends in Koodiyattam under a special programme of the Kendra Sangeetha Nataka Academy, New Delhi.

## 13. Kerala Kalamandalam

12.129 Kerala Kalamandalam is an institution for training and research in classical art forms such as Kathakali, Mohiniyattam, Chakyarkoothu, Thullal and Kalari arts. Kalamandalam gained the status of a Deemed University in 2007. Kalamandalam has initiated several measures for upgrading the institution to the standard of a Deemed University. The institution has introduced PG and research courses, initiated infrastructural developmental activities, enhanced the library referral unit etc by adhering to UGC norms.

12.130 Mohiniyattam was staged in the commonwealth games inauguration ceremony, 50 students from Kalamandalam participated in the prestigious ceremony. Renovation works of Vallathol museum and Koothambalam was completed during 2010-11.

## 14. Vasthu Vidya Gurukulam

12.131 Vasthu Vidya Gurukulam in Aranmula is a unique institution under the Department of Culture to promote and preserve the traditional architecture, mural painting and other related subjects. In the absence of a statutory council for Vasthu Sasthra, Human Resource Department, Ministry of India declared Vasthuvidya Gurukulam as a nodal agency for Vasthu and



other related subjects. University recognized Vasthuvidya course is being conducted by Vasthuvidya Gurukulam. Consultancy service in Vasthu principles is rendered for constructing houses and other buildings. Gurukulam has so far completed the renovation work at Sree Padmnabhaswami temple and Aranmula Parthasaradhi temple and renovation work at Tali temple is going on. Around 461 registrations have been done in the consultancy wing during this period. Vasthuvidya Gurukulam is conducting four academic courses in vasthuvidya and mural painting based on the basic texts of Vasthuvidya. Gurukulam is also documenting important Traditional architectural structures in Kerala.

## 15. Guru Gopinath Natana Gramam

12.132 Guru Gopinath Natana Gramam is a cultural institution for imparting training in classical dance and music with special focus on popularising "Kerala Natanam" which is a combination of Kathakali and Koodiyattam. The institution provides necessary facilities for imparting art education to children and training to talented youths.

Natana Gramam conducts regular and vacation classes in dance, music and other performing arts. The construction of National Museum is in progress. Documentation works of "Kerala Natanam" was completed during this period.

## 16. Kumaranasan National Institute of Culture

12.133 Kumaranasan National Institute of Culture is the first memorial constituted by the Govt. of Kerala in the name of the great poet Sri. Kumaranasan Asan. It started functioning in the year 1966 with the main mission of spreading Kumaranasan's works and his messages among the public. In order to achieve this objective Kumaranasan National Institute has promulgated a Comprehensive Development project of construction of an International convention centre, International Library, National Heritage Museum, Institute for Research and development, Eco Garden, Cultural Tourism etc. The land now available with the Institute is not sufficient to construct all the above projects and hence procedure for acquiring 1.1 Hectares of land is nearing completion. For this purpose the institute has remitted Rs. 1.80 Crores to the Revenue Department.

12.134 During the year 2010 the Institute has published complete works of Kumaran Asan containing 4000 pages in four volumes. The construction of the four statues by the noted sculpturer Sri. Kanayikunhiraman is going on. The present research institute being recognized by the Kerala University has been advantageous to the students with new books and new research and study materials. In addition the functioning of the medicinal garden has been expanded with more rare medicinal plants and high quality seeds. Arrangements have also been made to start the works of construction of the projects.

## 17. Multipurpose Cultural Complex Society (Vyloppilly Samskrithi Bhavan), Thiruvananthapuram.

12.135 Vyloppilly Samskrithi Bhavan is an institution built with the support of Government of India to function as a research, documentation and performance centre of traditional and classical cultural traditions. It is one of the few institutions of its kind in India and is a UNESCO approved centre for cultural heritage preservation. The Mudra Fest is an important annual programme of Samskrithi Bhavan. It is conceived as a forum to study and appreciate the value of classical dances from the great masters of the country. Classical dances and lecture demonstrations were conducted in which renowned artist's performed. Weekly programmes on Kathakali, Nangiarkoothu, Ottanthullal, Vilpattu, Classical dances.

## 18. Jawahar Balabhavan

12.136 Balabhavan imparts training in arts and crafts for children between the age of four and sixteen. Classes are held after school hours and during vacations. Training is imparted in all forms of creative arts and crafts, general knowledge, yoga, electronics, spoken English, personality development, aero modeling, kalaripayattu etc. Nearly 1994 children attended the vacation classes in Thiruvananthapuram. During 2010-11, 36 women were trained in self employment under the scheme "Pratheeksha" in Thiruvananthapuram Balabhavan.

## 19. Archives Department

12.137 Collection, management and preservation of records are the major functions of the State Archives Department. The records transferred from various departments / institutions are scrutinized and arranged as per archival principles.

Department follows scientific methods for the preservation of paper and palm leaf records kept in the department. Records from Secretariat and Health Department were transferred to the State Archives Department. A conservation lab at Central Archives, Thiruvananthapuram, has been set up. The Kerala State Archives is a 'A' Category member in the International Council on Archives which is an International body of about 170 member countries in the world which is aimed to promote the Archival Heritage in the world. The basic function of the Department is the Preservation of the Archival wealth of the State. This includes collection conservation, publication, research and preservation of public records, semi public records and private records of the State. Exhibitions, Seminar etc are organized to arouse archival consciousness. Training programmes are organized to those working in record rooms to increase the efficiency.

12.138 Archival exhibitions and national level seminars are organized to arouse archival consciousness among the public and the academic community in particular 'Archives Week Celebrations' are organized in the month of November every year as part of the International Archives Week Celebrations of the International Council on Archives. As a part of arising archival awareness among the public, the Department had conducted exhibitions, seminars and workshops. A Journal "Thaliyola" of historical records has been published trimonthly. Also three training programmes were conducted for the staff of the department.

## 20. Archaeology Department

12.139 Scientific conservation of cultural heritage of the state is the prime function of Archaeology Department. The Department is having 150 protected monuments, 10 archaeological museums and one regional conservation laboratory. Periodical explorations and excavations are conducted in search of archaeological remains. Ancient monuments and traditional structures like forts, bridges, caves, buildings etc are protected and maintained. Mural paintings in temples and churches, oil paintings in palaces etc are also scientifically conserved.

## 21. Museums and Zoos Department

12.140 Museums and Zoos have been functioning as tourist spots except the Thiruvananthapuram Zoological Park which is for conservation of wildlife and promotion of research in the field of animal behaviour, nutrition etc. In the year the Directorate carried out many modernizing and maintenance activities in the Museum and Zoo institutions at Thiruvananthapuram, Thrissur and Kozhikode.

12.141 Regular classes are organised for the school/college students and public. The target groups are given half a day class followed by a free visit to the Zoo. Wildlife and its importance, Nature and Wildlife Conservation etc. are the core subjects covered. Film shows and slide shows are also conducted as part of it. Interactive sessions are organised in once every fortnight in the newly renovated Museum auditorium. Topics related to Wildlife Conservation, Environmental health, Cultivation of ornamental and medicinal plants, Museum display etc. are selected. Departmental staffs in Museums, Zoo, Botanical Garden, members of NGOs and Nature Clubs participated in the sessions. Wildlife Week, World Environment Day, Animal Welfare Fortnight etc. were celebrated with various programmes. Competitions in Quiz, Elocution, Painting and Essay writing, etc. related to Wildlife for school/college students are being held as part of it.

## 22. Kerala State Film Development Corporation, Thiruvananthapuram

12.142 KSFDC (a public limited company) has been providing support facilities for the production of theatre films and documentaries since 1975. The Corporation owns ten theatres and the Chitranjali Studio.

12.143 KSFDC has successfully launched several modernizing works and evolved new programmes for raising its revenue during the year. Chitranjali Studio has been modernized by equipping it with modern lights, track, trolley and other latest film equipments..

## 23. State Institute of Encyclopaedic Publications, Thiruvananthapuram

12.144 The State Institute of Encyclopaedic Publications is an institution established for publishing Encyclopaedias and other similar reference books in the Malayalam language keeping a high standard comparable to that of renowned Encyclopaedias like 'Encyclopaedia Britannica' and 'Americana'. After the formation of the Institute in 1976 different schemes were

introduced with a view to enlarge its sphere of activities. The most important ones were the publication of subject Encyclopaedias on World Literature and Environment.

12.145 The Institute has so far published 15 volumes of the General Encyclopaedia and seven volumes of the Encyclopaedia World Literature. As such, five volumes of the General Encyclopaedia and three volumes of the Encyclopaedia World Literature still remain to be published. The revised edition of General Encyclopaedia Vol 3 and General Encyclopaedia Vol 6 were published during the period.

## Information Technology Education

### Indian Institute of Information Technology and Management – Kerala (IIITM – K)

7.144 Indian Institute of Information Technology and Management – Kerala (IIITM\_K) was set up by Government of Kerala in the year 2000, as a premier institute of excellence in post graduate education and research in the area of Information Technology and allied areas. The Institution is a non-profit making autonomous institution and is registered under Section 25 of the Companies Act. All the shares of the Company is held by Government of Kerala and the management of the Institute is vested in a Board of Directors.

7.145 IIITM-K's Mission is to be an institution of excellence in education, research, development, and training in basic and applied Information Technology and Management and to be a leader in educational networking and services provider for higher education and professions. The institute is helping the region's development through its education, expertise and services and thereby make it an attractive destination for hi-tech industry. Since 2001, the Institute has been offering a Post Graduate Diploma in Information Technology, abbreviated PGD-IT. The graduated students have been getting impressive placements in top IT companies through campus interviews so far. More than 200 students have so far been placed in reputed companies across the country.

7.146 IIITM-K continued to function from leased premises in the Technopark campus and only post Graduate Diploma in IT course was being conducted. By the year 2007-08, the students admitted for the course reduced drastically, which promoted IIITM-K to obtain recognition from CUSAT to start postgraduate courses. During 2008-09, one – acre land was allotted in Technopark and around Rs. 7.15 crores was provided for construction of a building measuring 3500 sq. m. which is already completed and made fully functional.

7.147 The facilities available for higher learning at post graduate / doctoral levels currently in the State are insignificant. It is an acknowledged fact that even at national level, only a limited number of seats are available for post graduate level studies in Information Technology and allied areas. Around 5% of the students passing out of the engineering colleges in the State have facilities available for postgraduate studies. Thus there is an urgent need to increase the seats available for post graduate studies in the State and it is essential to attract mainstream postgraduate students and promote both academic and research activities of great depth and meaning to ensure technological strength of Kerala.

7.148 The Institute currently offers a Master of Science programme in Information Technology, M.Phil programme in Eco-Informatics and a Post Graduate Diploma programme in e-Governance. Students who have Bachelor's degree in any branch of Engineering / Technology or Master's Degree in Computer Science / Applications with minimum of 60 percentage marks are admitted to the Master of Science in IT programme and for Master of Philosophy in Ecological Informatics programme, students who have passed M.Sc with First Class in Natural /physical Science with minimum of 60 percentage marks are admitted. PGDeG is a Government sponsored programme, and 15 seats are reserved for nominated Government officials and the remaining seats are for open candidates. Entry level requirement for admission to the PGDeG programme is a Bachelors degree in any discipline with working knowledge of computer systems. Diploma / Certification in computer application will be an added advantage. Preference is given to B.Tech/MBA/ MCA degree holders. Since 2001, the institute has been offering a Post Graduate Diploma in Information Technology, abbreviated PGD – IT. The graduated students have been getting impressive placements in top IT companies through campus interviews so far. Institute has also been offering PhD programme under core computer Science and ICT areas.

IIITM-K is focusing in the following areas and emerging as an engine for promoting growth by using IT in inclusive development programmes. To drive the stated vision of IIITM- K, the institute has post graduate and doctoral programmes through the following schools. These schools shall also cater to the needs of the IT Industry by means of offering programmes

(workshops, short courses, short –term training etc.) in specific skill development

### a) School of Computer Science and IT

7.149 This school covers the core areas of Computer Science and IT. The subject areas covered include Computer Science, Software engineering, IT, Systems Programming, Telecommunication and Networking, Embedded Systems, Database Management Systems, Artificial Intelligence, VLSI, Web technologies, Information Security, Mobile technologies and their integration with applications and services, etc.

### b) School of Computational Sciences

7.150 The subject areas include constructing mathematical model and numerical solution techniques and using computers to analyse and solve scientific, social scientific and engineering problems. It also covers scientific databases, visualization, computational and physical modeling, scientific computing, computational chemistry, computational biology, algorithms and their applications over distributed systems and high performance computing.

### c) School of Informatics

7.151 The real value of IT comes when it is adapted and tuned to applications in different domains of social relevance. The areas to be covered are informatics systems in Education, Agriculture, Ecological Informatics, Health Informatics in E-Governance, domain – specific Scientific Databases and their management, enterprise integration, Community Information and Collaboration systems etc. Information management, Library and Information Sciences, Multimedia content developments, Information management are all the areas in Informatics.

## School of Humanities and Management

7.152 The subject areas include entrepreneurial Development & Management, Human Resource Management & Industrial Relations, logistics, Marketing Management, Knowledge Management, organizational behavior, cognitive sciences, systems of management for emerging virtual enterprises, linguistics, E-Governance, management of education, transactional analysis, community knowledge empowerment and IT enterprise management.

## Kerala State Council for Science, Technology and Environment

7.153 The Kerala State Council for Science, Technology and Environment (KSCSTE) was established in 2003 to promote excellence in science and technology through learning, research and development with the involvement of academia, industry, research organizations and to benefit the society through science and technology interventions with the involvement of user agencies and beneficiaries. Kerala State Council for Science, Technology and Environment (KSCSTE) was constituted as an autonomous body of the Govt. of Kerala by restructuring the erstwhile State Committee on Science, Technology and Environment. The primary objective of the Council is to implement Science and Technology Programmes to enhance the socio- economic development as well as quality of life and environment of the State. The Council also intends to revamp and streamline the science and technology programmes to make them more responsive to the development needs of the State, and help in the transformation of Kerala as a knowledge economy.

7.154 There are six Research & Development Centers functioning under the umbrella of the Council viz., Centre for Earth Science Studies (CESS), Centre for Water Resource Management and Development (CWRDM), Kerala Forest Research Institute (KFRI), National Transportation Planning and Research Centre (NATPAC), Jawaharlal Nehru Tropical Botanic Garden and Research Institute (TBGRI), and Kerala School of Mathematics (KSM). The Council also supports three grant-in-aid institutions namely, Sophisticated Test and Instrumentation Centre (STIC), Integrated Rural Technology Centre (IRTC) and Malabar Botanical Garden Society (MBGS). The council also undertakes co-ordinates and oversees many research programmes through the Universities and other R&D facilities established by the State and Central Governments.

## Activities and Achievements of the Council HQ

7.155 During the review period the Council has organised and implemented various scientific activities through their supporting institutions. The major activities are the following.

## (a) The Coastal and Environmental Division

7.156 The Coastal and Environmental division was implementing Ecology and Environment scheme for the purpose of providing assistance to scientists and technologists for doing scientific/research work on the environmental problems and issues. One such project was on climate change and another project was on cadastral scale CRZ maps for urban areas which was implemented through CESS. The water quality monitoring and soil quality monitoring programmes also achieved considerable progress. The Division also provided technical inputs in 222 CRZ cases for discharging the functions of KCZMA.

## b) Science & Technology Promotion Division operated the following schemes:

### (i) Science Research Scheme (SRS)-

7.157 Science Research Scheme (SRS) aims at promotion of Research & Development activities in the state both in fundamental and applied research. Under the scheme, research projects in emerging areas of science and engineering are supported by providing financial support for implementation. Among 42 new projects considered by the RCSE Committee, 21 projects were approved during 2011.

### (ii) KSCSTE Research Fellowships

7.158 KSCSTE started Research Fellowship Programme in the year 2002, to promote research work leading to Ph.D in the eleven disciplines-Agricultural Science, Chemical Science, Physical Science, Environmental Science, Earth System Sciences, Engineering Sciences, Life Sciences, Taxonomy (Botany & Zoology), Bioinformatics and Mathematical Sciences. A total of 24 new fellowships were offered in 11 disciplines of science,

### (iii) Selective Augmentation of R&D Activities (SARD) Scheme

7.159 Selective Augmentation of Research and Development Activities (SARD) is a scheme initiated by the Council with a view to strengthen science and technology infrastructure primarily in the University Departments, Colleges and R&D Institutions. SARD envisages modernization of laboratories by way of procurement of essential equipments and upgrading of existing facilities for teaching as well as R&D activities. Funds for 5 SARD projects were sanctioned, comprising of 3 new and 2 ongoing projects;

### (iv) Sastraposhini Council Scheme

7.160 Sastraposhini is a scheme launched by the Council for strengthening Science education among High Schools of the State. By this programme model laboratories in Physics, Chemistry and Biology were established in selected Schools in the state. The monitoring committee visited 53 Govt High Schools of the State and selected 14 schools for establishing Sastraposhini Model Labs;

### (v) Sastraposhini MRS Scheme

7.161 Work for establishing Model Science laboratories in 20 Model Residential Schools of the State was completed;

### (vi) Student Project Scheme

7.162 This programme envisages providing financial assistances to the students of University Departments and Colleges in Kerala for the conduct of Scientific Projects as part of their curriculum. During the year 2011, 63 projects were sanctioned;

### (vii) Sastrabodhini Programme

7.163 Monthly scientific programme was continuing in all the 27 Model Residential Schools (MRS) which are being regularly monitored.



## (viii) Scheme for Promoting Young Talents in Science (SPYTIS)

7.164 science projects were selected for funding for promoting young talents in science.

## c) Engineering and Technology Programme

7.165 This Scheme is aimed at promoting research in newly emerging and challenging areas of engineering and technology. Sanction was accorded for 6 new project proposals. Financial support was offered to academic institutions, research organizations, etc. towards organization of conference, workshop, etc. Science Literature Awards were conferred on individuals who have made substantial contributions in promoting science through Science Literature in Malayalam.

## d) Patent Information Centre – Kerala (PIC-K)

7.166 KSCSTE has established Patent Information Centre-Kerala (PIC) functioning as the Satellite Centre for Patent Facilitating Centre for Technology Information Forecasting and Assessment Council (TIFAC), Government of India. It aims to promote the Intellectual property output and to protect the traditional knowledge output of the State. The major objectives of PIC are to generate awareness among Public on Intellectual Property Rights (IPR) through seminar, workshop, exhibition, etc, to facilitate patent database search and access to patent related documents and to offer technical, legal and financial assistance to institutions for filling patent.

PIC-K has organized 42 IPR awareness programmes in the State and as a result 54 patent applications were received. 5 patent applications from institutions were forwarded to PFC/TIFAC for filing. PIC-K established 12 IPR Cells in 12 Govt. and Aided Engineering Colleges in the State. Intellectual Property Facilitation Centre for MSME (IPFC for MSME) organized 8 IPR awareness programmes for the Industrial Enterprises and Clusters and visited 22 Enterprises and Clusters in different parts of the State.

## e) Kerala Biotechnology Commission (KBC)

7.167 Kerala Biotechnology Commission is responsible for the implementation of the BT policy and related guidelines laid down by the Biotechnology Board. It provided financial assistance to 7 young investigators under the Young Investigators Programme in Biotechnology. Under the International Biotech Regulatory Services (IBRS) scheme four projects was supported during the period. KBC also started a new programme to organize training programme in selected emerging areas of Biotechnology and two programmes were supported under the scheme. The Commission also initiated steps for the establishment of a Translational Research and development Centre in collaboration with Kannur University.

## Activities of R & D Centres

### The Centre for Earth Science Studies (CESS)

7.168 CESS has been instituted as a Centre of Excellence in Earth Sciences by the Government of Kerala in 1978 and amalgamated under Kerala State Council for Science, Technology and Environment with the objective to promote modern scientific and technological research and development studies in the domain of Earth Sciences. The Centre for Earth Science Studies has carried out multidisciplinary studies in the field of earth sciences, with special emphasis on societal needs. Research programmes of CESS were broadly grouped under the themes- crustal evolution and geodynamics, natural hazards, coastal processes and management, atmospheric dynamics, natural resources and environmental management. CESS has undertaken 43 externally funded R & D projects including one international project, 40 plan R & D projects, 11 plan Infrastructure projects and 38 consultancy projects. Under the academic activities 21 students worked for PhD and 36 did their PG dissertation.

### Centre for Water Resources Development and Management(CWRDM)

7.169 Centre for Water Resources Development and Management, functions with eight divisions and six units/sections and four sub centres carrying out research, development and extension activities on various aspects of water resources, development and management. CWRDM has its mandate in carrying out research, development and extension activities in various aspects of water resources development and management. CWRDM completed 14 R & D projects and had 46



ongoing projects and 11 consultancy projects. CWRDM has conducted 8 seminar/symposia/conferences. It has organized and conducted 16 training programmes and 6 farmer leaders training programmes. The centre has brought out 35 papers and 20 reports. The scientists of the centre have rendered their technical expertise in various national, regional and local level technical committees of the Govt. and other bodies.

## Kerala Forest Research Institute (KFRI)

7.170 Kerala forest Research Institute is one of the leading forestry research institutes dedicated to tropical forestry research. KFRI had 50 R & D projects and 8 consultancy programmes. It conducted 14 training programmes. An important achievement was the establishment of 32 km long coastal bio-shield at Vadanappalli under the coastal bio-shield programme. KFRI also studied the distribution, species and population dynamics of *mikania micrantha* and succeeded in developing a biologic control using a natural fungal pathogen. The important research projects consisted of improving productivity of plantation, preparation of management plan for high value biodiversity area, biodiversity conservation and nature education programmes. KFRI has published 11 books, 21 research reports and 24 research papers.

## National Transportation Planning and Research Institute (NATPAC)

7.171 Natpac is a centre of excellence concerned with all areas of transportation planning, research and development, training and consultancy to meet the safe transportation needs of the public. NATPAC has undertaken 14 plan project and 10 sponsored projects. The important achievements consist of preparation of Integrated Development of Transport Infrastructure for an emerging town (Kottarakkara), preparation of inventory of roads for Grama Panchayath, road connectivity to the proposed Kannur airport, traffic and transportation studies for 23 towns in Kerala State, use of waste plastics in road construction, resource mapping for road construction materials, inland water transport of west-coast canal in Kerala, road safety measures, etc. NATPAC has published a handbook on transport and road accident statistics and 5 research papers. Jawaharlal Nehru Tropical Botanical Garden and Research Institute (TBGRI)

7.172 Jawaharlal Nehru Tropical Botanical Garden and Research Institute was founded with the main objectives of conservation of the tropical plant genetic resources and development of improved scientific methods for their sustainable use to the maximum extent for human welfare. TBGRI has 50 plan projects, 36 externally funded projects along with 2 consultancy

projects. It has published 88 papers on various subjects and a book 'Bamboos at TBGRI'. 14 rare endemic tree species were added to arboretum and 19 palms to palmetum. A programme for greening state highway was initiated. A virtual herbarium database application package was developed for digitalizing TBGRI herbarium. A comprehensive account on the current status of the flowering plants of the Western Ghats was successfully completed.

## Kerala School of Mathematics (KSOM):

7.173 The Kerala School of Mathematics has been setup at Kozhikode as a joint venture of KSCSTE and National Board of Higher Mathematics (NBHM), under the Department of Atomic Energy, Government of India. The main objective of the institute is to promote Mathematical research in the country and particularly in Kerala. During 2011, 5 seminars and 4 colloquium and 2 international seminars were conducted.

## The Grant-in-aid Institutions

7.174 The Grant-in-aid Institutions of the KSCSTE viz. Sophisticated Test and Instrumentation Centre (STIC), Malabar Botanic Garden Society (MBGS), Integrated Rural Technology Centre (IRTC) have carried out various activities in their respective fields.

7.175 Apart from the above activities, the Council has also organized A high-level meeting on Centre-State Technology Partnership jointly with the Department of Science and Technology (DST), Government of India on November 6, 2010. More than 70 senior officials, scientists and activists of the Central and State Governments and governmental and non-governmental institutions attended the meeting. A panel consisting of eminent persons placed the user perspective on current state of technologies and technology application in the state as well as the future demands in various sectors

7.176 The 23rd Kerala Science Congress was organised at CESS during 29 to 31 January 2011. The theme of the Congress was "Science and technology for transforming Kerala as a green economy".

7.177 Recognising the role of KSCSTE/ CESS in dealing with coastal zone management issues, MoEF has identified CESS as the nodal organization for the preparation of the World Bank funded Integrated Coastal Zone Management Project.

## Regional Cancer Centre, Thiruvananthapuram

7.178 Regional Cancer Centre, Thiruvananthapuram (RCC), is an autonomous scientific institution sponsored jointly by the Government of Kerala and the Government of India. The centre was established in the year 1980 as a tertiary referral centre for the diagnosis and treatment of cancer. RCC rated amongst the top three of the 28 Regional Cancer Centres in the country. It is the only comprehensive, dedicated centre for diagnosis, treatment and control of cancer in Kerala. In average 32,000 new patients occur every year in the state and out of this more than one third comes to RCC for treatment.

## Major Achievements of RCC during the period 2010-11

### **Infrastructure Development**

- A new Blood Irradiator machine aimed at minimizing transfusion reactions in bone marrow transplant patients is purchased as a part of infrastructure upgradation.
- An underground water storage facility of 15 lakh litres capacity was commissioned to tackle the long standing water scarcity.

### **Social Services**

- Free treatment were provided to tribal people, BPL families and children less than 18 years of age through different schemes such as Tribal Project, Cancer Suraksha Mission, Rashtriya Suraksha Scheme and Thalolam.
- Conducted several campaigns for the the promotion of our 'Cancer Care for Life'.

### **Clinical Services**

- Radiation Oncology
- Surgical Oncology
- Medical Oncology
- Paediatric Oncology
- Pathology
- Imageology
- Nuclear Medicine
- Pain and Palliative Care

### **Community Oriented Programmes**

- **Conducting trainer-trainee Programmes, cancer detection camps, cancer awareness education programmes and tobacco cessation clinic.**

### **Work Pattern in RCC**

- 13230 new cancer patients in 2010-11
- 180858 patients reviewed in 2010-11
- 604 patient visits every day
- 450 patients given radiotherapy every day
- 200 patients administered chemotherapy every day
- 125 procedures performed every day
- Regular research activities and publications

## Fee Treatment to Poor Cancer Patients

7.179 Free treatment to poor cancer patients is a policy of the State Government. Data regarding free treatment to the cancer patients belong to BPL families for the last four years are given below.

**Table –23.1**  
**Free Cancer Treatment to the BPL families for the last four years**

SL. No	Particulars	2007-08	2008-09	2009-10	2010-11
1	No.of New Partients registered	11327	12123	13040	13230
2	Existing number of patients	139818	163837	167628	180858
3	No.of free category patients	5550	5455	5868	5987
4	No. of patients got Chemotherapy free of cost	197	148	181	
5	No.of Chemotherapy free of cost	3575	4267	4300	3327
6	No.of free Radiation treatment	2918	3717	3940	3205
7	No.of free surgeries	2113	2886	2994	1953
8	Total cost of free treatment (₹.In lakh)	1188	1060	1135	1193