EDUCATION

CHAPTER XIII

Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education provides one with the best opportunities of becoming successful in the modern society. In terms of knowledge, qualities, skills, attitudes, and capacities, education enables individuals to become conscious subjects of their growth and active responsible participants in a systematic process of building a new world order. Education enriches people's understanding of themselves and of the world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. In addition, it plays a very crucial role in securing economic and social progress and improving income distribution. Education strengthens democracy by imparting to the citizens the tools needed to fully participate in the Government. Education also acts an integrative force in society, imparting values that fosters social position and national identity. Recognizing the importance of education, the State Government has placed an unprecedented focus on expansion of education, significantly improving the quality of education imparted and ensuring that educational opportunities are available to all segments

Box No. 13.1 Education and Skill Development - Vision 2023

Aims to establish robust human resources by adopting following measures:

- Providing universal access, equity, quality at primary, upper primary, secondary and higher secondary level.
- Increasing the enrolment in higher education (including vocational education) to over 50%.
- With focus on employability in manufacturing and service sector, train and skill 20 million people - people entering job market 15 million, and people already part of working population 5 million.

As part of the skill developed programme the key intervention are:

- Large scale skill development programme to impart basic training to unskilled labour primarily agriculture workforce (bottom of the pyramid).
- Employability programme for skilled level (middle layer in the pyramid) to deliver industry relevant skills key growth sectors.
- Setting up of centre of excellence in the area of automotive technology, solar and clean energy technology, biotechnology, agricultural practices, water resources management, construction management, lifestyle diseases, aerospace, basic science, nano-technology and social sciences.
- Focus on "train the trainers'" programmes in different sector by setting up specialized training institutes.

The total investments envisaged in the Education and Skill Development sector is about Rs.19,000 crore. The highlights of the investments are as follows:

Upgrading middle and high schools	Rs. 5,000 Crore
Skill Development for vocational training to 20 million people	Rs. 11,000 crore
Setting up of Centres of Excellence across 11 identified areas	Rs. 3,000 Crore
Total	Rs. 19,000 Crore

Source: Vision 2023, Government of Tamil Nadu.

of the society. Tamil Nadu has performed well ahead of other major Sates with regard to elementary education. The Composite Education Development Index for assessing the status of elementary education computed by the National University of Educational Planning and Administration (NEUPA) and the Government of India (Ministry of Human Resource and Development, Department of School Education and Literacy) placed the State in the number one position. The Report on Annual Status on Higher Education 2011-12 brought out by Ministry of Human Resource Development and Department of Higher Education ranked Tamil Nadu as first in gross enrolment ratio of higher education.

Recognizing the significance of education in the development process and the economic imperative of "quality education for all" during the 12th Plan period (2012-2017), the Government of Tamil Nadu had earmarked a sizeable amount of Rs.19,608 crore for education out of the aggregate outlay of Rs.2,11,250 crore. It works out to 9.28 percent of the total Plan outlay. A larger slice of the outlay, 34 percent is allocated to secondary and vocational education, followed by 28 percent to primary education and 19 percent to higher education. The goals of the 12th Plan are universal access, universal enrolment, universal retention, universal achievement and equity.

Table No.13.1 Twelfth Five Year Plan Outlay on Education

Component	Outlay (Rs. Crore)	Percent
Primary Education	5517	28.14
Secondary and Vocational Education	6675	34.04
Higher Education	3659	18.66
Tamil Development	211	1.08
Technical and Professional Education	2030	10.35
Science and Technology	177	0.90
Sports and Youth Welfare	1339	6.83
Total	19608	100.0

Source: Twelfth Five Year Plan Document (2012-2017) State Planning Commission, Chennai-5.

13.1 Literacy Attainment:

The growth rate of the economy, birth rate, death rate, infant mortality rate (IMR) and literacy rate are all interconnected. The literacy rate has been the major determinant of the rise or fall of the other indicators. The State government has been straining every nerve to achieve the goal of Universalization of Education and Education for All for many decades. All these efforts have been bearing fruit in terms of enhanced literacy rate and educational accomplishment.

13.1.1 Literacy Rate:

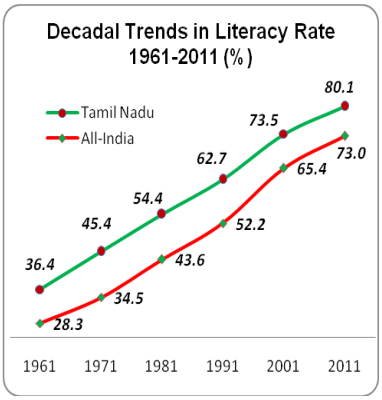
During the past five decades, the literacy rate in Tamil Nadu had more than doubled. The literacy rate for the State increased from 36.4 percent in 1961 to 80.1 percent during 2011. The rise in the literacy rate over the years could be attributed to better inputs in primary education. Similar trend was also noticed at all-India level. The literacy rate in Tamil Nadu was comparatively better than the all India rate (73.0%). However, the decadal gains in literacy rate in Tamil Nadu has slow down in 2001 to 2011 decade which is a cause for concern. Further literacy rate in Tamil Nadu have been slower than the all India gains since 1981. This implies that the State cannot yet rest on its laurels in the area of education and literacy and sustained efforts is still required. Among the 15 major States, Tamil Nadu ranked third in respect of literacy rate, Kerala (93.91%) and

Table No. 13.2 Decadal Trends in Literacy Rate 1961-2011 (%)

Year	Persons	Males	Females
Tamil Nadu			
1961	36.4	51.6	21.1
1971	45.4	59.5	30.9
1981	54.4	68.1	40.4
1991	62.7	73.1	51.3
2001	73.5	82.3	64.4
2011	80.1	86.8	73.4
All-India			
1961	28.3	40.4	15.3
1971	34.5	45.9	22.0
1981	43.6	56.4	29.8
1991	52.2	64.1	39.3
2001	65.4	79.6	54.3
2011	73.0	80.9	64.6

Source: Directorate of Census Operation, Tamil Nadu.

Maharashtra (82.91%) occupied the first and second places respectively. Among the gender, the literacy rate of males was higher than the females in Tamil Nadu as well as at all-India. The literacy rate of males and females in Tamil Nadu was higher than that of all-India. The literacy gap between males and females and rural and urban was lower in Tamil Nadu as compared to all-India.



13.1.2 Literacy Rates by Districts:

The following observations were made from the district-wise literacy rate of Tamil Nadu in 2011

- Among the districts, the literacy rate was the highest in Kanniyakumari (91.7%) and the lowest in Dharmapuri (68.5%)

Table No. 13.3 Literacy Attainments – 2011 Census (In percent)

State / District	Literacy Level			Literacy Gap	Literacy Level			Literacy Gap
	Total	Male	Female		Total	Rural	Urban	
India	73.0	80.9	64.6	16.3	73.0	67.8	84.1	16.3
Tamil Nadu	80.1	86.8	73.4	13.4	80.1	73.5	87.0	13.5
Thiruvallur	84.0	89.7	78.3	11.4	84.0	74.3	89.3	15.0
Chennai	80.2	93.7	86.6	7.1	90.2	0.0	90.2	--
Kancheepuram	84.5	89.9	79.0	10.9	84.5	76.0	89.4	13.4
Vellore	79.2	86.5	71.9	14.6	79.2	74.7	85.0	10.3
Thiruvannamalai	74.2	83.1	65.3	17.8	74.2	71.6	84.4	12.8
Villuppuram	71.9	80.5	63.2	17.3	71.9	69.6	84.7	15.1
Salem	72.9	80.2	65.2	15.0	72.9	65.7	79.7	14.0
Namakkal	74.6	82.6	66.6	16.0	74.6	71.3	79.5	8.2
Erode	72.6	80.4	64.7	15.7	72.6	65.4	79.4	14.0
The Nilgiris	85.2	91.7	79.0	12.7	85.2	81.2	88.0	6.8
Dindigul	76.6	84.2	68.3	15.9	76.3	71.7	83.9	12.2
Karur	75.6	84.5	66.9	17.6	75.6	69.3	84.7	15.4
Tiruchirappalli	83.2	89.7	76.9	12.8	83.2	76.7	89.9	13.2
Perambalur	74.3	82.9	65.9	17.0	74.3	72.1	85.2	13.1
Ariyalur	71.3	81.2	61.7	19.5	71.3	70.1	81.4	11.3
Cuddalore	78.0	85.9	70.1	15.8	78.0	73.7	86.4	12.7
Nagapattinam	83.6	89.8	77.6	12.2	83.6	82.0	89.0	7.0
Thiruvarur	82.9	89.1	76.7	12.4	82.9	81.1	89.7	8.6
Thanjavur	82.6	89.0	76.5	12.5	82.6	79.0	89.2	10.2
Pudukkottai	77.2	85.6	69.0	16.6	77.2	74.4	89.7	15.3
Sivagangai	79.9	87.9	71.9	16.0	79.9	75.7	89.1	13.4
Madurai	83.5	89.7	77.2	12.5	83.5	74.1	89.4	15.3
Theni	77.3	85.0	69.5	15.5	77.3	72.6	81.2	8.6
Virudhunagar	80.2	87.7	72.7	15.0	80.2	75.9	84.3	8.4
Ramanathapuram	80.7	87.8	73.5	14.3	80.7	77.0	89.2	12.2
Thoothukudi	86.2	91.1	81.3	9.8	86.2	82.2	90.2	8.0
Tirunelveli	82.5	89.2	76.0	13.2	82.5	79.2	85.9	6.7
Kanniyakumari	91.7	93.6	89.9	3.7	91.7	90.8	92.6	1.8
Dharmapuri	68.5	76.9	59.8	17.1	68.5	65.9	81.2	15.3
Krishnagiri	71.5	78.7	63.9	14.8	71.5	67.3	85.5	18.2
Coimbatore	84.0	89.1	78.9	10.2	84.0	72.2	87.8	15.6
Tiruppur	78.7	85.5	71.8	13.7	78.7	69.6	84.5	14.9

Source: Director of Census Operation, Tamil Nadu.

- Out of 32 districts in the State, only in 13 districts viz., Thiruvallur, Kancheepuram, Tiruchirappalli, Nagapattinam, Thiruvarur, Thanjavur, Madurai, Thoothukudi, Tirunelveli, Ramanathapuram, Kanniyakumari, Coimbatore and The Nilgiris the overall literacy rates was higher than the State's average (80.1%).

- *The literacy rate of males among the districts ranged between 93.7 percent (Chennai)* and 76.9 percent (Dharmapuri).

- The literacy rate in the case of females varied between 89.9 percent (Kanniyakumari) and 59.8 percent (Dharmapuri). In as many as 18 districts viz., Thiruvannamalai, Vellore, Villupuram, Salem, Namakkal, Erode, Dindigul, Karur, Perambalur, Ariyalur, Cuddalore, Pudukkottai, Sivagangai, Theni, Virudhunagar, Dharmapuri, Krishnagiri and Tiruppur the literacy rate was lower than the State average (73.4%).

- The gender literacy gap was higher at 19.5 percent in Ariyalur district and lower at 3.7 percent in Kanniyakumari district.

- The literacy rates in rural and urban areas among the districts were the highest in Kanniyakumari district and the lowest in Erode district.

- The literacy gap in rural and urban areas ranged between 1.8 percent in Kanniyakumari district and 18.2 percent in Krishnagiri district.

Existence of literacy gap between males and females and rural and urban is a formidable challenge to planners in the State. The gap needs be Closed. The female literacy, particularly SC/ST girls needs to take a centre stage in Government's education policies.

13.2 Elementary Education:

Elementary education consisting of primary (I-V) and upper primary (VI-VIII) is the foundation of the pyramid in the education system. The State has focused its attention on assessing the gap in access to primary and upper primary schools and to provide the required number of schools, ensure the children so enrolled are retained in schools, improve the reading, writing and listening skills of the children, cover out of school children including migrant labourers' children, street children and school drop-outs, focus on education of girl children and provision of required infrastructure facilities to all schools. All these have received a major push through the State Government's own initiatives complimented by Sarva Shiksha Abiyan (SSA) launched in November 2000 to impart quality elementary education to all children in the age group 6-14 by subsuming all existing programmes. The National Programme for Education of Girls at Elementary Level (NPEGEL) was launched in 2003-04 for providing additional components for education of girls at elementary level under the SSA.

13.2.1 Network of Primary and Upper Primary Educational Institutions:

Easy accessibility of schools to the pupils at primary and upper primary level is viewed as a cornerstone of the sound educational policy. Existing norms stipulate that a primary school is to be established within a radius of 1 km from the habitations with a population of 300. An upper primary school is to be established within a radius of 3 km from habitations with a population of 500 and more. Tamil Nadu has already achieved cent percent access at the Primary level in the year 2002-2003 and cent percent access at the Upper Primary level in 2004-2005. Nevertheless, with the population growing and new

habitations springing up, the need for new schools is constantly on the increase. During 2012-13, there are still some habitations which are in need of Primary Schools and Upper Primary Schools. The habitations requiring primary schools was 2928 and for upper primary schools 1717. Of them, only 732 and 330 of the habitations are qualified for opening of Primary and Upper Primary schools respectively.

Table No.13.4 Coverage of Primary and Upper Primary Schools

Category	Primary Schools		Upper Primary Schools	
	2011-12	2012-13	2011-12	2012-13
1.Total habitations	93855	95010	93855	95010
2. Habitations covered with Schools	91786	92085	92528	93293
3. Habitations without Schools	2069	2928	1327	1717
a. Habitations eligible for establishing schools	731	732	307	330
b. Habitations not eligible for establishing school	1338	2196	1020	1387

Source: Project Director Sarva Shiksha Abiyan, Chennai-6.

During 2012-13 there were 35185 primary schools and 9656 middle schools against 34638 primary schools and 10170 middle schools respectively during 2011-12. Of the total 35185 primary schools during 2012-13, 23816 schools were government-run, 5065 private-aided and 6304 private-unaided. Out of 9656 middle schools, 7289 were government-run, 1505 private-aided and 862 private-unaided. The number of primary schools per thousand child population (6-11 years) in the State was 9 as against 10 at the all-India level during 2012-13. At this level it was lagging behind Andhra Pradesh (12) and Karnataka (12). In the case of upper primary schools it was 7 per thousand child population (11-14 years) in the State and lower than the Andhra Pradesh (8) and Karnataka (11). At the all-India level it stood at 8. The lower number of schools per unit of population in the State is primarily due to greater population density in Tamil Nadu compared to Karnataka and Andhra Pradesh. Turning to the density of primary schools functioning per 10 square kilometer, Tamil Nadu was placed well above all-India as well as the neighbouring Southern States. In respect of upper primary schools, it stood third among the Southern States. As compared to all-India it was lower in Tamil Nadu. Of the total primary schools, the proportion of single teacher schools in Tamil Nadu it was only 6.9 percent and occupied the second place among the southern States, Kerala (4.2%) stood first. At all-India level 11.8 percent of the primary schools were single teacher schools.

Table No.13.5 Functioning of Primary and Upper primary Schools – 2012-13 (Number)

Category	Andhra Pradesh	Karna-taka	Kerala	Tamil Nadu	All-India
Primary Schools /'000' Child population (6-11 years)	12	12	5	9	10
Upper Primary Schools /'000' child population (11-14 years)	8	11	5	7	8
Density of Primary Schools / 10 Sq. km	3.17	3.12	3.64	3.74	3.62
Density of Upper Primary Schools / 10 Sq. km	1.40	1.79	2.02	1.64	1.76
Single Teacher Schools in Primary (%)	23.7	14.9	4.2	6.9	11.8

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

13.2.2 Pupil Enrolment:

On an average, the total number of students enrolled under elementary education was 97 lakhs in a year. Its share to total students enrolled under elementary education at all-India was on a steady decline 5.1 percent in 2010-11 to 4.8 percent in 2012-13. Of the total students enrolled, the proportion enrolled in primary and upper primary schools stood at

62:38 as against 68:32 at all-India. This reflects the falling birth rate and lower cohort size at that age group in Tamil Nadu. The ratio was by and large static in Tamil Nadu whereas it tilted in favour of upper primary at the all-India. The enrolment by type of institutions revealed that 40.44 percent were admitted in Government schools in Tamil Nadu. This ratio was lower than that of all-India and in Andhra Pradesh (54.02%) and Karnataka (55.04%). The proportion of pupil enrolled in private aided schools was 21.55 percent in the State and it significantly higher than all-India. Among the Southern States with 44.49 percent enrolled in private schools, Kerala uniquely stood first. With 42.34 percent enrolled in private management schools, Andhra Pradesh occupied the first position and it was closely followed by Tamil Nadu.

Table No.13.6 Pupil Enrolment in Elementary Education (lakhs)

Category	2010-11	2011-12	2012-13
1.Tamil Nadu			
a. Primary (I-V)	61.10	60.40	60.22
b. Upper Primary (VI-VIII)	36.87	37.36	36.57
Sub-Total	97.97	97.76	96.79
1.All-India			
a. Primary (I-V)	1352.07	1371	1347.84
b. Upper Primary (VI-VIII)	578.44	619.55	649.26
Sub-Total	1930.51	1990.55	1997.10

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

Table No.13.7 Enrolment in Elementary Education by Institutions - 2012-13 (%)

State	Govern-ment	Private Aided	Private manage-ment	Number of Students (lakhs)
Andhra Pradesh	54.02	3.65	42.34	110.98
Karnataka	55.04	11.76	33.20	83.97
Kerala	23.18	44.49	32.33	40.92
Tamil Nadu	40.44	21.55	38.02	96.78
All-India	62.62	8.28	29.11	1997.10

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

Of the total students enrolled, the proportion of girls in both primary and upper primary schools stood at 48 percent in the State. It was the case at the all-India also. The proportion of SC pupil enrolled in elementary schools (I-VIII) declined marginally from 24.41 percent in 2010-11 to 23.89 percent in 2012-13. At this level, the State occupied the first position among the southern States. Of the total pupils enrolled in elementary schools in Tamil Nadu, the proportion of ST had come down from 1.71 percent to 1.68 percent. At this level it was lower than the southern States as well as all-India. It is ensured that no child with special needs is denied admission in main stream schools. During the year 2012-13, the proportion of children with special needs enrolled in elementary schools in the State was 1.13 percent. Among girls the proportion was lower at 0.99 percent as compared to boys (1.27%). The children with special needs face challenges in learning as they may not be able to focus on the teacher during classroom interaction or their pace of learning may vary. Moreover social skills and emotional skills may need to be further strengthened. Going by the medium of instruction, 60 percent of the students in elementary education in the State were enrolled under Tamil medium, 39 percent in English medium and one percent in other languages (Urdu, Telugu etc).

Table No.13.8 Proportion of SC/ST pupil enrolled in Elementary Education (%)

State	SC			ST		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
Andhra Pradesh	18.51	18.76	18.82	9.84	9.93	9.93
Karnataka	18.96	19.25	19.42	0.20	8.07	7.65
Kerala	10.66	9.75	9.36	2.55	2.63	1.98
Tamil Nadu	24.41	24.25	23.89	1.71	1.71	1.68
All-India	19.06	19.80	19.96	10.70	10.92	10.80

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

13.2.3 Teachers in Elementary Schools:

Teachers act as facilitators of learning. The total teacher strength in elementary schools was 2.15 lakhs in 2012-13. The proportion of teachers in primary and upper primary schools was in the ratio of 64:36. Of the total teachers employed in elementary schools, 52 percent were in Government schools, 18 percent in Government aided schools and the remaining 30 percent in private management schools. Among the teachers the ratio of male and female was 22:78. The ratio between regular and contractual teachers in elementary schools was 96:4.

Pupil-teacher ratio (PTR) is the ratio of the number of students enrolled to number of teachers employed. It is considered to be one of the most important measures of educational quality. The pupil-teacher ratio at the primary level was on a steady decline in the State from 28 in 2010-11 to 24 in 2012-13. At this level it was lower than the stipulated norm of 30. The pupil-teacher ratio in the State at the primary level was also lower than the all India (28). Among the southern States only in Kerala (19) was the pupil-teacher ratio at the primary level was lower than in Tamil Nadu. At the upper primary level the ratio in the State was 19 as against the required level of 35. In Tamil Nadu, the ratio declined from 33 in 2010-11 to 19 in 2012-13. As compared to the all India level (25), the ratio in Tamil Nadu was lower. Among the southern States Kerala (18) and Andhra Pradesh (18) were better placed than Tamil Nadu.

Table No.13.9 Pupil-Teacher Ratio

States	Primary Level			Upper Primary Level		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
Andhra Pradesh	23	22	25	17	17	18
Karnataka	26	26	25	28	23	28
Kerala	22	21	19	21	22	18
Tamil Nadu	28	27	24	33	33	19
All-India	32	31	28	29	29	25

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

13.2.4 Education Select Indicators:

The level of development, accessibility and children taking advantage of educational facilities available at the primary and upper primary level can be assessed by using some of the select indicators such as net enrolment ratio, dropout rate, transition rate and repetition rate etc., ***Net enrolment ratio*** is the official age-group at a given level of education expressed as a percentage of the corresponding population. There was a steady improvement in the net enrolment ratio at the primary level. It was the case among the social groups also. The net enrolment of the girls at the primary level was higher than the

Table No.13.10 Primary and Upper Primary - Net Enrolment Ratio (%)

Category	Primary			Upper Primary		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
SC						
Boys	99.30	99.41	99.47	99.10	99.15	99.21
Girls	99.39	99.44	99.51	99.03	99.03	99.06
Overall	99.36	99.42	99.49	99.06	99.09	99.14
ST						
Boys	97.73	97.83	97.91	96.98	97.07	97.66
Girls	97.91	98.00	97.97	97.25	97.43	97.96
Overall	97.82	97.91	97.94	97.12	97.25	97.81
All Category						
Boys	99.57	99.60	99.68	98.79	98.84	98.95
Girls	99.63	99.65	99.70	98.89	98.92	99.05
Overall	99.60	99.63	99.69	98.84	98.88	99.00

Source: Project Director Sarva Shiksha Abiyan, Chennai-6.

boys irrespective of the social groups. At the upper primary level the net enrolment ratio of girls was higher than the boys. This was also noticed among SCs. In respect of SCs the net enrolment ratio of boys was greater than the girls. The net enrolment ratio of STs was lower as compared to SCs and general. This otherwise also means that the remaining 2.06 percent and 2.19 percent of ST children are either never enrolled or dropped-out from the primary and upper primary level before completing an education cycle.

The ***transition rate*** is the number of pupils (or students) admitted to the first grade of a higher level of education in a given year, expressed as a percentage of the number of pupils (or students) enrolled in the final grade of the lower level of education in the previous year. The transition rate from primary to upper primary level in the State was higher among the southern States as well as all India. The transition rate of girls was higher than the boys in Tamil Nadu. However, as it seems, the goal of universal elementary education may not perhaps be realized in the near future if transition rates are not further improved significantly.

Table No.13.11 Transition Rate from Primary to Upper Primary level 2011-12 (%)

States	Boys	Girls	All
Andhra Pradesh	93.70	94.12	93.90
Karnataka	91.88	91.18	91.55
Kerala	NA	NA	NA
Tamil Nadu	94.05	95.77	94.89
All India	86.34	87.17	86.74

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

The ***repetition rate*** is the proportion of pupils who enroll in the same grade more than once to the total number of pupils/students enrolled in that grade during the previous year. There was a steady decline in the repetition rate at the primary and upper primary levels. Among boys the repetition rate was higher than the girls at both the levels. The repetition rate of STs at the primary level was notably higher than SCs. The repetition rate at the upper primary level was higher than at the primary level. At the upper primary level the repetition rate of girls belonging to SCs and STs was higher than the boys. Repetitive failures also kept pupil out of the education system. Unless this is checked, the efficiency of the system would be at low ebb.

Table No.13.12 Primary and Upper Primary – Repetition Rate (%)

Category	Primary			Upper Primary		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
SC						
Boys	2.94	2.70	1.97	8.15	6.48	3.87
Girls	2.01	1.74	1.20	6.99	6.57	4.10
Overall	2.25	2.22	1.58	7.57	6.53	3.99
ST						
Boys	6.20	6.08	4.09	8.25	7.98	4.40
Girls	7.18	7.01	4.64	8.73	8.35	4.68
Overall	6.59	6.54	4.36	8.49	8.17	4.54
All Category						
Boys	2.12	1.85	1.60	5.63	5.33	4.90
Girls	1.78	1.38	1.08	4.52	4.16	4.03
Overall	1.67	1.62	1.34	5.08	4.74	4.47

Source: Project Director Sarva Shiksha Abiyan, Chennai-6.

The ***dropout rate*** is the proportion of pupils/students who leave school during the year as well as those who complete the grade/year level but fail to enroll in the next grade/year level the following school year to the total number of pupils/students enrolled during the previous school year. During the three year period 2010-11 to 2012-13, there was a gradual decline in the dropout rate at the primary and upper primary levels. At the primary level the dropout rate of girls was higher than the boys. It was conspicuous among ST girls. At the upper primary level, eventhough the dropout level was on the decline it was considered to be on higher side as compared to the primary level. The dropout level of girls was marginally higher than the boys. Among SCs the dropout rate at the upper primary level was slightly higher than the STs. The dropout rates of girls among SCs and boys in STs were higher the respective counterparts. The major reasons for dropping out were the lack of

interest in studies which translates to either the lack of interest of the parents to educate the children or the children were lured/forced into work to earn money due to poor economic condition of the households. It is suggested that teachers in all schools should be given additional responsibilities of bringing the children dropping out back to school by convincing or motivating the parents. In addition a realistic assessment of the problem of the most vulnerable of the children, improving management systems for better tracking and monitoring of school functioning and focus on improvement in teaching-learning process is necessary.

Table No.13.13 Primary and Upper Primary – Dropout Rate (%)

Category	Primary			Upper Primary		
	2010-11	2011-12	2012-13	2010-11	2011-12	2012-13
SC						
Boys	0.90	0.88	0.85	1.98	1.87	1.74
Girls	0.92	0.88	0.85	2.01	2.04	1.84
Overall	0.91	0.88	0.85	1.99	1.96	1.79
ST						
Boys	1.25	1.24	1.17	2.01	2.04	1.83
Girls	1.40	1.32	1.24	1.96	1.84	1.65
Overall	1.32	1.28	1.20	1.98	1.94	1.74
All Category						
Boys	0.98	0.94	0.92	1.80	1.77	1.70
Girls	1.01	0.97	0.94	1.79	1.71	1.71
Overall	1.00	0.95	0.93	1.79	1.74	1.70

Source: Project Director Sarva Shiksha Abiyan, Chennai-6.

13.3 Quality of Education:

The influence of education and its power to transform society is an undeniable fact. Realizing this Right to Education Act (RTE) 2009 has been passed aiming to encourage the education and bring more children to school. Unfortunately, the larger gamut of education quality and its pedagogical aspects was neglected. The 9th Annual Survey (2013) on Status of Education conducted by Pratham education foundation in all States brought to fore the quality of learning by reading, writing and basic arithmetic skills of I to VIII Std., students has got worse particularly in rural areas. The findings of the survey with regard to rural Tamil Nadu are indicated below:

- 52.6 percent of the children belonging to I to VIII Std., had the ability to read text, 36.2 percent read letters and words and 11.2 percent did not know even a letter.

Table No.13.14 Reading and Arithmetic Ability of Primary and Upper Primary pupils in Tamil Nadu (Rural) (%)

Std.,	Reading Ability			Arithmetic Skills			
	Not even to read a letter	Letter and words	Text	Not even identify Numbers	Recognize Numbers 1 - 100	Do Division	Do Subtraction
I	53.1	44.5	2.1	41.8	57.3	0.1	0.8
II	22.0	68.7	9.2	14.9	81.5	0.2	3.5
III	8.9	62.1	29.0	4.3	77.2	0.7	17.8
IV	4.0	43.7	52.3	2.0	55.6	4.1	38.4
V	2.7	30.0	67.4	1.7	43.5	14.0	40.8
VI	1.5	21.3	77.1	0.9	35.2	23.4	40.5
VII	0.8	14.4	84.7	0.8	31.9	29.7	37.7
VIII	0.3	9.0	90.7	0.2	24.7	39.1	36.1
Overall	11.2	36.2	52.6	8.0	50.3	14.3	27.4

Source: Annual Status of Education Report (ASER) 2013, New Delhi.

- With regard to basic arithmetic knowledge, 14.3 percent were capable to do division and 27.4 percent subtraction. Another 50.3 percent could only recognize the number. The remaining 8.0 percent did not even recognize the numbers.

- 15.0 percent of the children in primary class (I to V Std.,) had attended paid tuition classes in 2013 and it was 13.1 percent with regard to upper primary classes (VI to VIII Std.,)
- Students' attending paid tuition classes was more prevalent in private schools (primary 22.4% and upper primary 22.2%) as compared to Government schools (11.7% and 10.7% respectively).
- The proportion of teacher absent was higher at the upper primary (11.6%) as compared to the primary level (9.8%).

At the heart of the issue of the quality are the weak teaching process and transaction between teachers and learners. To improve the quality of education it is suggested that the capacity, motivation and accountability of teachers to deliver quality education with significant and measurable improvements in learning, outcomes of the students need to be critically and urgently addressed. Focus would be on effecting large scale instructional changes that will lead to improvement in classroom transactions leading to better learning outcomes.

13.4 Educational Development Index:

The National University of Educational Planning and Administration (NEUPA) and the Government of India (Ministry of Human Resource Development, Department of School Education and Literacy) have jointly computed an Educational Development Index (EDI) separately for primary and upper primary levels of education and also a composite index for the entire Elementary education. It is exclusively based on the District Information System for Education (DISE) data for the year 2012-13. A set of 24 indicators like access, infrastructure, teachers and outcomes have been used in computing this index. The indicators used were pre-determined by Ministry of Human Resource Development. The index has been constructed separately for 7 Union Territories and 28 States in India for the year 2012-13 and ranking has been given in the descending order. The composite index revealed that Tamil Nadu occupied the first place with regard to primary level, 7th place in the case of upper primary level and 3rd place for the entire elementary education at all India level. Among the southern States, Tamil Nadu stood first in Primary level, second place in upper primary level and first place in the entire elementary education.

Box No. 13.2. Indicators used in Computing Education Development Index EDI

1. Density of schools per 10 Sq. Km,
2. Availability of schools per 1000 child population
3. Ratio of primary to upper primary schools
4. % of schools with students classroom ratio
5. % of schools with 1:1 classroom teacher ratio
6. % of schools with drinking water facility
7. % of schools with boys Toilets
8. % of schools without girls Toilets
9. % of schools required and have Ramp
10. % of schools with Kitchen shed
11. % of schools with Female Teachers
12. % of schools with pupil-teacher ratio
13. % of single-Teacher schools
14. Teachers without Professional Qualification
15. Average Number of Institutional days
16. Average Number of Hours for Teachers
17. % change in enrolment in Government Schools over the previous year
18. Gross Enrolment Ratio
19. % of SC Enrolment
20. % of ST Enrolment
21. % of Muslim Enrolment
22. Ratio of Girls enrolment to Boys enrolment
23. Drop-out Rate
24. Transition Rate from Primary to Upper Primary

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

Table No.13.15 Composite Education Development Index 2012-13									
States	Primary Level			Upper Primary Level			Composite from Elementary		
	Index	Rank Assigned		Index	Rank Assigned		Index	Rank Assigned	
		At all India	Among Southern States		At all India	Among Southern States		At all India	Among Southern States
Andhra Pradesh	0.553	21	4	0.604	22	4	0.579	23	4
Karnataka	0.615	5	2	0.707	6	1	0.661	5	2
Kerala	0.555	20	3	0.651	17	3	0.603	14	3
Tamil Nadu	0.662	1	1	0.704	7	2	0.683	3	1
Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.									

13.5 Welfare Measures:

A slew of several initiatives have been taken up to facilitate the students in primary, upper primary, high and higher secondary Government and Government aided schools to complete their school education by the Government of Tamil Nadu. A review of the Schemes is presented below:

From the year 1985-1986 onwards, one set of ***free uniform*** was given to students in standards I to VIII who are enrolled in the noon meal scheme. In 2011-12, the Government had increased to two sets per year and from 2012-13 onwards four sets were given to the school students. During the year 2013-14, 53.54 lakh students were provided uniforms as against 47.07 lakh students in 2012-13. The total cost incurred under the scheme moved up from Rs.329.88 crore in 2012-13 to Rs.353.22 crore in 2013-14.

With a view to encourage the student to pursue their studies as well as to equip them to participate in the emerging market by bridging the digital divide, develop skills and improve human resources, the Government of Tamil Nadu have provided ***free laptop computers*** to all plus one, plus two and college students those studying in Government/Government aided institutions from 2011 onwards. During 2013-14, 5.50 lakh students studying plus one and plus two were benefited from the distribution of free laptops at a total cost of Rs.925.01 crore as against 5.35 lakh students involving an expenditure of Rs.898 crore in 2012-13.

With a view to overcome shortages in the availability as well as to ensure the students from lower rungs of socio-economic pyramid to possess books, ***free text books*** are provided for all students those studying I to XII standard in Government schools/Government aided schools from the academic year 2005-06. After the introduction of Continuous and Comprehensive Education and Trisemester in 2012-13, the annual books for students studying standards X, XI & XII and 1st term books for students studying I to IX are being distributed on the day of reopening of the schools since 2012-13. The number of students receiving free text books had steadily increased over the years. In 2013-14 text books were distributed to 97.70 lakh students as against 92.00 lakh students in 2012-13. The total expenditure incurred under the scheme went up from Rs.206 crore to Rs.215 crore between these two years.

The cost ***free notebooks*** are being supplied to the students studying I to X standard from the year 2012-13. As against 81.0 lakh students benefited in 2012-13 under the scheme, the number of students received free notebooks had increased to 86.71 lakh students in the academic year 2013-14. The expenditure under the scheme had gone up from Rs. 103 crore in 2012-13 to Rs.111 crore in 2013-14.

Educational kits consist of school bags, geometry box, colour pencils, crayons and atlas are provided to students at free of cost to make the learning process in a meaningful, easy and child friendly way from the year 2012-13 onwards. Schools bags are provided to 105 lakh students studying I to XII standard in Government/Government aided schools at a cost of Rs.147.57 crore in 2013-14. Atlas and geometry boxes are distributed to students once in three years. Geometry boxes are distributed to 56.0 lakh students studying in classes VI to X involving a cost of Rs.20.25 crore in 2013-14. With a view to induce students studying I to V to attend classes, colour pencils and crayons are supplied to 64 lakh students at a cost of Rs.12.0 crore. Atlas are distributed to 56 lakh students studying in classes VI to X involving an expenditure of Rs.16.42 crore.

Children with barefoot may easily be susceptible to contagious diseases which will affect their health. In order to prevent this, pair of ***footwear at free of cost*** is distributed to all students studying I to X standard in Government/Government aided schools in the beginning of the year. In both the years 2012-13 and 2013-14, totally 84.92 lakh students were supplied with footwear involving a cost of Rs112.62 crore.

The Government of Tamil Nadu has issued ***free bus passes*** to all students to travel in Tamil Nadu State Transport Corporation (TNSTC) buses from the residence to schools and back to home throughout the academic year. Under the scheme free bus passes were given to 23.73 lakh students studying in I to XII in 2013-14 as against 14.02 lakh students in 2012-13.

Under ***Puratchi Thalaivar MGR Nutritious Noon-Meal Programme***, the State is providing nutritious noon-meal to all willing children upto standard X in schools so as to encourage them to attend school. Besides it also helps the children to satisfy the nutritional needs. The number of students benefited under the scheme had increased from 48.63 lakh in 2012-13 to 53.40 lakh in 2013-14.

The main objective of the Government is to create educational opportunities for students who were coming from deep rural pockets. This forms the basis for ***distribution of free bi-cycles***. Presently, under the scheme free bi-cycles are distributed to all students studying in plus one classes. In 2012-13 and 2013-14 bi-cycles were distributed to 6.30 lakh students in each year.

In order to reduce the dropout at and to encourage the children to continue the secondary education, ***Special Cash Incentives*** to students has been given in the State from 2011-12. Under this scheme, Rs.1500 per student those studying in X and XI standard and Rs.2000 per student studying in XII standard in Government and Government aided schools are deposited in Tamil Nadu Power Finance Corporations. The amount is being released to the students on completion of the study. The number of students receiving Special Cash Incentive had gone up from 21.52 lakh in 2012-13 to 23.21 lakh in 2013-14. The total cost involved had also gone up from Rs.354 crore to Rs.381 crore.

With a view to overcome the distress of the students on account of the death of bread winning parent and to make them to pursue the studies further, the Government has deposited Rs.50,000 in the name of the student in the public sector undertaking. During the three year period ending 2013-14, totally 1080 students had been benefited under the scheme of providing ***Financial Assistance for students who have lost their bread winning parents.***

13.6 Secondary Education:

Secondary education serves as a bridge between elementary and higher education and prepares pupil between the age group of 14-18 for entry into higher education. The Governments both at the Centre and State are aiming at Universalization of Secondary Education. The impetus accorded to universalization of primary education in Tamil Nadu results in increased demand for expansion of secondary education. The Government of Tamil Nadu plays a catalystic role which is encouraging opening of new secondary schools, expansion of capacity of existing schools, up-gradation of upper primary schools in backward, un-served and under-served areas. The focus of the State is to make secondary education of good quality, available, accessible and affordable to all young students. It is to the State's credit that Tamil Nadu had already realized the goal of establishing one high school within the radius of 5 kms from a habitation and one higher secondary school within the radius of 8 kms from a habitation as per norms. Totally there are 11,587 high and higher secondary schools functioning in the State, 49 percent in Government, 36 percent in private management and 15 percent in Government aided schools.

Table No.13.16 Secondary Education in Tamil Nadu at a Glance (lakhs)

Category	2012-13
1. Enrolment	
a. Total	38.42
b. Rural	19.15
c. Urban	19.27
d. Girls	19.44
e. SC	9.41
f. ST	0.38
2. Teachers	1.25
3.Student-classroom Ratio (No)	39
4. Pupil-teachers Ratio (No)	31

Source: State Report Cards, National University of Educational Planning and Administration, New Delhi.

The total number of students enrolled in the high and higher secondary schools in the State were 38.42 lakh during 2012-13. Of which, the students enrolled from urban areas accounted for a share of 50.2 percent and rural children 49.8 percent. The enrolment of girls was little bit higher than the boys. The proportion of girls enrolled was 50.6 percent as against 49.4 percent of boys. Among the enrolled, the repeaters accounted for a share of 0.84 percent. The proportion of students with disability in the total enrolment was 0.28 percent. Among the social groups, SC accounted for 23.5 percent and ST for 0.92 percent of the total enrolment. The proportion of students enrolled in secondary classes (9^{th} and 10^{th}) to total enrolment was 57 percent and higher secondary classes (11^{th} and 12^{th}) 43 percent. On an average one school had 11 teachers. On an average one classroom in high and higher secondary schools accommodated 39 students in the State. At this level the State was well placed as compared to all India (54) and as well as southern States – Andhra Pradesh (53), Karnataka (55) and Kerala (49). On an average the pupil-teacher ratio in high and higher secondary schools in the State was 31. It was the same at the all India. The transition rate from secondary to higher secondary was 89.29 percent and from higher secondary to further studies 70.82. The total number of classrooms in the schools of secondary education was 97,746 on an average one school had 8 classrooms. As high as 93 percent of the classrooms in the secondary schools (9^{th} and 10^{th}) and 94 percent of the classrooms in higher secondary schools were in good condition.

13.7 Infrastructure Facilities in Educational Institutions:

The basic infrastructure provided in the primary (I to V Std.,) and upper primary (VI to VIII Std.,) and high (IX & X Std.,) and higher secondary (XI & XII Std.,) schools are buildings, toilets, playgrounds, library, kitchen shed, computer, ramp, drinking water, boundary wall etc., not only increases participation of children but also their retention in schools and also facilitates better academic performance of the students by motivating them. Thus linking

infrastructure availability with educational system provides a simple way to understand the development process on the educational front.

Drinking water is an important aspect for school infrastructure development. The proportion of high and higher secondary schools having drinking water facility in Tamil Nadu was lower than in primary and upper primary schools. Boundary walls are very necessary for the security of school premises and its property. In the absence of boundary wall the maintenance of school buildings will be difficult. The proportion of primary schools without boundary wall was higher among primary and upper primary schools as compared to high and higher secondary schools. These schools may certainly need to have boundary walls to avoid any possible untoward incidents in the schools premises. Availability of girls toilet is essential in schools so as to ensure better participation and retention of girls in schools. At the primary and upper primary level 4.6 percent of the schools and even at the high and higher secondary level 2 percent of schools did not have the facility in the State. It is a serious concern. Electricity is considered as one among the important basic indicators of the school infrastructure. However, 3.5 percent of the primary and upper primary schools and 2.7 percent of the high and higher secondary schools still did not have electricity in the State. In order to facilitate the physically challenged children it is necessary that every school should have a ramp. However, the position was bad in primary and upper primary schools as compared to high and higher secondary schools. Availability of playgrounds is necessary so that the children can take part in sports and games which is necessary for the overall development of their personality. But, 24.9 percent of primary schools did not have playgrounds and denied sports and game facilities to the pupil. The schools are expected to be conscious about the health and hygiene of the students, schools need to provide separate toilets for boys and girls to enable hygienic condition. However, 38.4 percent of the primary schools did not have toilet for boys and they allowed them to urinate in the open.

Table No.13.17 Availability of Infrastructure Facilities in Schools 2012-13

Category	Primary and Upper Primary	High and Higher Secondary
% of sch with drinking Water	99.2	98.4
% of Sch with Boundary wall	77.1	86.1
% of Sch with Girls Toilets	95.6	98.0
% of Sch with Electricity	96.5	97.3
% of Sch with Ramp	61.3	84.8
% of Sch with Playgrounds	75.1	--
% of Sch with Boys Toilets	62.6	--
% of Sch with Kitchen Shed	88.8	--
% of Sch with Library	--	95.8
% of Sch with Hostel for Boys	--	8.7
% of Sch with Hostel for Girls	--	7.2
% of Sch having Internet Facility	--	49.8
% of Sch with first aid room	--	27.1
% of Sch with Auditorium	--	26.2
% of Sch with PTA	--	66.3

Source: District Information System for Education, National University of Educational Planning and Administration, New Delhi.

Libraries are a very important element in any educational institution as they serve as knowledge source for the students. However, 4.2 percent of high and higher secondary schools did not have library facilities. This is a matter of serious concern and needs to be resolved at the earliest. To provide level playing field by bridging the digital divide, develop skills and improve the quality of human resources internet connectivity is provided is school for e-learning. About half of the high and higher secondary schools have the facility.

13.8 Higher (Tertiary) Education:

Higher education (18-23 years) is critical for developing a modern economy. It equips young people with skills relevant for the labour market and can help to reap the benefits of demographic dividend. With greater reliance on technology-intensive inputs in manufacturing and production, the need for highly specialized skill and knowledge is indispensable for spurring economic growth. A sound liberal and professional education is an endeavour in this direction. In this context, higher education assumes an important role to respond continuously to the new demand which is taking place during the rapid transformation of societies with regard to economic, cultural, social and other aspects.

13.8.1 Higher Education in Tamil Nadu- An Overview:

In the context of the current demographic structure of Tamil Nadu where the population is the age of 18-23 years, as per 2011 census was 77.7 lakh. It was by and large equally shared between males and females. It's share in 18-23 population at all-India was 5.5 percent. The ratio among males was 5.3 percent and females 5.8 percent. The Gross Enrolment Ratio of 18-23 age group in higher education was 38.2 percent in Tamil Nadu as against 20.4 percent at all-India during 2011-12. Among the major States, in respect of Gross Enrolment Ratio in higher education, Tamil Nadu ranked first. Going by gender, the ratio among males at 41.1 percent was higher than females (35.2%) in Tamil Nadu. Among the social groups, the Gross Enrolment Ratio in higher education was higher in the case of STs (31%) as against SCs (27.1%). At the all-India the respective Gross Enrolment Ratio stood at 10.8 percent and 14.5 percent. In respect of all gender as well as social groupings Tamil Nadu stood first amongst major States the Gross Enrolment Ratio in higher education. The share of graduates and above to total State population was 8 percent. The ratio was higher at 9.7 percent among males as compared to 6.5 percent among females.

Table No.13.18 Key Demographic Indicators- Tamil Nadu

Indicator	Total	Males	Females
Total State Population (lakh)	721.5	361.4	360.1
Population in 18-23 age group (lakh)	77.7	38.8	38.9
Share of State 18-23 population to All India 18-23 population (%)	5.5	5.3	5.8
Share of graduates & above in total State population (%)	8.0	9.7	6.5

Source: Annual Status of Higher Education in States and UTs 2013, The Ministry of Human Resource Development, GOI, New Delhi

Table No.13.19 Gross Enrolment Ratio of 18-23 years in Higher Education – 2011-12

Category	Tamil Nadu			All India		
	Males	Females	Total	Males	Females	Total
All Categories	41.1	35.2	38.2	21.6	18.9	20.4
Schedule Castes	28.7	25.6	27.1	15.4	13.5	14.5
Schedule Tribes	34.2	27.9	31.0	12.4	9.2	10.8

Source: All-India Survey on Higher Education 2011-12, Ministry of Human Resource Development, Department of Higher Education, New Delhi.

13.8.2 Universities:

The total number of Universities functioning in the State was 59. Comprising the State Public Universities 31 and Private Deemed Universities 28. Tamil Nadu ranks first among all States in India with 59 Universities followed by Uttar Pradesh (58) and Andhra Pradesh (47). It accounted for a share of 9.2 percent at all-India. With 23 Universities, the State also ranks second on number of State Public Universities at the all-India, the first being Andhra Pradesh

Table No.13.20 Number of Universities in Tamil Nadu			
Type of University	Tamil Nadu	All-India	Share of Tamil Nadu in All-India (%)
Central University	2	42	4.8
Central Open University	--	1	--
Institution of National Importance	4	59	6.8
State Public University	23	284	8.1
State Open University	1	13	7.7
State Private University	--	105	--
Institution Established under Legislation Act	--	5	--
Government Deemed University	1	39	2.6
Private Deemed University	28	91	30.8
Others	--	3	--
Grand Total	59	642	9.2
Source: All-India Survey on Higher Education 2011-12, Ministry of Human Resource Development, Department of Higher Education, New Delhi. (Page : T-1)			

(31). In the case of Private Deemed universities the State with 28 stood first. With regard to specialization, as many as 29 Universities in the State are general followed by technical (14), Agriculture (1), Law (1), Medical (1), Veterinary (1) and others (12). The State ranks first position with regard to Technical Universities followed by Andhra Pradesh and Madhya Pradesh (each having 6) among the States at all-India. With merger of the 6 Anna Universities of technical in Anna University, the number of universities, especially technical universities has come down - mention that this is done for greater synergy of uniformity of quality.

13.8.3 Number of Colleges / Institutions:

As per the report viz., the Annual Status of Higher Education in States and Union Territories, the total number of colleges / institutions in the State as of 2012 was 3445, of which colleges alone accounted for 58 percent and the remaining being stand-alone institutions (42%). Tamil Nadu has an access indication of 27 colleges per lakh population as compared to all-India average of 23 colleges. Of the total colleges in the State, 93 percent are affiliated to Universities and the remaining are constituent / university colleges, PG/off campus or recognized centres by the universities. In terms of management, Tamil Nadu colleges are dominated by the private unaided colleges, forming 88.5 percent of all colleges in the State, followed by 5.8 percent owned by Government and 5.6 percent that are private aided.

13.8.4 Enrolment in Higher Education:

The total estimated enrolment in these institutions stood at 24.09 lakh. Of the total enrolment in regular mode colleges 78.8 percent were in private colleges, 11.5 percent in private aided colleges and 9.7 percent Government colleges. Among them, the ratio of males and females was 57:43. The enrolment by courses revealed that the M. Phil and Certificate courses were female dominated courses, wherein the share of females hovered around 61 percent. Of the total students enrolled in the State during 2013, 65.4 percent were in under graduate courses.

Table No.13.21 Enrolment in Higher Education in Tamil Nadu - 2012			
Course	**Male**	**Female**	**Total**
Ph. D	4925	3070	7995
M. Phil	1847	2765	4612
Post-graduate	201662	187009	388671
Under-graduate	810432	764762	1575194
PG-Diploma	10079	4842	14921
Diploma	328172	64916	393088
Certificate	4741	7332	12073
Integrated	7982	3984	11966
Total	1369840	1038680	2408520
Source: Annual Status of Higher Education in States and UTs 2013, The Ministry of Human Resource Development, GOI, New Delhi, (Page : 134)			

13.8.5 The Way Forward:

The following measures may be considered for the overall development of higher education in the State:

- The gross enrolment ratio of females may be enhanced.
- The Manpower Planning should be such that the demand for and supply of the educated manpower should be dovetailed with each other. Failing to do so, there will be a peculiar situation of shortages for critical skill on one hand and on the other surplus in availability of general educated manpower; There should be a cordial liaison between the educational institutions and industry. There has been a significant room for improvement.
- Up gradation of infrastructure, strengthening of teaching facilities and faculty sharing, networking of universities, digitalization of libraries, etc are key to providing quality higher education and set standards on a par with foreign institutions in future.
- The absorptive capacity of the economy, manpower requirement and dynamic changes emanating from the organic growth of the society all should be taken into account while fixing the quantum of admission of students in a year both in Medical and Engineering Colleges.
- Accreditation is being done by the accrediting agencies such as the National Assessment and Accreditation Council for Arts and Science Colleges and the National Board of Accreditation for Technical Institutions based on quality of teaching and learning, adequacy of infrastructural facilities. Each educational institution should vie with one another in getting accreditation in years to come. This will go towards excellent performance of all educational institutions in a greater degree.
- With the growing size and diversity of the higher education sector particularly in terms of courses, management and geographical coverage, it has become necessary to develop a sound database on higher education. The State lacks current and comprehensive database for evidence based policy making and effective planning. It would be necessary to publish a comprehensive data book on the landscape the higher education with complete facts, figures and trends.
- Higher education in the State continuous to have limited research capacity. Even the top rated higher education institutions remain largely teaching-focused with limited research and doctoral education. As a result, for research students have flown to foreign countries. Hence, emphasis may be laid for creating a better research infrastructure so as to bring back brightest graduates who left the country to study abroad.
- Vocational institutions should enable the future workforce to engage atleast in the 'development' component of research and development and thereby equips their graduates with core skills of critical thinking. Communication, Collaboration and creativity to enable them to continuously innovate to adapt to new environment.
- A clear regulatory frame work for private sector participation in higher education is necessary.

13.9 Expansion of Higher Education in Tamil Nadu:

The higher education institutions such as arts and science colleges, engineering colleges, medical education colleges, polytechnics and institute of distance education played an important role by providing huge skilled manpower every year. However, in recent times, there is a dilution in the quality of higher education mainly because of the mushroom growth

of private self-financing colleges with poor infrastructure in educational institutions as well as lack of qualified faculty. It is cause of concern.

13.9.1 Collegiate Education:

The total number of colleges functioning under Collegiate Education increased from 1318 in 2011-12 to 1382 in 2013-14, the net addition being 64. About 70 percent of the net addition had mainly come from the increase in colleges of general education (arts and science). Of the total number colleges, the proportion of special education colleges accounted for a share of 53 percent in 2013-14, the rest being general education colleges. The total number of students enrolled in these colleges improved from 8.95 lakh in 2011-12 to 9.14 lakh in 2013-14. Besides increase in the number of colleges free education to studying in Government colleges upto Post-graduate level and in Government aided colleges upto Under-graduate level, issue of free bus passes to students studying in Government colleges and distribution of free laptops to student studied in Government and Government aided arts and science colleges and making arrangements for special coaching to socially disadvantaged sections all helped to improve the enrollment in these colleges. Students enrolled in general education accounted for a higher share of 85 percent. Turning to general education the number of students enrolled in arts and science colleges increased from 7.65 lakh in 2011-12 to 7.75 lakh in 2013-14 and that in special education from 1.30 lakh to 1.39 lakh. In both the courses female students enrolled were in lead – 53 percent in general education and 60 percent in special education.

13.9.2 Technical Education:

As the economy has been undergoing vast structural changes over a long span of time, the demand pattern for skills of different kinds has changed in all sectors, in general and manufacturing sector, in particular. With a view to coping with increasing demand for technical capability, the Government of Tamil Nadu has been fostering and nurturing the promotion of technical education by setting up new technical institutions and upgrading infrastructure facilities to a great extent.

The total number of engineering colleges functioning in the State gradually increased from 456 in 2009-10 to 572 in 2013-14. As high as 95 percent of them were self financing colleges. Consequently, the total intake capacity of students in engineering colleges went up from 1.72 lakh to 2.88 lakh. Admissions to Under Graduate Engineering Courses in these colleges are made on the basis of marks scored by the students in class XII board examinations, through Single Window Counseling System. The total number of students enrolled in these colleges moved up from 1.20 lakh in 2009-10 to 1.82 lakh in 2013-14. The low qualifying marks fixed for admission for UG courses exception from payment of tuition fee for some category of students liberal bank loan for education have rendered technical education easily accessible. In none of the five years ending 2013-14 the total intake capacity of the engineering colleges had been met. The proportion of seats that left vacant in engineering colleges gradually increased from 16.9 percent in 2010-11 to 36.6 percent in 2013-14. Among the different courses offered by the Engineering Colleges, the proportion of unfilled seats was the highest in Information

Table No.13.22 Engineering Colleges – Intake and Admissions (Number)

Year	No. Of Colleges	Intake	Admitted	Vacancy
2009-10	456	1,72,445	1,20,074	52,371
2010-11	491	1,95,325	1,62,231	33,093
2011-12	525	2,26,034	1,61,154	64,880
2012-13	553	2,62,164	1,82,491	79,673
2013-14	572	2,87,297	1,82,255	1,05,042

Source: Commissionerate of Technical Education, Chennai-32.

Technology (58.6%) and lowest in Mechanical Engineering (19.7%) in 2013-14. Between 2012-13 and 2013-14 the proportion of unfilled seats was on the increase and it was the highest in Computer Science Engineering (CSE) (15.42%) followed by Electronics and Communication Engineering (12.46%), Information and Technology (12.16%), Mechanical Engineering (8.54%), Electrical and Electronics Engineering (6.75%) and Civil Engineering (0.78%). The self-financing colleges alone accounted for 93 percent of the total students admitted in under graduate engineering courses in the State during 2013-14. Of the total students admitted boys accounted for 65 percent in 2013-14 and the rest being girls. The proportion of SC/ST to total students enrolled during the year 2013-14 was 16.6 percent. Huge expansion without national or global competitive quality and employability possess a formidable challenge to innovative and productive technical education.

13.9.3 Polytechnics:

Polytechnics in the State offer three year generalized diploma courses in conventional subjects such as civil, electrical and mechanical engineering. The courses are now diversified to include electronics, computer science, etc. Women's polytechnics offer courses in garment technology, beauty culture, textile design, etc. The number of polytechnic colleges functioning in the State gradually increased from 444 in 2011-12 to 481 in 2013-14. Among them self financing colleges alone accounted for a share of 84 percent. The total number of students admitted in polytechnics in the State increased from 1.22 lakh in 2011-12 to 1.31 lakh in 2012-13 and subsequently declined to 1.18 lakh in 2013-14. As against the total intake of seats of 2.01 lakh, the number enrolled in 2013-14 was short by 40.8 percent. Of the total students admitted in polytechnic colleges in 2013-14, boys alone accounted for 91.0 percent and the rest being girls. The proportion of SC/ST to total enrolled was 22.5 percent. Over the years, the diploma courses have lost the skill components and are perceived as diluted version of degree education. The issues need to be addressed to restore credibility of diploma programmes and to support vertical mobility to higher education are static curricula, poor industry linkage and lack of trainers.

Table No.13.23 Functioning of Polytechnics Colleges in Tamil Nadu (Number)

Category	2011-12	2012-13	2013-14
Colleges	444	459	481
Students Enrolled	121524	130714	118211
Girls Enrolled	11606	12051	10982

Source: Commissionerate of Technical Education, Chennai-32.

13.9.4 Medical Education:

There was an increasing demand for the quality health workers in the State. To meet the requirements, the government has been expanding the student intake and improving the infrastructure facilities in medical colleges. There are 47 Government medical institutions in the State – 17 medical colleges, 1 dental college, 23 schools of nursing, 2 physiotherapy colleges and 4 nursing colleges. These colleges are offering medical and para-medical education. Admission to these colleges is made based on the marks obtained in the relevant subjects of the plus two examinations following single window system. Admission to post graduate diploma, higher speciality courses, master of dental surgery is done through common entrance examination followed by counseling. The total number of seats provided for admission in Under Graduate (UG) courses improved from 4,945 in 2012-13 to 5,355 in 2013-14. Against this, the total number of students enrolled in UG courses went up from 4,913 to 5340 between these two years. Of the total students enrolled in 2013-14, the two courses viz., MBBS (48.5%) and diploma in nursing (37.1%) together accounted

for a sizable share of 85.6 percent. The share of females in total students enrolled was 74 percent. In respect of all UG courses it was the case.

There was no change in the number of seats offered for studying PG courses during 2012-13 and 2013-14. In both the years it remained at 1506. As against this, the number of students enrolled improved from 1175 in 2012-13 to 1299 in2013-14. Male and female by and large equally shared the total number of students enrolled in both the years. Although Tamil Nadu has a good track with regard to medical education as compared to rest of the country, there is still a shortage of medical practitioners to serve in the rural areas and specialists to man the secondary and tertiary hospitals. In addition, there is also a growing need for specialists in the areas of mental health, geriatric and palliative care. Efforts may be taken to increase the speciality and super speciality seats in the existing medical colleges by providing additional manpower, equipment, infrastructure etc., More attention needs to be given to the development of various skills viz., medical ethics, behavioural science, managerial skills, problem-solving skills, psychomotor or performance skills, attitudinal and communication skills. Growing commercialization in recent years has caused o dilute the quality of service of medical profession which is causing a concern.

13.9.5 Distance Education:

Access to education through the open and distance education learning system is expanding rapidly. In Tamil Nadu, 13 universities has conducted distance education programme. In 2013-14, 7.52 lakh students were enrolled under distance education programme. Of the total students enrolled under the programme, Annamalai University alone had claimed a higher share of 44.0 percent, the remaining being shared by the other universities. Of the total students enrolled the ratio of male and female was 47:53.

13.10 Skill Development:

Education and Skill development are essential for achieving faster, sustainable and inclusive growth on one hand and for providing decent employment opportunities on the other hand. According to the 2011 Census the total population in the State stood at 7.21 crore. The age-wise distribution indicated that as high as 74 percent of the population is in the working age group of 15 - 59 years. The proportion of literate in Tamil Nadu at 80.1 percent was significantly higher than all India (73%). Inspite of the declining share of the primary sector in GSDP, the workers in primary sector is predominant compared to secondary and service sectors. Since the workers in primary sector are unskilled labour, their productivity is low resulting in lower income level than their counterparts. They form a bottom of skill pyramid. The key issue of skill development in unorganized sector includes inadequacy of current training programme to meet the requirement of the large work force. Most of the workers continue to learn on the job informally at the place of work from other low skilled and low qualified workers. Given the scale of problem much more needs to be done in terms of up scaling the training capabilities recognition of prior learning, functional literacy and so on. Tamil Nadu is likely to produce more graduates and diploma holders than the industry can absorbed, resulting in unemployment, industry which need lower skilled workers would be starving for labour. The workforce not only needs to be trained to meet the requirement of all sectors and all kinds of jobs, but also linking them to job opportunity and market realities. This would facilitate transformation of young population into productive workforce engaged in economic activities. Students belonging to economically weaker sections need to be supported in terms of access to bank loan on soft terms that are linked to skill development and placement. The persons enrolled in formal education find it difficult to get industry

relevant skills since they had limited option for vocational training. A person who enrolled in vocational training (ITI) have limited life skills and cannot pursue further studies. To improve horizontal mobility across general education and vocational education, a better integration of these two systems is essential. It can be achieved through certified vocational education in secondary and higher secondary schools through Modular Employability Skills which would ensure that even school dropouts have marketable job skills. Tamil Nadu Skill Development Mission (TNSDM) may be made responsible to co-ordinate and monitor all skill training programmes of the Government departments so as to promote quality and ensure standardization across skill programmes, entrust to design content and course structure for skill initiatives in consultation with industry partners, evaluate the performance of all skill training institutes and make relevant information available to trainees, employment exchanges and private placement cells. Promotion of self employment, soft skills and entrepreneurship skills needs to be made integral part of skill development. Training of trainers is a key component of the skill development. There is an acute shortage of trained trainers not only in the existing trades but also in the proposed new trades. There is an urgent need for improving the quality and size of trainers resource. Moreover, many emerging fields are coming up for which vocational training is needed (such as Nano Technology, Green Initiatives, and so on) so as to maintain relevance with recent changes.