# CHAPTER II EDUCATIONAL DEVELOPMENT IN EGYPT

The present chapter lays out the trends in the development of literacy and education in Egypt. In doing so, section (2.1) sketches the literacy levels, trends, and patterns in the country. Enrollment trends and patterns are, then, discussed in section (2.2). An examination of the educational infrastructure, covering the growth of schools, class-units and teachers, as well as the educational budget, is the subject matter of section (2.3)

## 2.1. Literacy Levels, Trends, and Patterns

Looking at the Egyptian literacy rates, we detect a general improvement over the years since the post-war period. Table (2.1) shows that the percentage of illiterates in the total population, 15 years of age and over declined from 92.8 in 1907 to 87.8 in 1927, remained nearly the same until 1937, and dropped to 79.2 by 1947. Thereon, the tremendous efforts of the Revolution since the fifties to meet the illiteracy problems are evident. In 1960, the percentage illiterate dropped to 73.6 and by 1976, it reached 61.9. Between 1976 and 1986, a decline by 6.2 percentage points has occurred in the percent illiterate among the total population of Egypt. In a study by the UNESCO (1995.a), the adult illiteracy rate for Egypt in 1995 is estimated to be 48.6%. That is 7.1 percent decline than the 1986 figure.

The alarming fact is that the aforementioned positive trend occurred in parallel to absolute increase in the number of adult illiterates in the country. The number of illiterates had more than doubled from six to thirteen million during the period 1907-1976, and by 1986 this number exceeded two and half times the number of 1907 (sixteen million). This is directly attributable to the accelerating population growth. According to the UNESCO estimates, the total number of Egyptian adult illiterates aged 15+, would have reached 18.9 million in 1995.

The educational structure shows marked sex differentials with the female education lagging far behind that of males. Table (2.1) shows that, in 1907 only 1.4% of the Egyptian females were literate, in front of 13.2% in case of male population. Thus, the gap between male-female literacy was 11.8 percentage points. With the general improvement in literacy rates, the gap between male-female literacy widened; reaching its peak in 1976 by 31.8 percentage points. In 1986, the literacy gender gap narrowed to 26.7 percentage points, and by 1995 this gap is estimated to be 24.8 percentage point, indicating a faster declining trend between 1976 and 1995 in illiteracy for females (16.8%) compared to males (9.8%).

	To	tal populati	on	Ma	ale populati	on	Fen	nale popula	tion
years	Total	Persons	Percent	Total	Persons	Percent	Total	Persons	Percent
	number of	unable to	illiterate	number of	unable to	illiterate	number of	unable to	illiterate
	persons*	read & write		persons*	read & write		persons*	read & write	
1907	6653301	6174315	92.8	3281642	2848199	86.8	3371659	3326116	98.6
1927	8539142	7496994	87.8	4182109	3252868	77.8	4357033	4244126	97•4
1937	9551419	8366389	87.6	4736485	3718580	78.5	4814934	4647809	96.5
1947	11389181	9023584	79.2	5581963	3806383	68.2	5816218	5217201	89.7
1960	14705548	10817276	73.6	7251668	4285862	59.1	7453880	6531414	87.6
1976	21526506	13317501	61.9	10935539	5051502	46.2	10590967	8265999	78.0
1986	28715309	16000050	55.7	14615632	6229046	42.6	14099677	9771004	69.3
1995**	39007000	18954000	48.6	19808000	7205000	36.4	19199000	11749000	61.2

# Table (2.1): Numbers and percentages of illiterates in the population of Egypt 15 years old and over,<br/>by sex, 1907-1995.

Sources: (1) Population censuses of Egypt, 1907-1986, CAPMAS library.

\* Excluding the number of persons unspecified for literacy in the corresponding age level.

(2) Figures of 1995 are estimates by the UNESCO statistical reports and studies No. 35, (*Compendium of Statistics on Illiteracy*), 1995 Edition, tables: 4, 5 & 6; pages: 40, 44 & 48.

\*\* Reliability of the 1995 estimates by the UNESCO is examined as follows:

a. Comparing the population figures by sex with the figures of the corresponding age level as shown by the population projections by the researcher, they are found to be nearer to the high variant (39,013,998 for total population, 19,858,125 for males, and 19,155,873 for females).

b. Extrapolating the trends in illiteracy rates by sex as between 1960 and 1986 till 1995, the resulting estimates (49.05% for total population, 35.1% for males, and 64.06% for females) are found to be hovering around those by the UNESCO.

Specification of illiteracy rates by age permits identification of the magnitude of the illiteracy problem among different age segments of the population, and gives some indication of historical change in illiteracy. Table (2.2) presents illiteracy rates by age and sex in the 1976 and 1986 censuses. The fairly steady rise in age-specific illiteracy rates for Egypt from the youngest to the oldest age groups in each of the two censuses may indicate a general historical increase in literacy in the country and suggest the pattern and pace of this development.

The lower illiteracy rates prevailed among the younger age groups and the faster rate of decline in illiteracy at these age groups compared to the old ones reflect the efforts exerted by the successive governments of Egypt to universalize education. However, the above table shows that the declining trend in illiteracy for females between 1976 and 1986 was faster if compared to that for males at all the age groups. This is attributable to the fact that the proportion of illiterates among female population is initially higher compared to male population.

Population pyramids showing the distribution of male and female population by age groups, when combined with the corresponding illiterate population can be used to assess in detail the distribution and evolution of illiteracy in a country, as well as future prospects within a dynamically changing demographic environment (UNESCO, 1995.a). Comparisons of population and literacy pyramids for Egypt in 1976 and 1986, which are represented in figure (2.1), reveal that the illiterate population for the majority of the age groups tends to increase over time. The two exceptions are for the age groups (10 - 14) and (15 - 19). Thus, a significant reduction in the birth rate if accompanied with an increase in the educational efforts would contribute to accelerating the eradication of illiteracy among the younger age groups.

In short, our findings reflect the state of massive illiteracy in the country, especially among the female population. There is great need not only to reduce the birth rate and to accelerate a complete absorption of the eligible children in the formal schooling; but also to introduce effective programs for adult education in the country. The lower level of literacy among women and girls deserve a special attention.

However, the present decade witnessed full awareness of the government of Egypt concerning the necessity of promoting literacy. The political leadership issued a statement considering the decade (1990-2000) a decade for the eradication of illiteracy. Eradicating illiteracy amongst Egyptian adult citizens is agreed to be one of the important factors in national development. In 1991, Law No. 8 was issued to set out a national comprehensive plan for the eradication of illiteracy during the 1990s, and to achieve national mobilization to realize this target. The General Organization for the Eradication of Illiteracy and Adult Education was established to be responsible of planning and follow-up of implementation. A national action plan on illiteracy has therefore been developed for eradicating the illiteracy of a target group of 11,493,000 adults between the ages of 15

Age	To	tal populati	on	Ma	ale populati	on	Female population			
groups	1976	1986	Change	1976	1986	Change	1976	1986	Change	
10-	36.3	19.9	-16.4	26.2	12.4	-13.8	47.5	28.3	-19.2	
15-	45.6	34.5	-11.1	35.5	26.1	-9.4	57.4	43.9	-13.5	
20-	51.0	42.6	-8.4	37.4	32.0	-5.4	64.2	54.3	-9.9	
25-	57.7	53.1	-4.6	41.7	38.8	-2.9	73.2	66.6	-6.6	
30-	60.5	55.4	-5.1	42.3	40.5	-1.8	77.7	70.1	-7.6	
35-	65.2	61.4	-3.8	47.8	46.4	-1.4	82.6	77.0	-5.6	
40-	67.5	64.0	-3.5	50.4	47.3	-3.1	84.4	80.4	-4.0	
45-	68.0	68.3	+0.3	50.9	52.8	+1.9	86.2	84.3	-1.9	
50-	72.4	72.9	+0.5	55.5	56.3	+0.8	88.8	87.4	-1.4	
55-	70.2	72.4	+2.2	54.4	59.0	+4.6	88.8	88.2	-0.6	
60-	77.5	78.1	+0.6	63.3	64.5	+1.2	91.4	91.2	-0.2	
65+	79.9	82.3	+2.4	67.2	71.7	+4.5	91.9	94.0	+2.1	

Table (2.2): Percentages of illiterates in the population of Egypt by age groups and sex, 1976 and 1986 censuses.

*Sources:* Calculated using data from CAPMAS: 1976 Census, table (10); and

1986 Census, table (15).







Sources : Same as for table (2.2).

and 45, of whom 9,792,800 are between the ages of 15 and 35. Priority is to be given to the younger individuals in society, specially deprived groups such as rural residents and women or girls whether rural or urban. All illiterate individuals between the ages of 15 and 35 are required to join illiteracy classes, as they represent the most economically and socially active workers. Individuals above the age of 35 will be encouraged to join illiteracy classes, but no penalties will be imposed on those who do not join. The above target is planned to be achieved over eight years of implementation (1993-2000). Five percent of the illiterates are targeted during the first year, ten percent during the second year, fifteen percent during the third, and the remainder will be spread out through the following five years. On the qualitative level, the plan focuses on insuring that illiterates achieve the equivalent of the primary education stage and mastery of reading and mathematical skills (M.O.E., 1995). Unfortunately, statistical data on the achievements of the abovementioned plan during the four years passed from its period are not, so far, available.

Ability to read and write is not an adequate test of the educational level of the population, however. A better measure is one that shows the amount of formal schooling the adult population has obtained. Table (2.3) presents the distribution of the Egyptian population aged ten years and over according to the educational attainment and sex. This table shows the following facts:

- Among the six levels of literacy shown in the table, the read and write level ranks first in both the 1976 and 1986 censuses; for both sexes combined (20.6% and 19.5% respectively) and for males (28.1% and 23.9% respectively) and females (12.8% and 14.9% respectively), while the university and higher level ranks fifth, recording 2.1% and 3.1% respectively in the two censuses for the total population (3.3% and 4.7% respectively for males and about 1% and 1.4% respectively for females).
- In 1976 the primary certificates level ranked second, recording 10.2%, 5.5% and 7.9% for males, females and total population respectively, while the intermediate certificates level came in the third order recording about 8%, 3.9% and 6% respectively for males, females and both sexes combined.
- In 1986 the picture has changed, where the intermediate certificates level jumped to occupy the second order by about 15.5%, 8.2% and 12.1% respectively for males, females and total; while the primary certificates level retired to the third order, recording about 8.5%, 6.1% and 7.3% for males, females and the total population respectively.
- Within the ten years (1976-1986), a substantial improvement has occurred In the educational structure for each of males and females.
- Concerning male population, the percentage of illiterates, those who can read and write and those who carry primary certificates combined has declined by 10.6%, in front of an increase by 11.7% in the percentage of those having certificates below intermediate, intermediate certificates, diplomas below university and university and higher education combined. The highest contribution in this increase was for the intermediate certificates (7.5%).

	Mal	e popula	ntion	Fema	le popul	ation	Total population		
Educational	Census	s year	Change	Census	s year	Change	Censu	ıs year	Change
attainment	1976	1986		1976	1986		1976	1986	
Illiterate	41.908	37.353	-4.6	70.909	62.502	-8.4	56.165	49.630	-6.5
Read and write	28.072	23.891	-4.2	12.825	14.914	+2.1	20.577	19.509	-1.1
Primary certificates	10.222	8.453	-1.8	5.540	6.113	+0.6	7.920	7.311	-0.6
Certificates below									
intermediate	6.534	8.450	+1.9	3.509	5.310	+1.8	5.047	6.917	+1.9
Intermediate									
certificates	8.005	15.498	+7.5	3.856	8.524	+4.7	5.965	12.094	+6.1
Diploma below									
university	0.429	1.215	+0.8	0.260	0.881	+0.6	0.346	1.052	+0.7
University and higher <sup>1</sup>	3.264	4.718	+1.5	0.974	1.363	+0.4	2.138	3.079	+0.9
Not stated	1.566	0.422	-1.1	2.127	0.393	-1.8	1.842	0.408	-1.4
Total	100	100	000	100	100	000	100	100	000

Table (2.3): Change in the percentage distribution of the Egyptian population aged 10 years and over,<br/>by educational attainment and sex, between 1976 and 1986 censuses.

**Sources:** Calculated using data from CAPMAS: 1976's census, table (5), and

1986's census, table (8).

<sup>&</sup>lt;sup>1</sup> University, first degree & equivalents, post graduate diplomas, masters' degree and doctorates.

- As for female population, the percentage of illiterates has decreased by 8.4% within the ten years. This was accompanied with an increase by 10.2% in the six levels of literacy combined. The greatest share in this increase was recorded for the intermediate certificates (4.7%).
- Between 1976 and 1986, the percent of the population carrying intermediate certificates had more than doubled, from about 6% to 12.1%, achieving, thus, the highest contribution in the improvement of the educational structure. This is attributable to the attention paid In the above period by the government to encourage the students to attend technical and vocational schools.

### 2.2. Enrollment Trends and Patterns

The purpose of the present section is to examine the growth pattern of school enrollment at different levels as in period 1986/87-1994/95. While discussing the patterns and trends of school enrollment in Egypt, it is important to recall the development of the educational system in the country as outlined in section (1.5.1). As noted there, the current structure of the system, which was established in 1988/89, has defined the basic education as having two stages: the primary stage, comprising five years of study and the preparatory stage that comprises three years. Before 1988/89, there were six years of primary education and three years of preparatory. This amendment has created a double cohort resulting from the combination of pupils who passed from grade five and six primary in 1988/89. Thus, in 1989/90, grade one of the preparatory level received a cohort of pupils in the age bracket 11-12 years (those who passed the primary level in five years of study), in addition to another cohort aged 12-13 years (those who stayed for six years in primary level according to the former educational system). As a result, the three years of schooling, from 1989/90 to 1991/92 have witnessed an exceptional increase in the enrollment of preparatory level, followed by similar increase in the enrollment of secondary level as from 1992/93 to 1994/95.

It is important to point out that, this exceptional increase in the enrollment figures due to the double cohort has created various problems of comparability of data for different school levels, over different points of time. Also, calculation of the rates of enrollment at the different levels of pre-university education during the past few years to be used for comparison is not possible, because of difficulty to establish the pertinent base population.

#### 2.2.1. General Enrollment

Table (2.4) shows that, the total number of enrollment in the basic education (primary and preparatory) and in the secondary (general and technical) combined has increased from 10,165,472 in 1986/87 to 13,460,301 in 1994/95. That is 32.4% rate of increase within nine years. As for the relative change by sex, the table shows an increase in the enrollments of females in 1994/95 by 1,795,847, representing 41.3% of the figures of 1986/87, while the corresponding percent of increase for males amounted 25.8. Thus, the females' enrollment

increase is considerably higher than that for males. This is, partly, due to the lower level of initial enrollment for the former.

The above table also gives the percentage distribution of enrollments at the pre-university education by level and gender in 1986/87 and 1994/95. With respect to the enrollments of both sexes combined, the share of the primary level decreased from about 62.6 percent in 1986/87 to 54.3 percent in 1994/95, while the share of the preparatory level and the secondary level (general and technical) grew correspondingly from 21.8 percent and 15.6 percent in 1986/87 to 25.33 percent and 20.4 percent in 1994/95. As a result, the ratio of the secondary level to the basic educational level increased from 18.6 percent in 1986/87 to 25.5 percent in 1994/95.

It is inevitable, here, to mention that this change in the structure of educational levels does not reflect an improvement in the age composition of the population in the country; rather, it is attributed to the above-mentioned double cohort that was still enrolled in the final grade of secondary level in 1994/95. However, the convenience of comparison between the enrollment figures in 1986/87 and 1994/95 is valid among the different branches of technical secondary education and the general secondary education.

As for the primary teachers' training colleges, in 1986/87, there were 36,692 males and 56,717 females enrolled in them, representing combined 0.919% of the total enrollment at the pre-university education. This stream have been terminated by the school year 1994/95, aiming at upgrading teachers qualifications by having this specialization at the university level only.

Table (2.4) shows a considerable increase in the share of technical education of the total enrollments of 1994/95 compared to 1986/87. The increase for the three branches of technical education combined amounted about 5%, against only 0.6% increase in the share of general secondary. The highest contribution in the above increase was for the industrial education (3.1%). The percent of the enrollment of both sexes in the three branches of technical education combined in 1994/95 is more than double the corresponding percent for general secondary education. From the table, it can be detected that, the percentage of enrollments of both sexes at technical education to the total enrollment at secondary education rose from 58.1% in 1986/87 to 69.2% in 1994/95. This is consistent with the educational objective of expanding technical education to cope with the requirements of the development process in the country.

As for the change in the relative enrollment by sex, the table shows that the excess in the share of technical education of the enrollment of females (5.550 percentage points) is significantly higher than the corresponding excess in case of male students (4.542 percentage points). Industrial education has had the highest share in the excess for each of the sexes. In 1986/87 and 1994/95, the commercial education absorbed the bulk of the female enrollments at the secondary education (about 43.5% and 47.0% respectively).

#### Table (2.4) : Change in the relative pupil enrollment at the different levels of the pre-university education\*, by gender, in Egypt, between 1986/87 and 1994/95.

	Total       Relative pupil enrollment at :         enrollment       Concred											
Sex	School	Numbers	(%)	Basi	ic educat	ion	General		Technical	educatio	)n	Primary teachers'
				Primary	Prepa-	Total	seco-	Indu-	Agricu-	Comm-	Total	training
	year				ratory	basic	ndary	strial	ltural	ercial	technical	collages**
Males	1986/87	5,818,550	100	61.353	22.390	83.743	6.082	4.709	1.652	3.183	9.544	0.631
	1994/95	7,317,532	100	54.229	25.478	79.707	6.207	7.809	2.152	4.125	14.086	0.000
	Change	+1,498,982	000	-7.124	+3.088	-4.036	+0.125	+3.100	+0.500	+0.942	+4.542	-0.631
Females	1986/87	4,346,922	100	64.185	20.964	85.149	5.046	1.038	0.445	7.017	8.500	1.305
	1994/95	6,142,769	100	54.451	25.148	79.599	6.351	4.414	0.777	8.859	14.050	0.000
	Change	+1,795,847	000	-9.734	+4.184	-5.550	+1.305	+3.376	+0.332	+1.842	+5.550	-1.305
Both	1986/87	10,165,472	100	62.564	21.780	84.344	5.639	3.139	1.136	4.823	9.098	0.919
sexes	1994/95	13,460,301	100	54.331	25.327	79.658	6.273	6.260	1.524	6.285	14.069	0.000
	Change	+3,294,829	000	-8.233	+3.547	-4.686	+0.634	+3.121	+0.388	+1.462	+4.971	-0.919

**Sources**: Calculated using the enrollment figures for 1986/87 and 1994/95 in tables (2.5), (2.6) and (2.7). \* Excluding enrollments at the KG's, the one-class schools, and the special education classes (handicapped). \*\* For data on enrollments at the primary teachers' training colleges in 1986/87, see section (2.2.1).

It is worthy mentioning that, the enrollment figures shown in table (2.4) do not represent all the educational services delivered or supervised by the M.O.E. In addition to the educational levels presented in the table, the M.O.E. provides pre-school education for children aged 3-5 years,, through KG classes linked to primary education. In the 1995/96 school year, for instance, the total number of children enrolled in kindergartens amounted 266,502. There are also the special education schools, which provide educational services (from KG to secondary level) for the handicapped pupils; deaf, blind or mentally retarded. In 1995/96, there were 350 special education schools, absorbing 21,461 handicapped pupils. As a contribution to put an end to primary school dropouts and to reduce the high rate of female illiteracy, the M.O.E., also, provides primary education services through the one-class schools, of which the total number in 1995/96 reached 1,720 schools, absorbing 22,794 girls and boys.

#### 2.2.2. Enrollment in Basic Education

Table (2.5) depicts the growth of numbers of beginners and enrollments in primary level during the period 1986/87-1994/95, as well as the relative change, by sex of pupils. It can be observed that the numbers of beginners in primary level began to increase slightly with the promotion of the double cohort to the preparatory level in 1989/90. Therefore, the increase became sensible. By the year 1994/95, the index showed a 19.8 percent increase in the beginners of both sexes combined over the 1986/87 figure. It seems that the M.O.E. has utilized the excess numbers of class-units due to shortening the duration of study in primary level to five grades instead of six, for absorbing more beginners to the level.

As for the relative change in the beginner acceptance by sex, the index along the period 1989/90-1994/95 showed considerable high rates of increase for girls compared to boys. This is partly due to the lower level of initial enrollment for the former. Nevertheless, the absolute number of beginner boys in 1994/95 was still higher compared to girls.

The right panel of table (2.5), which traces the growth of enrollment in primary level, shows that the total number of enrollees in the level has increased from 6,359,942 in 1986/87 to 7,313,038 in 1994/95. That is 15 percent increase in the later year over the former year's figure. Effect of the double cohort's graduation from the primary level by the end of 1988/89 on the enrollment index is evidently noticed; where it dropped by 12.6% in 1989/90 compared to the previous year of schooling.

The numbers of girls enrolled in the primary level during the given period were always lesser than the numbers of boys. Such being the case, the girls' rates of increase were higher than those for boys. This gives consistency with the aforementioned remark concerning the relative change by sex in the beginners' number.

Table (2.6) traces the development of numbers of beginners and enrollments at the preparatory education, by sex, from 1986/87 to 1994/95. From the left panel in the table,

Table (2.5) : Development of numbers of beginners and enrollments at the primary education, by gender,in Egypt from 1986/87 to1994/95.

			Beginner	r pupils	l				Enrollm	ents		
School	Boy	5	Girl	S	s Both Sexes		Boys	5	Girls	5	Both Sexes	
years	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index
1986/87	668,229	(100)	545,741	(100)	1,213,970	(100)	3,569,879	(100)	2,790,063	(100)	6,359,942	(100)
1987/88	654,272	97.9	536,855	98.4	1,191,127	98.1	3,699,800	103.6	2,931,456	105.1	6,631,265	104.3
1988/89	653,072	97.7	541,136	99.2	1,194,208	98.4	3,863,316	108.2	3,092,139	110.8	6,955,455	109.4
1989/90	671,425	100.5	562,813	103.1	1,234,328	101.7	3,404,078	95.4	2,751,022	98.6	6,155,100	96.8
1990/91	713,093	106.7	600,659	110.1	1,313,752	108.2	3,532,216	98.9	2,870,256	102.9	6,402,472	100.7
1991/92	716,341	107.2	607,014	111.2	1,323,355	109.0	3,598,970	100.8	2,942,755	105.5	6,541,725	102.9
1992/93	758,649	113.5	650,320	119.2	1,408,969	116.1	3,721,617	104.3	3,069,511	110.0	6,791,128	106.8
1993/94	795,908	119.1	691,015	126.6	1,486,959	122.5	3,843,122	107.7	3,206,427	114.9	7,049,549	110.8
1994/95	773,774	115.8	680,871	124.8	1,454,645	119.8	3,968,253	111.2	3,344,785	119.9	7,313,038	115.0

**Sources :** Information & Computer Services Directorate, M.O.E.

*Note* : *The 1986/87 school year is taken as the base-year for all the indices.* 

# Table (2.6) : Development of numbers of beginners and enrollments at the preparatory education\*,by gender, in Egypt from 1986/87 to 1994/95.

			Beginne	r pupils			Enrollments					
School	Boy	S	Girl	S	Both Se	xes	Boys		Girls	5	Both Sexes	
years	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index	Number	Index
1986/87	418,551	(100)	305,243	(100)	723,794	(100)	1,302,780	(100)	911,283	(100)	2,214,063	(100)
1987/88	425,419	101.6	324,423	106.3	749,842	103.6	1,427,304	109.6	1,019,761	111.9	2,447,065	110.5
1988/89	360,263	86.1	284,049	93.1	644,312	89.0	1,370,540	105.2	1,012,796	111.1	2,383,336	107.6
1989/90	1,018,159	243.3	819,739	268.6	1,837,898	253.9	1,917,456	147.2	1,495,411	164.1	3,412,867	154.1
1990/91	469,637	112.2	396,007	129.7	865,644	119.6	1,972,816	151.4	1,580,439	173.4	3,553,255	160.5
1991/92	515,742	123.2	434,567	142.4	950,309	131.3	1,973,381	151.5	1,619,984	177.8	3,593,365	162.3
1992/93	546,384	130.5	455,658	149.3	1,002,042	138.4	1,850,700	142.1	1,493,546	163.9	3,344,246	151.0
1993/94	600,850	143.6	499,466	163.6	1,100,316	152.0	1,850,630	142.0	1,502,728	164.9	3,353,358	151.5
1994/95	586,500	140.1	503,048	164.8	1,089,548	150.5	1,864,368	143.1	1,544,759	169.5	3,409,127	154.0

*Source & Note:* Same as for table (2.5) \* *General, sports and vocational preparatory schools.* 

one can easily notice the great increase in the numbers of beginner pupils who joined the level in 1989/90, due to the double cohort's graduation from the primary level in 1988/89\*. The index for both sexes combined showed an 153.9 increase in 1989/90 over the 1986/87 figure. Consequently, the total enrollment in the level during the three years of schooling, from 1989/90 to 1991/92 had jumped by 54.1%, 60.5% and 62.3% respectively over the 1986/87 figure.

Although the faster rates of increase in the numbers of beginner girls in the preparatory level during the given period, yet the enrollment of girls in the level is still far below that of boys. By the last year of schooling under reference, the number of boys enrolled in the level was still higher by 319,609 than the corresponding number for girls.

The amount of instruction time that a student spends in school is an indicator of the quality of a country's school system. Overcrowding in the school system in Egypt has been dealt with by introducing double and triple shifts in schools. This inevitably means that students along with their teachers are in school only on a part-time basis (INP, 1996).

Among the previously referred total number of enrollments at the primary education in 1994/95, there were 1,871,260 pupils enrolled in full-day schools, representing 25.6% of the total primary enrollments. Enrollments in morning shift schools were 2,995,021 pupils, representing 41% of the total enrollments. The number of pupils enrolled in afternoon and evening shift schools was 1,877033; representing 25.7% of the total enrollments, and the number of enrollments in two and three shift schools was 569,724 pupils, representing 7.7% of the total enrollments in primary education. That is, nearly three-fourths of primary pupils in 1994/95 attended school for half-day sessions or less.

The percentage of pupils of the preparatory level in full-day schools In the same year of schooling was only 13 percent. In other words, 87 percent of the preparatory students in 1994/95 were attending school for half-day sessions or less (INP, 1996).

#### 2.2.3. Enrollment in Secondary Education

Table (2.7) sketches the growth of enrollment in the secondary education between 1986/87 and 1994/95, by level and sex. It is to be noted that the figures of the above two years of schooling for any single level of secondary education are not comparable, where as the figures of 1994/95 include the exceptional increase in enrollments of the third grade secondary due to the double cohort.

However, few indicators can be deduced in regard to students' preference among the different levels of secondary education. In 1986/87, there were 1,591,467 students\*\* enrolled in the secondary education, of whom 924,811 were enrolled in technical education, representing 58.1% of the former total. By 1994/95, the total number of enrollees in the secondary education reached 2,738,136; among which 1,893,778 were enrolled in technical schools. That is, the enrollment in technical education in 1994/95 amounted 69.2% of the total secondary enrollments.

<sup>\*</sup> The total number of graduates from the primary level in 1988/89 amounted 1,857,245;

representing nearly 2.9 times the corresponding number of 1987/88 (641,892).

<sup>\*\*</sup> Including 93,409 students were enrolled in primary teachers' training colleges.

Branches of	Ma	ale studen	ts	Fe	male stude	nts		<b>Both sexes</b>	
Secondary	1986/87	1994/95	Change	1986/87	1994/95	Change	1986/87	1994/95	Change
Education			(%)			(%)			(%)
General									
Secpndary <sup>(1)</sup>	353,881	454,204	28.3	219,366	390,154	77.9	573,247	844,358	47.3
Industrial									
Secondary <sup>(2)</sup>	274,014	571,432	108.5	45,114	271,170	501.1	319,128	842,602	164.0
Agricultural									
Secondary <sup>(3)</sup>	96,093	157,437	63.8	19,360	47,730	146.5	115,453	205,167	77•7
Commercial									
Secondary <sup>(4)</sup>	185,211	301,838	63.0	305,019	544,171	78.4	490,230	846,009	72.6

Table (2.7) : Development of numbers of enrollments at the secondary education, by typeand gender, in Egypt, between 1986/87 and 1994/95.

Source : Information & Computer Services Directorate, M.O.E.

(1) General and sports secondary schools.

(2) Industrial secondary (3-year schools), vocational industrial & advanced industrial schools (5-year system).

(3) Agricultural secondary (3-year schools), vocational agricultural & advanced agricultural schools (5-year system).

(4) Commercial secondary (3-year schools) & advanced commercial schools (5-year system).

Thus, the percentage of technical education enrollment to the total enrollment in secondary education has increased by 11.1% in 1994/95 compared to 1986/87. As for each sex separately, the corresponding increase amounted 10.7% and 11.7% for males and females respectively. The greatest contribution in this increase was for the industrial education, followed by the agricultural education, and then comes the commercial education in the last order. This is true for the enrollments of both sexes combined and for the enrollments of each sex separately. The striking thing in table (2.7) is to notice such a great tendency of the female students to increase their enrollment in industrial education. In 1994/95 there was an 501.1 percent increase in the enrollment of females in industrial education over the 1986/87 figure. Even so, the total enrollments of females in their traditional preferable field of education, the commercial, in 1994/95 was still more than double the corresponding total in industrial education.

However, efforts to expand technical education and to raise its standard qualitatively are still being exerted by the state. Recently, under the Mubarak-Khol project for promoting technical education, the dual system as practiced in Germany is planned to be introduced to Egypt; whereby the component of theoretical education is taught in schools, while the applied training component takes place in factories or production organizations. Agreements for the implementation of the project were signed by the M.O.E. and the German Agency for Technical Cooperation, in one hand, and the Investors Associations in the Sixth of October, the Tenth of Ramadan and Sadat cities in the other hand. According to these agreements, the German party will establish and equip three high level training centers in these cities and will provide equipment for training, instructional aids and the necessary modern technology and expertise to the neighboring industrial and technological schools. Factories in these cities will provide applied technical training for the students of these centers and schools, and will share the M.O.E. in holding examinations for those students. The extent of the success of these experiments will be studied as a preliminary step towards generalizing the project at the state level (M.O.E., 1995).

### 2.3. Educational Infrastructure

An analysis of the educational infrastructure of the country is necessary in order to appreciate the capacity of the educational system to absorb the growing school age population and to cope with the growing demand for educational expansion, as well as enhancement of the quality of education. The following discussion covers some aspects of the educational infrastructure in Egypt. Section (2.3.1) provides a profile of the growth of schools, class-units and teachers devoted to the pre-university education in the past few years, and section (2.3.2) gives an account of the levels and growth of the educational budget in the present decade.

#### 2.3.1. Growth of Schools, Class-units, and Teachers

Table (2.8) shows that, the total number of schools in Egypt grew from 19,251\* in 1986/87 to 25,519 in 1994/95. That is 32.6% percent increase. According to a 1992 survey, 40 percent of school buildings were judged to be unfit. This ranged from a high as 51 percent in Lower Egypt to as low as 8 percent in the frontier governorates (INP, 1996). Thousands of schools have no toilets, no windows or doors, and thousands need laboratories, libraries and places for practicing various activities. Due to the 12 October 1992 earthquake, many schools were crumbled or dilapidated. Therefore, a plan has been set by the General Agency for Educational Buildings of the M.O.E., for renewal and maintenance of 15,157 schools all over the country, between 1992/93 and 1994/95, including the schools that were affected by the earthquake. The Educational Buildings Agency has also laid down plans for the construction of 7,500 new schools for the different stages of education, at the rate of 1,500 schools a year throughout the current five-year plan, 1992/93-1996/97 (M.O.E., 1995).

Back to table (2.8), one can notice that, the total number of class-units devoted to the preuniversity education increased from 238,483\*\* in 1986/87 to reach 319,420 by the year 1994/95. That is 33.9 percent increase within nine years of schooling. As for the teachers, their number in 1986/87 totaled 419,339\*\*\*. By 1994/95 an additional 205,767 teachers were introduced, that is 49.1 percent increase over the 1986/87 figure.

Therefore, if we recall the aforementioned increase by 32.4% in the number of students enrolled at the pre-university education between 1986/87 and 1994/95 (see section 2.2.1), we can expect, in general, a slight improvement in the number of pupils per class-units, and a significant improvement in the number of pupils per teacher.

Looking at the change in the relative pupil enrollment in the different levels of education between 1986/87 and 1994/95 in table (2.4) and the change in the percentage distribution of class-units and teachers in table (2.8), one can notice a considerable degree of consistency. The percent share of enrollment in primary level has decreased by 8.2 percent in 1994/95. This was met by a decrease in its share of class-units by 7.9% and of teachers by 3.8% only. Thus, a significant improvement in the number of pupils per teacher in this level is expected. The percent share of enrollment in general secondary was slightly increased by 0.63%. This was met by a little increase in its share of class-units (0.5%) and a significant increase in its share of teachers (1.3%). Thus, the class density in this level is expected to increase slightly, and the number of pupils per teacher would significantly decrease.

<sup>\*</sup> Including 119 primary teachers' training colleges.

<sup>\*\*</sup> Including 2,713 class-units were devoted to the primary teachers' training.

<sup>\*\*\*</sup> Including 7,754 teachers for the primary teachers' training which has been, recently, abolished..

Table (2.8) :	Change in the percentage	distribution of schools ,	class-units, an	nd teachers over th	e different levels of
	pre-university	education*, in Egypt, be	tween 1986/87	7 and 1994/95.	

		Total		Basi	c educat	ion	General		Technical	educatio	on	Primary
Item	School											teachers'
	year			Primary	Prepa-	Total	seco-	Indu-	Agricu-	Comm-	Total	training**
		Numbers	(%)		ratory	basic	ndary	strial	ltural	ercial	technical	
(1) Schools	1986/87	19,251	100	70.6	19.1	<b>89.</b> 7	4.8	1.0	0.4	3.4	4.8	0.7
& sections	1994/95	25,519	100	63.0	25.5	88.5	5.4	2.3	0.5	3.3	6.1	0.0
	Change	+6,268	000	-7.6	+6.4	-1.2	+0.6	+1.3	+0.1	-0.1	+1.3	-0.7
(2) Class-	1986/87	238,483	100	59.7	22.1	81.8	6.2	3.8	1.4	5.7	10.9	1.1
units	1994/95	319,420	100	51.8	25.7	77•5	6.7	7.3	1.7	6.8	15.8	0.0
	Change	+80,937	000	-7.9	+3.6	-4.3	+0.5	+3.5	+0.3	+1.1	+4.9	-1.1
(3) Teachers	1986/87	419,339	100	50.4	25.5	75.9	8.4	6.1	1.7	6.1	13.9	1.8
	1994/95	625,106	100	46.6	26.0	72.6	<b>9.</b> 7	10.2	1.7	5.8	17.7	0.0
	Change	+205,767	000	-3.8	+0.5	-3.3	+1.3	+4.1	0.0	-0.3	+3.8	-1.8

Sources: Calculated using the absolute numbers of schools, classes and teachers in table (2.9).

\*

Excluding the numbers of schools, classes and teachers devoted for the KG's, the one-class schools, and the special education. For data on the numbers of schools, classes and teachers devoted for the primary teachers' training in 1986/87, see section (2.3.1). \*\*

(1) An educational building might comprise more than one school.
(3) Teachers, senior teachers, supervisor senior teachers, and the headmasters and the assistant headmasters who teach.

As for the technical education, it is clear that the high increase in its share of the pupil enrollment in 1994/95 (about 5 percent) was not met by sufficient increase in the number of teachers (3.8%) or in the number of class-units (4.9%).

Table (2.9) depicts the development of numbers of schools, class-units, and teachers devoted to each of the pre-university educational levels between 1986/87 and 1994/95. The indices show a substantial increase in the schools, classes and teachers devoted for each level. The highest increase in schools was for the industrial education, where the index showed 202 percent increase over the 1986/87 figure, followed by the preparatory level (76.3 percent increase) then comes the agricultural education (69.4 percent). The lowest increase was recorded for the primary level (18.4%). As for the growth of class-units, the highest increase was recorded for the industrial education (154.3%) followed by the agricultural education (70.7 percent increase) then comes the commercial education by 61.2 percent increase. The lowest increase was for the primary level (16.1 percent). The industrial education ranks first also in terms of the growth of number of teachers, where the index showed 151 percent increase followed by the general secondary level (72.5 percent increase), then the preparatory level by 51.5 percent increase. The lowest increase in the number of teachers was recorded also for the primary level, where the index showed 38% excess over the 1986/87 figure.

Beside the aforementioned quantitative development of schools classes and teachers, table (2.9) provides some quality aspects of education in terms of : the pupils per class ratio (P.C.R.), the pupils per teacher ratio (P.T.R.) and the teachers per class ratio (T.C.R.).

#### *P.C.R.* = pupils enrollment / class-units

#### *P.T.R.* = pupils enrollment / number of teachers

#### T.C.R. = (P.C.R.) / (P.T.R.)

The first ratio (P.C.R.) measures the class density, which is largely affiliated to quality of education. So also, the second ratio (P.T.R.) is an indicator for the educational quality. The third ratio (T.C.R.) gives indication of the shortage or surplus of teachers (Abdel-Aty, 1977).

The situation in Egypt, when referring to the P.C.R. for 1986/87 and 1994/95 in table (2.9), indicates that, the primary level classes were very dense (44.7 and 44.2 pupils per class respectively). So also, the preparatory level classes (42.0 and 41.5 pupils per class respectively) which were denser than the general secondary classes (39.0 and 39.7 pupils per class in 1986/87 and 1994/95 respectively). Industrial education classes showed the lowest points in 1994/95 and thus ranked the best by the ratio of 36.2. The P.C.R. for the primary and preparatory levels has achieved a very slight improvement in 1994/95 compared to 1986/87; while all the levels of secondary education witnessed an increase in the class density.

Evidently, increasing the number of pupils per class will reduce the cost per head, but it has its reversal effect on the quality of education. Adequate class-unit enrollment, from the pedagogical viewpoint, usually does not exceed 30 pupils per class (Abdel-Aty, 1977).

Educational	School	School sectio	ls & ns*	Cl	lass - unit	ts	Т	Teachers**		
levels	year	Number	Index	Number	Index	P.C.R	Number	Index	P.T.R.	T.C.R.
(1) Primary education	1986/87	13,588	(100)	142,420	(100)	44.7	211,092	(100)	30.1	1.48
	1994/95	16,088	118.4	165,406	116.1	44.2	291,400	138.0	25.1	1.76
(2) Preparatory education	1986/87	3,684	(100)	52,757	(100)	42.0	107,064	(100)	<b>20.</b> 7	2.03
	1994/95	6,496	176.3	82,229	155.9	41.5	162,236	151.5	21.0	1.97
(3) General secondary	1986/87	930	(100)	14,713	(100)	39.0	35,229	(100)	16.3	2.39
	1994/95	1,384	148.8	21,255	144.5	<b>39.</b> 7	60,768	172.5	13.9	2.86
(4) Industrial education	1986/87	192	(100)	9,141	(100)	34.9	25,317	(100)	12.6	<b>2.</b> 77
	1994/95	580	302.1	23,247	254.3	36.2	63,576	251.1	13.3	2.73
(5) Agricultural education	1986/87	72	(100)	3,205	(100)	36.0	7,246	(100)	15.9	2.26
	1994/95	122	169.4	5,472	170.7	37.5	10,558	145.7	19.4	1.93
(6) Commercial education	1986/87	666	(100)	13,534	(100)	36.2	25,637	(100)	19.1	1.89
	1994/95	849	127.5	21,811	161.2	38.8	36,568	142.6	23.1	1.68

Table (2.9): Development of numbers of schools, class-units, and teachers for the different levels

of the pre-university education in Egypt, between 1986/87 and 1994/95

Sources : a) Information & Computer Services Directorate, M.O.E.

b) P.C.R. and P.T.R. are computed using the pertinent enrollment figures in tables (2.5), (2.6) and (2.7). An educational building might comprise more than one school.

\*

Teachers, senior teachers, supervisor senior teachers, and the headmasters and the assistant headmasters who teach. \*\*

(2) General, sports and vocational preparatory schools.

(3) General and sports secondary schools.

(4) Industrial secondary (3-year schools), vocational industrial & advanced industrial schools (5-year system).

(5) Agricultural secondary (3-year schools), vocational agricultural & advanced agricultural schools (5-year system).

(6) Commercial secondary (3-year schools) & advanced commercial schools (5-year system).

While the average class density in primary schools has been steady in the recent past, hovering around 44 pupils per class, this often masks large differences from one school to the next. It is not uncommon for children to be in class with as many as 60 students. In Cairo, for example, while the overall student-to-class ratio was 45 in 1994/95, nearly 40 percent of primary students were in classes of 50 and over. Of those, more than 168,000 students (or one in five) are crowded into classes of over 60 students. In preparatory and secondary stages of the educational system, the situation is similar (INP, 1996).

The P.T.R. for primary and general secondary levels has improved significantly in 1994/95 compared to 1986/87. The reverse is true in regard to the preparatory and technical education levels. Yet, the P.T.R. for these levels are satisfactory. The greatest improvement was recorded for the primary level; where the P.T.R. decreased from 30.1 to 25.1.

At the primary level there were 1.48 teachers per class-unit in 1986/87. Thus, the primary level teacher had has to be in class most of the day time. It was somewhat difficult to find substitute teacher in case of absence or illness which very often happens in the primary level characterized by majority of female-teachers. By the year 1994/95 the situation in the primary level was improved, where the T.C.R. increased to 1.8.

The T.C.R. for the preparatory level and for each of the three branches of technical education has decreased in 1994/95 compared to 1986/87. The highest T.C.R. was recorded for the general secondary level in 1994/95 (2.86).

#### 2.3.2. Educational Expenditure

The process of financing education is considered the cornerstone for achieving the educational development. Moreover, it is a criterion for judging the society's concern. In the five-year plan, 1992/93-1996/97, investments allocated for education have been greatly increased, compared to the previous plan 1987/88-1991/92. Investments in the previous Five-year plan amounted to L.E. 2.6 billion, where as the investments of the present plan amounted to L.E. 11.8 billion, i.e. 454 % of the investments for the previous plan.

The total of the education budget in the general budget of 1995/96 has amounted to L.E. 11.2 billion, representing 15.6 % of the total state budget. This is the highest rate of finance in education in Egypt throughout this century. The share of education as compared to public expenditure has become 14.3 % in the 1994/95 budget, instead of 9.2% in the budget of 1990/91. Table, (2.10) presents the development of the budget of the pre-university education from 1990/91 to 1995/96. As a result of the successive great increase in the pre-university education budget, as shown in this table, the average share of each student enrolled in the pre-university education levels has increased from L.E. 189 in 1990/91 to L.E. 443 in the school-year 1994/95; that is +134% rate of change (M.O.E., 1995). Despite this unprecedented leap in the financial credits allocated in the education budget, the governmental expenditure on pre-university education is still in need of further financing. This can be obviously detected if we have a look at the absolute figures of the per-capita cost of education, during the basic education level, in some other countries, shown in table (2.11).

Year	Total budget* ( L.E.)	Index **
1990/91	2,296,012,810	(100)
1991/92	2,729,669,000	118.9
1992/93	3,614,102,434	157.4
1993/94	4,512,600,159	196.5
1994/95	5,610,989,960	244.4
1995/96	7,663,112,460	333.8

Table (2.10): Development of the budget of the pre-universityeducation in Egypt from 1990/91 to 1995/96

*Sources* : M.O.E., 1995.

\* Total of the budget's four sections : salaries, current

expenditure, investments and capital transfers.

\*\* The 1990/91 year is taken as the base -year for the index

Data on the average expenditure per an Egyptian student at basic education are not, unfortunately, available. Even so, a rough comparison can be made. Evaluating the average share of the student in the <u>pre-university education (basic and secondary)</u> in Egypt in the school year 1994/95 (L.E. 443) in U.S.\$ would result in U.S.\$ 130. This is too low if compared with the per-capita cost of education during the <u>basic education stage</u> in 1988/89 in Jordan (U.S.\$ 259.5) and Israel (U.S.\$ 877.5); or compared with the thousands of dollars spent per the pupil at basic education stage in the other developed countries shown in the table below.

 Table (2.11) : Educational spending in various countries

		(1) E	xpenditure o	on education:	(2) Average
Country	Year	As percent of GNP	As percent of government expenditure	Share of pre-university education as percent of public current expenditure on education	expenditure per student at basic education in U.S. \$ (1988/89)
Egypt *	1992	4.8	10.6	61.6	••••
Jordan	1993	4.6	11.6	89.9	259.5
Israel	1991	5.8	10.6	73.0	877.5
France	1993	5.8	••••	81.5	2,139.6
U.K.	1991	5.2	••••	72.2	2,185.5
Japan	1991	4.7	16.6	63.5	3,322.2
U.S.A.	1990	5.3	12.3	75.9	3,798.0
Canada	1992	7.6	14.3	60.8	3,994.2
Sweden	1992	8.3	12.6	59.3	5,210.4
Switzerland	1991	5.2	18.8	75.2	7,264.8

**Sources:** (1): UNESCO, 1995.b.

(2): M.O.E., 1992.

\* Expenditure for Al-Azhar is not included.

..... Data are not available.