

Educational Gender Gap in Eritrea

Temesgen Kifle

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Hrsg. von
Andreas Knorr, Alfons Lemper, Axel Sell, Karl Wohlmuth

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By Temesgen Kifle

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**Bezug: IWIM - Institut für Weltwirtschaft
und Internationales Management
Universität Bremen
Fachbereich Wirtschaftswissenschaft
Postfach 33 04 40
D- 28334 Bremen
Telefon: 04 21 / 2 18 - 34 29
Telefax: 04 21 / 2 18 - 45 50
E-mail: iwim@uni-bremen.de
Homepage: <http://www.wiwi.uni-bremen.de/iwim>**

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List of Abbreviations

AIR	Apparent Intake Rate
EFA	Education For All
EPLF	Eritrean People's Liberation Front
ESECE	Eritrean Secondary Education Certificate Examination
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GGG	Gender Gap in Students
GGT	Gender Gap in Teachers
GNP	Gross National Product
GSE	Government of the State of Eritrea
HRO	Human Resources Development and Operations Policy
IMF	International Monetary Fund
MOE	Ministry of Education
MSME	Medium, Small and Micro Enterprise
NIR	Net Intake Rate
SSA	Sub-Saharan Africa
TTI	Teacher Training Institute
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund

1 Introduction

As stated by UNESCO in its 2001 regional report on Sub-Saharan Africa (SSA), one of the key ways of meeting the challenges of the 21st century is to guarantee the benefits of education for all by ensuring that education systems work in an equitable, efficient and effective manner. The effort to provide an equitable education to all students has led to extensive research on gender differences on enrolment. In Eritrea, although progress in enrolment has been made over the past decades, the share of female enrolment is still lower than boys (UNESCO 2001b).

Unlike the global trend that gender gap¹ in enrolment is narrowing, there was no reduction in gender gap in Eritrea in all levels of education between the year 1991/92 and 1999/00. Even if, according to the 1998 UNESCO's classification of countries according to enrolment gender parity index², Eritrea was putted into a range of 0.85 to 0.94, and even if, according to the 1995 classification of gender gap in school enrolment, Eritrea was

¹ The Gender gap in education may be calculated either in relative terms (female enrolment rates as a proportion of male enrolment rates) or in terms of the absolute difference between male and female enrolment rates.

² Gender parity index (or relative gender gap) measures the ratio of the female to male enrolment.

ranked as a country with moderate gender gap, no improvement has been made to narrow gender gap in the enrolment year on year (Conly and Chaya, 2000, p. 2; UNESCO, 2001a, p. 18). Despite Eritrea's Policy on education which states the availability of basic education for all and the promotion of opportunity in terms of access, equity, relevance and continuity of education to all school-aged children, what is achieved in this particular regard is nothing because gender gap in all levels of education has widened year on year. Therefore, closing gender gap in enrolment in Eritrea is critical.

This paper, by taking both the individual and social benefits of education into account, provides information on educational gender gap in Eritrea. By so doing, the paper identifies the barriers to female education in Eritrea and recommends the possible strategies and policies for reducing gender gap in education. After this introduction the rest of the paper is organised into nine sections. The second section begins with a brief history and socio-economic structure of Eritrea. The third section reviews the Eritrean education system. Section four gives information on women and education in Eritrea. The fifth section is devoted to issues of Eritrean women in socio-economic activities. The sixth section deals with access to education in Eritrea. Section seven reviews the pledges and advance of education for all. The rest three sections contain returns to women's edu-

cation, barriers to female education, and main strategies and policies for narrowing gender gap in education in Eritrea.

2 History and Socio-economic structure of Eritrea

Though the early history of Eritrea was connected with various foreign invaders, none was quite as significant as the Italian colonial period from 1880-1941. During the colonial period, Italy moved to transform Eritrea. Since the Italian agricultural policy for Eritrea was designed to primarily benefit the Italians who were living in Eritrea and to sustain their exports, they began to upgrade infrastructure and establish an extensive transport and communication facilities. With the defeat of Italy in the Second World War, it was decided that Eritrea would be governed by Great Britain as a protectorate. However, the diplomatic efforts that were made by the Ethiopian Emperor to gain influence and control over Eritrea, on the one hand, and the difficulties that faced Great Britain to govern Eritrea, on the other hand, resulted in federation. Thus, Eritrea was awarded to Ethiopia as part of a federation in 1952. But, the resistance by Eritreans to all colonial powers reached its climax of armed struggle when Ethiopia forcefully annexed Eritrea. The armed struggle for liberation that took 30 years came to an end after the Ethiopian

army was defeated in 1991 and independence was approved in a 1993 referendum.

Though the Eritrean economy was relatively well advanced in 1950 compared to most countries in SSA, the 30 years war prior to liberation in Eritrea, the misguided policies of the old regime, drought and the recent border war with Ethiopia, resulted in a weakened and isolated economy, inadequate and war-ravaged infrastructure, lack of hard currency to pay for imports, high inflation rate, fiscal deficit increase, and gross international reserve decline. Eritrea is now one of the poorest countries in the world. Its gross national income per capita was only 200 USD in 1999 (World Bank, 2001a, p.12). Domestic output is substantially augmented by worker remittances from abroad. With 80% of the population depending on farming and herding, agriculture is the main sector of the Eritrean economy. However, its contribution to gross domestic product (GDP) is very low. While the agricultural sector in Eritrea is predominantly characterised by traditional subsistence farming with little use of modern agricultural inputs, productivity in this sector is low. In addition, this sector is extremely affected by persistent war and drought. For instance, the significant decline in crop production and loss of physical capital, due to the two and half year border war with Ethiopia (between May 1998 and December 2000), has caused the annual growth rate of GDP to decrease from

7.9% in 1997 to 0.8% in 1999 and then to -8.2% in 2000 (World Bank, 2002a, p. 1). This shows the reverse of the progress that has been achieved in the last decade.

The industrial sector, apart from having limited linkages within and between sectors, produces mainly basic consumer goods, which have less demand in the world market.

With around 3% annual population growth rate and 43% of the total population under the age 14, Eritrea is still facing several social problems. The basic social obstacles to development in Eritrea are low educational enrolments, poor access to basic facilities and housing problems. The share of illiterate people is still large in Eritrea. In some parts of the country, educational opportunities are still limited. Shortages of basic school facilities and teaching materials continue to exist in most schools, especially in rural areas. Short of medical personnel, basic drugs, equipment and facilities are the main hindrances to extensive and sufficient health services in Eritrea. Regarding housing, the problem of delay in allotting land to citizens who want to build new homes and the lack of domestic institutions and technically capable construction companies are some of the causes for housing problems either for dwelling or for business. Other than the above, shortage of water supply and electricity still exists in most parts of the country.

Though Eritrea, due to its geographical location, is expected to benefit in the future from the development of offshore

oil, offshore fishery and tourism, its economic future depends heavily on its ability to expand its human capital. At the same time, export promotion, expansion of private sector enterprises, openness to international markets and direct private foreign investments are essential development strategies.

3 The Eritrean Education System.

In Eritrea, schools are administered either by the Ministry of Education or by other institutions. Those schools that are administered by the Ministry of Education are known as government schools, whereas those schools that are managed by institutions are called non-government schools. Under non-government schools there exist community schools (schools that are administered by foreign communities), “Awkaf schools” (schools that are administered by Islamic religion association), mission schools (schools that are administered by churches) and public schools (schools that are administered by municipalities or village committees).

In terms of ownership, 699 out of 824 schools (elementary, middle and secondary level) were owned by the government in 1999/00. The rest of 125 schools were owned by non-governmental institutions (MOE, 2000b, p. 26). Concerning pre-primary level of education the government in year 1999/00

owned only 5 out of 90 schools. While the government owned 557 elementary, 109 middle and 33 secondary schools, schools that were owned by non-government were 98, 22, and 5 respectively. If we classify the 1999/00 total number of schools by location, we find that 510 out of 655 elementary schools, 81 out of 131 middle schools and 5 out of 38 secondary schools were located in rural areas (MOE, 2000b, p. 29). Despite a high number of populations living in rural areas, the number of pre-primary schools located in these areas was only 22 in the academic year 1999/00.

In Eritrea, children in the age group 5-6 are expected to be enrolled in pre-primary schools. The length of time in this level of education is two years. The elementary level of education covers 5 years (1-5) and a theoretical age range of 7 to 11. The middle level takes two years (grade 6 and 7) to complete, and the theoretical age category for this level is 12-13. Though it is hard to see in practise, both the elementary and middle level in Eritrea is compulsory as a rule. The time during which the secondary level lasts is four years (8-11). Theoretically, the age bracket for this level of education is 14-17. In middle and secondary level, the medium of instruction is English.

In Eritrea, teachers' qualification is measured in terms of number of schooling the teacher attained. Qualified teachers in elementary school are those teachers who are graduates of

Teacher Training Institute (TTI) or have an equivalent or higher education. For teachers in middle level, attainment of higher education diploma is a necessary qualification. To consider a secondary teacher as qualified, he/she has to have a first degree. Based on these definitions, therefore, the share of qualified teachers for elementary, middle and secondary level in 1999/00 was 71.8%, 30% and 69.6% respectively (MOE, 2000a, pp. 29-30).

The general objectives of the education system in Eritrea are:

- (a) to produce a population equipped with the necessary skills, knowledge and culture for a self-reliant and modern economy;
- (b) to develop self-consciousness and self-motivation in the population to fight poverty, disease and all the attendant causes of backwardness and ignorance; and
- (c) to make basic education available to all.

Among other things, the education policy and goals intend to: promote equal opportunity in terms of access, equity, relevance and continuity of education to all school-aged children; encourage the provision of education by private sector; to provide continuing education through formal and non-formal channels to

achieve a more literate and skilled population; and to make serious efforts in the sharing of the costs of education between government, communities and parents. On the basis of the education policy, therefore, the Ministry of Education has set itself some long term goals of raising access to elementary school aged children up to 80%, improving quality and efficiency at all levels, supporting pre-school initiatives, and reducing illiteracy rate to 40% by the year 2003.

Since independence education in Eritrea has expanded enormously. However, challenges concerning access and accessibility and equity are still continuing to exist in the country. For instance, the low net enrolment of school age children in general and girls' participation in particular is easily noticeable.

4 Women and Education in Eritrea.

In Eritrea, while traditional formal education was established for religious purposes, secular education was given as informal and non-formal education. The objective of religious education was mainly to educate males for religious vocations. Since women at that time were shut out of the ecclesiastical hierarchy and of the governance duties, religious education for girls was not as such important (Stefanos, 1997, p. 3). Due to this, the large number of Eritrean women was illiterate.

During the colonial period, no effort was done to educate women. Since the focus of the Italians and the British was on political domination and economic exploitation, education in Eritrea was considered as unnecessary (Smith, 2001, p. 5). In contrast to men, Eritrean women in the Italian colonial regime did not take part in Education. Even male Eritreans had a chance of receiving education only up to a fourth grade level. Because the Italians were associating higher education with the outlook for anti-colonial view by Eritreans, post-primary education for men was minimal in Eritrea. So, as it is written by Stefanos (1997, p. 4), only a small, predominately male segment of the population could claim rudimentary schooling after almost sixty years of Italian colonisation in Eritrea.

Unlike Italians, the British were less strict about educational opportunities. They expanded schools in villages and towns. As a result, the desire for education increased very rapidly. However, the relative increase in educational opportunities was highly reserved for males.

A positive attitude towards women and education became to be realised during the national liberation struggle. Accepting the value and importance of the inclusion of women in the struggle, the Eritrean People's Liberation Front (EPLF) committed itself to establish gender equality in education (Smith, 2001, pp. 5-6). However, parental views about female education were a basic obstacle. Apart from having a traditional belief in male

superiority, parents had an economic reason for not sending girls to school. Especially in rural areas, girls are still considered as a person born to perform domestic duties and agricultural labour (Stefanos, 1997, p. 7). With independence, crucial importance is being attached to insure equal access to education and training for girls. The government still believes that education is the most important factor facing the future role of women in Eritrea.

5 Eritrean Women in Socio-economic Activities.

The progressive position of the Eritrean government on the issue of women's status has its origins in the liberation struggle. During Eritrea's 30-year battle for independence from Ethiopia, Eritrean women fought next to men. This not only indicated that woman broke with male prerogatives, stereotypes, and self-stigmatisation but also brought a tremendous influence on the situation of women (Stefanos, 1997, p. 9). Because women were active combatants, they experienced a high degree of equality in education and employment. Specially, in 1974, the EPLF took a major decision to allow women to join its ranks and to increase gradually a series of policies that foster women's emancipation in the society (Smith, 2001, p. 6, Stefanos, 1997, p. 9). In addition to this, the EPLF established a women's or-

ganisation, known as National Union of Eritrean Women, in 1979. This organisation, by engaging Eritrean women activities at the grassroots levels, continues to work to change those factors that prevent women from education and economic participation.

Since independence, Eritrean women have enjoyed a legal right to equal educational opportunities, equal pay for equal work and legal sanctions against domestic violence. Besides, laws that gave women rights equal to men's to choose a marriage partner, pursue divorce and own family property were also passed (Stefanos, 1997, p. 10). As it has been stated in the country's Macro Policy the equal rights of women will be upheld and all laws that detract from this right will be changed (GSE, 1994, p. 43)

In spite of the above efforts, women in Eritrea continue to be affected by traditions. Since much of society in Eritrea remains traditional and patriarchal most women have inferior status to men, both in their homes and communities. Though the law provides a framework for improving the status of women, it will take time for changes to occur in traditional society and before civil rights gain priority over customary laws.

Participation of Eritrean women in the labour force has its roots in the Italian colonial period. Though usually only males were employed in cash crop plantation and in mines and urban factories, some of those women who were abandoned had also

left their villages and went to cities to look for jobs. While some entered the informal markets of brewing, handicraft, selling foodstuffs and laundry works, others worked their way into agricultural industries (Stefanos, 1997, pp. 5-6). Gradually some of them began to work in factories and others in Italian households as female servants, cooks and nannies. As a result of these activities, women got a chance of earning their own money.

In explaining the reason why women entered the urban labour market in Eritrea, Arneberg (1999, p. 5) has raised three possibilities, namely poverty, autonomy and incentive. The lack of a male breadwinner, the large labour force participation rate among women ex-fighters and the relative improvement in female level of schooling can respectively be considered as examples of the above three reasons.

According to the 1996 national survey on enterprises, the share of females working in all enterprises was more than 40% (GSE, 1996, pp. 37-38; 68-69). About 43% of all the country's micro, small, and medium enterprises (MSMEs)³ were owned by women. These female-owned enterprises have generated 38% of all MSMEs employment. In spite of the high percentage account of women in total labour force and enterprise owner-

³ In this survey Micro stands for enterprises employing 1-2 people, Small refers to those enterprises with total labour force of 3-9 people each, and Medium refers to those enterprises that have 10-25 employees. An enterprise that employs more than 25 employees is known as Large.

ship, women in Eritrea are still engaged as unskilled labour in the production process. For instance, skilled women represent only 7.4% of all employment in large enterprises (Heyde, 2001, p. 8). Therefore, sustainable human capacity development should be taken as the most important part of women's economic development.

6 Access to Education in Eritrea.

According to UNESCO Institute for Statistics one of the statistical indicators for access to education is Apparent Intake Rate (AIR). AIR is defined as the total number of new entrants in first grade of primary education, regardless of age, expressed as a percentage of the population at the official primary school-entrance age. AIR not only shows the capacity of the education system to provide access to grade one for the official school-entrance age population but also indicates the general level of access to primary education. Therefore, high AIR means high degree of access to primary education. In academic year 1999/00, the AIR in Eritrea was 68.4% for male and 54.7% for female (MOE, 2000a, p. 13). This shows that access to primary education in Eritrea remains limited, especially as far as girls are concerned. In 1999/00, the ratio of female to male values of AIR was 0.79, and the absolute gap between male and female

AIR was 13.7 percentage points. Such inequalities are likely to have an impact on the level of participation of girls later on in the primary education. The inequalities also highlight the difficulties that Eritrea is likely to have in achieving the goals of eliminating gender disparities in primary and secondary level.

Another indicator that uses to measure access to education is Net Intake Rate (NIR). NIR is a measure of the level of access (in percentage terms) to primary school of children at the official entry age. This indicator shows the level of access in primary education of the eligible population of primary school-entrance age. In 1999/00, the NIR in Eritrea was only 19.9% for male and 17.0% for female (MOE, 2000a, p. 14). This indicates the limited access to education in Eritrea. The reason why the NIR was much lower than AIR is that most of the students who were allowed to enter grade 1 in Eritrea were not of the official primary school entrance age. Out of the total number of students admitted in grade 1 in 1999/00 only 30% were in the official school entrance age, the rest 70% were either over-age or under-age or both (MOE, 2000a, pp. 13-15). However, there is a strong probability of being an over-age because, each year, a lot of students are rejected from entering grade 1. The preliminary data of the Ministry of Education in Eritrea indicates that between the year 1995/96 and 1998/99, the number of students rejected was more than 60,083 (MOE, 1999, p. 28).

7 Education For All (EFA): Pledges and Advance

The deep sense of unease about the inequalities associated with the 1980 prescription for radical free market had made governments (by the end of the decade) to shift their balance from the belief in the primacy of market forces to social development based on human rights (Watkins, 2000, p. 72). Different from goals that were set in 1980, 1990 was a year that focused on education because during this time progress towards education for all had almost stopped in many regions. Due to the burdensome debt, insufficient aid, fast population growth, inappropriate structural adjustment program design, and a stagnating economy, education systems of developing countries were broken down.

At the 1990 World Conference on EFA, taken place in Jomtien, Thailand, various governments approved a set of goals, including general primary education by the year 2000, reduction of adult illiteracy rates to one half of the 1990's level by 2000 (of course with an emphasis of female literacy), and an expanded vision of high quality education for all (Watkins, 2000, p. 71). However, at the 1995 World Summit on Social Development, the date of target for succeeding in reaching universal primary education by the year 2000 was improved and changed to 2015 and at the same time a new transitional target of gender equal-

ity by 2005 was brought into practise. Finally, holding a World Education Forum in Dakar, Senegal, in 2000, a resolution was passed to make an effort to achieve the desired targets.

Since the first targets were decided in 1990, quite a good progress has been made. In Eritrea, the rate of adult literacy (aged 15 and above) increased from 46% (58% for male and 35% for female) in 1990 to 56% (67% for male and 45% for female) in year 2000 (UNESCO, 2002, p. 100). Despite such an increase, the difference between male and female literacy rate is still large. In percentage points, the absolute gap between male and female literacy rate in year 2000 was 22. This shows that adult literacy rate in Eritrea should increase by 22 percentage points to attain gender equality. If we observe the ratio of the female to male adult literacy rate in year 2000 in Eritrea, we find that it was only 0.67. This indicates the slow progress towards gender equity in literacy and the level of learning opportunities for women relative to those available to men. Therefore, proportionately fewer women than men have basic literacy skills in Eritrea.

Between the academic year 1991/92 and 1999/00, the total number of students enrolled in pre-primary education in Eritrea increased by 84% (see Table 1). In between these years, female and male enrolment increased by 97% and 72% respec-

tively. Unlike in academic year 1991/92 and 1992/93 (in which number of female enrolment was greater than number of male enrolment), the percentages of female enrolment were less than male enrolment in all the other academic years. What is surprising in this level of education is that the absolute gender gap in percentage points has widened from -2.8 (a reverse gender gap) in 1991/92 to 4.0 in 1999/00, a 6.8 percentage points increase. To reach gender equality in pre-primary level in Eritrea, therefore, female enrolment should increase by 4.0 percentage points (if we take the 1999/00 pre-primary enrolment data into account).

From Table 1, one can observe that gender parity index was greater than 1 only in academic year 1991/92 and 1992/93. To say that there is gender equity in pre-primary education in Eritrea, the gender parity index should be equal to 1. Though it seems that gender equality in pre-primary level can easily be achieved, no remarkable change has been done in the last years. Especially in year 1998/99, gender disparity was wide relative to other academic years.

Table 1 **Enrolment in pre-primary education,
1991/92-1999/00**

Year	Enrolment in pre-primary			% Female	(M-F)	(F/M)
	Total	Male	Female		(% points)	
1991/92	6461	3142	3319	51.4	-2.8	1.06
1992/93	7031	3426	3605	51.3	-2.6	1.05
1993/94	7748	3909	3839	49.3	0.4	0.98
1994/95	8032	4102	3930	48.9	2.2	0.96
1995/96	8180	4201	3979	48.6	2.8	0.95
1996/97	7443	3791	3652	49.1	1.8	0.96
1997/98	9300	4683	4617	49.6	0.8	0.98
1998/99	11581	6168	5413	46.7	6.6	0.88
1999/00	11885	6181	5704	48.0	4.0	0.92

Source: MOE, 2000a, p. 12; and author's calculation

Notwithstanding its lower level, the total gross enrolment ratio (GER)⁴ in pre-primary education in Eritrea has gone up from

⁴ UNESCO defines gross enrolment ratio as total enrolment in a specific level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education in a given school year. GER shows the general level of participation in a given

3.4% in 1991/92 to 5.1% in 1999/00 (a 1.7 percentage points increase). While male GER increased from 3.3% to 5.3% (a 2.0 percentage points increase) in this period of time, female GER rose from 3.5% to 4.8% (a 1.3 percentage points increase).

Table 2 **Gross enrolment ratios in pre-primary level, 1991/92-1999/00**

Year	Gross Enrolment Ratio			(M-F) (% points)	(F/M) (parity index)
	Total	Male	Female		
1991/92	3.4	3.3	3.5	-0.2	1.06
1992/93	3.6	3.5	3.7	-0.2	1.06
1993/94	3.9	3.9	3.8	0.1	0.97
1994/95	3.9	4.0	3.8	0.2	0.95
1995/96	3.9	4.0	3.8	0.2	0.95
1996/97	3.4	3.5	3.4	0.1	0.97
1997/98	4.1	4.2	4.1	0.1	0.98
1998/99	5.1	5.4	4.7	0.7	0.87
1999/00	5.1	5.3	4.8	0.5	0.90

Source: MOE, 2000a, p. 12; and author's calculation.

level of education. It also indicates the capacity of the education system to enrol pupils of a particular age-group

Between the year 1991/92 and 1999/00, total enrolment in elementary level in Eritrea has increased from 150,870 to 295,941 (a 96.1% increase). Notwithstanding, the share of female enrolment in this level of education did not change. In year 1991/92, only 45.9% of the students were girls. Still after eight years that is in 1999/00 participation of girls in elementary level was 45%. Therefore, the increase in number of enrolment did not bring about a positive change in gender gap.

Table 3 **Enrolment in elementary level, 1991/92-1999/00**

Year	Enrolment in elementary level			% Female	(M-F)	(F/M)
	Total	Male	Female			
1991/92	150982	81746	69236	45.9	8.2	0.85
1992/93	184656	102235	82421	42.3	15.4	0.74
1993/94	208199	115663	92536	44.4	11.2	0.80
1994/95	224287	124544	99743	44.5	11.0	0.80
1995/96	241725	133471	108254	44.8	10.4	0.81
1996/97	240737	132250	108487	45.1	9.8	0.82
1997/98	247499	135569	111930	45.2	9.6	0.82
1998/98	261963	143578	118385	45.2	9.6	0.82
1999/00	295941	162896	133045	45.0	10.0	0.82

Source: MOE, 2000a, p. 16; and author's calculation

To attain gender equality in elementary education in Eritrea, female enrolment should increase by 10.0 percentage points in 1999/00. Besides, the ratio of female to male enrolment was 0.82 in 1999/00.

When female enrolment in elementary level is seen in terms of administrative zones⁵ in Eritrea, the Southern and Northern Red Sea zones had the lowest percentage of female enrolment in academic year 1999/00. In Southern Red Sea zone, only 33.3% of the students in elementary level were female, and in Northern Red Sea zone, only 34.3% were girls (MOE, 2000b, p. 45).

In spite of the increase in GER, the absolute gender gap in elementary education has increased from 4.9 percentage points in 1991/92 to 9.9 percentage points in 1999/00 (Table 4). Considering the absolute gender gap in 1999/00, female gross enrolment ratio in elementary level should increase by 9.9 percentage points to achieve gender equality. The 1999/00 gender parity index also indicates that female GER for elementary level was only 0.84 of the male GER.

⁵ Eritrea is divided into six administrative zones. These are Southern Red Sea, Northern Red Sea, Anseba, Gash-Barka, Southern, and Central (for more information see map of Eritrea in Appendix 1, p. 50.)

Table 4 **Gross enrolment ratio in elementary level, 1991/92-1999/00**

Year	Gross enrolment ratio			M-F	F/M
	Total	Male	Female		
1991/92	36.3	38.7	33.8	4.9	0.87
1992/93	43.2	47.1	39.1	8.0	0.83
1993/94	47.4	51.9	42.8	9.1	0.82
1994/95	49.7	54.4	44.9	9.5	0.82
1995/96	52.2	56.8	47.5	9.3	0.84
1996/97	50.6	54.8	46.3	8.5	0.84
1997/98	50.6	54.7	46.5	8.2	0.85
1998/99	52.2	56.4	47.9	8.5	0.85
1999/00	57.5	62.3	52.4	9.9	0.84

Source: MOE, 2000a, p. 16, and author's calculation.

In Middle level, total enrolment in Eritrea increased from 27,917 in 1991/92 to 74,317 in 1999/00 (a 166.2% increase). However, year on year the percentage of female enrolment did not show any improvement. It only reached its highest percentage (48.4%) in year 1991/92. The absolute gap in percentage points has increased from 3.2 in 1991/92 to 15.4% in 1997/98 and finally to 10.4 in 1999/00. To reach gender equality in middle level in Eritrea, a 10.4 percentage points increase in female enrolment was needed in year 1999/00.

Table 5 **Enrolment in middle level, 1991/92-1999/00**

Year	Enrolment in middle level			% Female	M-F	F/M
	Total	Male	Female			
1991/92	27917	14414	13503	48.4	3.2	0.94
1992/93	28431	15052	13379	47.0	6.0	0.89
1993/94	32781	18129	14652	44.7	10.6	0.81
1994/95	34995	19310	15685	44.8	10.4	0.81
1995/96	39751	21648	18103	45.4	9.0	0.83
1996/97	47460	26739	20721	43.6	12.8	0.77
1997/98	57152	32998	24154	42.3	15.4	0.73
1998/99	67021	37731	29290	43.7	12.6	0.78
1999/00	74317	41033	33284	44.8	10.4	0.81

Source: MOE, 2000a, p. 20; and author's calculation.

In middle level, despite the increase in GER for both male and female, the absolute gap in percentage points has increased from -0.4 in 1991/92 to 8.0 in 1997/98 and then, with a relatively small improvement, it was 5.5 percentage points in 1999/00. This indicated that in middle level of education in Eritrea, a 5.5 percentage points in female GER was required to attain gender equality in 1999/00.

Table 6 **Gross enrolment ratio in middle level,
1991/92-1999/00**

Year	Gross enrolment ratio			M-F	F/M
	Total	Male	Female		
1991/92	20.1	19.9	20.3	-0.4	1.0
1992/93	19.9	20.3	19.6	0.7	0.96
1993/94	22.4	23.8	20.9	2.9	0.88
1994/95	23.3	24.7	21.8	2.9	0.88
1995/96	25.7	26.9	24.4	2.5	0.90
1996/97	29.9	32.4	27.2	5.2	0.84
1997/98	35.1	38.9	30.9	8.0	0.79
1998/99	40.1	43.3	36.5	6.8	0.84
1999/00	43.2	45.9	40.4	5.5	0.88

Source: MOE, 2000a, p. 20; and author's calculation.

Enrolment in secondary level in Eritrea has increased from 27,627 in 1991/92 to 59,626 in 1999/00 (a 115.8% increase). However, such a significant improvement in secondary education did not bring about a positive change in enrolment gap between male and female. The share of female students has decreased from 48.3% in 1991/92 to 37.0% in 1999/00. In 1991/92, for instance, a 3.4 percentage points in female enrolment was needed to reach gender equality in secondary level, whereas in 1999/00, to attain gender equality, female enrolment

should increase by 26.0 percentage points. In 1999/00, the ratio of female to male value of enrolment was only 0.59. Apart from the Central administrative zone (in which the share of female enrolment in secondary level was 46.3% in 1999/00) the other administrative zones in Eritrea had female enrolment of less than 30% (MOE, 2000a, p. 21).

Table 7 **Enrolment in secondary level,
1991/92-1999/00**

Year	Enrolment in secondary level			% Female	M-F	F/M
	Total	Male	Female			
1991/92	27627	14281	13346	48.3	3.4	0.93
1992/93	31531	17141	14390	45.6	8.8	0.84
1993/94	32756	19432	13324	40.7	18.6	0.67
1994/95	36728	22097	14631	39.8	20.4	0.66
1995/96	39188	23713	15475	39.5	31.0	0.65
1996/97	40594	24262	16332	40.2	19.6	0.67
1997/98	41615	25198	16417	39.4	21.2	0.65
1998/99	47533	29777	17756	37.3	25.4	0.59
1999/00	59626	37533	22093	37.0	26.0	0.59

Source: MOE, 2000a, p. 22; and author's calculation.

In Eritrea, despite a total increase in GER (from 12.2% in 1991/92 to 21.3% in 1999/00), its absolute gap in percentage

points has increased from 0.1 to 9.8 in 1991/92 and 1999/00 respectively (Table 8). To achieve gender equality, female GER should increase by 9.8 percentage points in 1999/00. The gender parity index shows that in 1999/00 female GER for secondary level was only 0.62 of the male GER.

Table 8 Gross enrolment ratios in secondary level, 1991/92-1999/00

Year	Gross enrolment ratio			M-F	F/M
	Total	Male	Female		
1991/92	12.2	12.2	12.1	0.1	0.99
1992/93	13.6	14.3	12.7	1.6	0.88
1993/94	13.7	15.8	11.5	4.3	0.73
1994/95	15.0	17.5	12.3	5.2	0.70
1995/96	15.5	18.3	12.7	5.6	0.69
1996/97	15.7	18.2	13.0	6.2	0.71
1997/98	15.7	18.4	12.7	5.7	0.69
1998/99	17.4	21.2	13.4	7.8	0.63
1999/00	21.3	26.0	16.2	9.8	0.62

Source: MOE, 2000a, p. 22; and author's calculation

Interestingly, except for elementary level, there was almost no gender gap in non-government schools. Even in elementary level the gender gap in enrolment was lower in non-government schools than government ones (Table 9).

Since all the barriers to female education (such as parental low income, distance to school, tradition, and etc.) are relatively more noticeable in rural areas, the low share of non-government schools in rural areas can be a good reason for high female enrolment in non-government schools. In 1999/00, the share of government schools located in rural areas was 77%, whereas the share of non-government schools in these areas was less than 50% (MOE, 2000b, p. 28).

Table 9 Share of female enrolment in government and non-government schools, 1991/92-1999/00 (in percent)

	Elementary		Middle		Secondary	
	Gov.	Non-gov.	Gov.	Non-gov	Gov.	Non-gov
1991/92	46.0	45.9	53.3	30.3	47.7	47.4
1992/93	44.3	46.3	46.4	49.9	45.5	47.3
1993/94	44.0	47.0	43.6	50.6	39.8	54.1
1994/95	44.0	47.3	43.8	50.8	38.6	56.0
1995/96	44.3	47.9	44.5	52.9	37.6	59.0
1996/97	44.6	48.0	42.5	51.8	38.7	57.2
1997/98	44.8	48.7	41.4	50.6	38.2	57.4
1998/99	44.8	48.0	43.2	48.8	36.6	53.4
1999/00	44.6	47.8	44.4	50.3	36.3	55.1

Source: MOE, 2000b, p. 16; and author's calculation

Apart from literacy and enrolment other indicators such as percentage of repeaters⁶ reveals important pattern and trends in women's education. Grade repetition is one form of school wastage. By extending the school cycle, a high percentage of repetition can not only make the per capita costs of education greater in amount but also increase the direct and indirect costs of education to households. Besides, repetition has the effect of enlarging class sizes and creating pedagogical problems (problems that are associated with teaching over-age children). Pupils who need more than one year to complete a grade take use an amount of space, teaching time, textbooks, and other resources that could be devoted instead to other students. In academic year 1999/00, the percentage of repeaters in elementary, middle, and secondary level (excluding grade 11) in Eritrea, was 19.4%, 21.5%, and 15.1% respectively (MOE, 2000b, pp. 16, 73-75). In all levels of education the percentage of female repeaters was higher than the percentage of male repeaters. Though there is no clear-cut reason for the relative high percentage of female repeaters in Eritrea, some factors are well worth mentioning. For instance, the cultural belief that a female is nothing other than to be a wife not only hampers readiness of a girl for school but also reduces parental motivation for fe-

⁶ Percentage of repeaters can be defined as total number of students who are enrolled in the same grade as in a previous year, expressed as a percentage of the total enrolment to the specific grade.

male's schooling. As a result, some girls feel no interest in education and thus forced to repeat. Furthermore, the plenty of time spent by female students doing domestic chores has a negative effect on their school performance, and thus grade repetition.

Table 10 School enrolment and repeaters by gender and level of education, 1999/00

	Enrolment	Repeaters	% Repeaters
Elementary			
Male	162896	30798	18.9
Female	133045	26568	20.0
Middle			
Male	41033	7053	17.2
Female	33284	8579	25.8
Secondary⁷			
Male	33518	3999	11.9
Female	19953	3641	18.2

Source: MOE, 2000b, pp. 16, 66, 73 and author's calculation.

⁷ School enrolment and repeaters in secondary level do not include grade 11 because students in grade 11 have to sit for a national exam known as Eritrean Secondary Education Certificate Examination (ESECE).

8 Returns to Women's Education

Before writing about the barriers to female enrolment and ways of closing the gender gap in education in Eritrea, it is essential to grasp the advantages of female education. It is indisputable that investment in women's education has high returns. The convincing evidence is that the total benefits to education increase when girls and women are given equal opportunities to enrol. As experts of the World Bank say it, countries, which promote women's rights and increase their access to resources and schooling, enjoy lower poverty rates, faster economic growth than countries that do not (World Bank, 2001b, p. 1). It is suggested by various cross-country studies that gross national product (GNP) per capita in regions of Middle East and North Africa, South Asia and Sub-Saharan Africa would have grown by 0.5 and 0.9 percentage points higher per head if these regions had been successful as East Asia in narrowing the gender gap in education during the 1960-1990 (World Bank, 2001b, pp. 1-2). Considering both private benefits and returns to other family members, women's education is an economic investment because educated women have the capacity to enter the paid labour force. The evidence is that there is a direct effect of increased female education on wages of female employees. Therefore, female education increases the value of women's time in economic activities by raising labour productiv-

ity and wages, with a consequential rise in household incomes and reduction in poverty (Subbarao and Raney, 1995, p. 105).

In Eritrea, the private rate of return to investment in education is higher for both male and female. It has been found that each additional year of schooling increases women's earnings by about 8.7% (Kifle, forthcoming).

Educating girls is much more effective in creating social benefits. Despite the fact that better educated women are likely to spend less time in the home, women's education is associated with quantifiable increases in home output (Schultz, 1993, p. 68). In addition to generating private returns from labour market participation, women's education has a strong impact on variables such as their children's health and mortality as well as their own fertility and reproductive health (Parker and Pederzini, 1999, p. 2). As it is reported by Brixiova, Bulir and Comenetz (2001, p. 19), the nutritional status of a child in Eritrea is positively related with his/her mother's level of education. Similar studies have also concluded that there is an inverse relationship between a mother's schooling and the incidence of mortality among her children. In his article Schultz (1993, p. 69) has stressed that although mortality trends to be higher in rural than in urban areas in many low income countries, the reduction in child mortality associated with an additional year of mother's schooling is about the same, between 5 and 10 percent. In the HRO dissemination notes of the World Bank (1993a, p. 1), it is

written that each year of mother's schooling reduces the mortality rate of her children up to 10%. Putting emphasis on the effect of mother's education on better-nourished children, it is indicated (in the same source) that, on average, one additional year of schooling for a mother results in a reduction of 9 per 1000 in child or infant mortality. Stressing that greater equality in education between women and men means healthier families, the World Bank (2001b, p. 2) estimated that child mortality in Africa would have been 25% lower than it was in 1990 if women and men in Africa had more equal schooling. The reason why a mother's education explains more of the variation in child mortality is that educated women have greater propensity to care for their children, to use more health facilities, and to adopt modern health practices (Jejeebhoy, 1995, p. 97).

Another important non-market returns to women's education is the link between a mother's education and her fertility. In their study on gender gap in education in Eritrea, Brixiova, Bulir and Comenetz (2001, p. 19) have found the following estimates. It was estimated that women aged 15-49 who completed primary education had a 2.6 less fertility rate than those with no education. Further, while 4% of women aged 15-49 who completed primary education was pregnant; it was 11% for those women with no education. Regarding teenage motherhood, they found that 33.5% of women (aged 15-19) with no education were

mothers, whereas it was only 6.6% for those women who completed primary education. Concerning teenage pregnancy, 8.1% of women aged 15-19 with no education and 1.3% of women with primary complete were pregnant with first child. By quoting from the writing of Summers, Appleton (1996, p. 139) has written that increasing female education is a more cost effective method of reducing fertility in developing countries than expenditure on family planning programs. Previous studies within individual countries also show that an extra year of female schooling reduces female fertility by 5-10 percent (World Bank, 1993a, p. 1). In Eritrea, the reason for the inverse relationship between mother's education and fertility can be explained in a number of ways. First, educated women are able to do or decide things by themselves rather than depending on children for economic and social survival. Second, unlike poorly educated women, educated women feel certain that their children will survive, and hence it seems improbable that they need many children so that some survive. Third, for better-educated women the economic and time costs associated with bringing a child up are expected to be high. Fourth, education may lead mothers to value the education of their children more highly, including a change from child quantity to quality. Fifth, education may also change attitudes to the practice of preventing a woman from becoming pregnant (use of contraceptive). Sixth, better-educated women marry later. As reported by Brixiova, Bulir and

Comenetz (2001, p. 19) 1% of women aged 15-49 with no education and 20.5% with primary complete were using family planning techniques. Besides, the median age at first marriage for women with no education and for those who completed secondary level was 16.2 and 23.9 respectively.

At large, it is undeniable fact that women's education has been demonstrated to have a very large and positive external effect apart from their beneficial effects on the woman itself.

9 Barriers to Female Education

In the previous section, we have seen the variety of returns to women's education. Now, the question is, if women's education is so advantageous, why gender gaps in education continue to exist? The problems that prevent female enrolment are many, but for the sake of simplicity, they can be divided into two factors, namely out-of-school factors and in school factors, or demand side factors and supply side factors.

- (a) Out-of-school factors include direct and indirect costs of education, early marriage and pregnancy, parental expectation of their daughters, and lower remuneration and limited employment opportunities for women.

For poor parents, the cost of education can be great in amount even when government pays for much of it. The lower the income of the families, the lower will be the probability of sending their children to school. Direct costs of schooling include school fees, books, transport and uniform. As reported by Murard (1998, p. 59) if a family's income is low, the son is normally chosen to attend school than the daughter.

As a social service, the government in Eritrea has been providing free and compulsory basic education, however, students are requested to pay minimal fees for registration and miscellaneous fees related to student activities (MOE, 1999, p. 41). Besides, students pay service charge for using school books. The studies conducted in 1996 show that, on the average, the expenditure on schooling as a percentage of the total money spent by a family on a primary school child in Eritrea was estimated to be 6.92% (MOE, 1999, p. 42).

The opportunity costs of educating children are higher for low-income households for the reason that such households depend more on their children for survival. Since the opportunity costs of schooling (which include foregone earnings, sibling care, and domestic chore) are more incurred by girls than boys, parents prefer to send boys to school than girls. In Eritrea, girls participate more in household activities, support the mothers in bringing water and wood and assist in other tasks of the family, hence there exists gender disparity in education. The study car-

ried out in Eritrea shows that 6 to 7 hours a day are spent on daily housework by girls aged 10-15 (Smith, 2001, p. 7).

Early marriages and pregnancies, especially in rural areas, are self-explanatory because the correlation between early marriages and pregnancies and female enrolment is always inverse. In Eritrea, the combined effect of female dropout rates and early marriage can highly hinder female participation in education. According to Brixiova, Bulir and Comenetz (2001, p. 16) one of the reasons for widening of the gender gap in education, especially in secondary level, in Eritrea is the high fertility rate of women in the secondary school age bracket. Families prepared Eritrean girls for marriage. They were thought to be obedient and quiet, to respect the leading roles played by males and to take on responsibility for bearing and rearing children, and this responsibility not only hinders them in attending school but also precludes them from external job (Smith, 2001, p. 7). For some parents, schools are even viewed as places that influence girls' purity.

The cultural belief that the role of a girl/woman is nothing other than to be a wife and mother has a consequence for reducing parents' incentives to invest in human capital of their daughters. Lack of academic culture is one of the biggest obstacles to girls' academic issues. Smith's article about women and education in Eritrea explains that women are looked upon as daughters, as wives, and as mothers (Smith, 2001, p. 7).

Their duties are domestic. From a very young age girls learn domestic skills and begin to take on domestic duties, such as cooking, sewing, washing, cleaning, child caring, and supplementing the household income with cottage crafts. In many regions there is a strong belief that a son should be educated because, unlike a daughter who after her marriage serves another family, a son will need to support his aged parents.

In countries where girls have few opportunities in the labour market or where remuneration for women is lower than men, investment in daughters' education is seen as waste, and thus reduces parental willingness to invest.

- (b) In-school factors that prevent female enrolment include access to school, low proportion of female teachers, school facilities, and gender-bias in school.

Usually, access to schooling is a major cause of school participation. Availability of schools within a reasonable distance from home is often a precondition for school participation, especially for girls. In various studies, it has been found that female enrolment is negatively correlated with distance to school. In Eritrea, in spite of a high distribution of elementary and middle schools in rural areas (see section 3) access to education, especially to girls, remains limited. Rural areas in Eritrea account for about 54.3% of the total basic education student population

and for about 73.1% of the schools (MOE, 1999, p. 36). However, the gap between the number of children attending primary school in urban areas and those in rural areas is large and hard to bridge. From the survey conducted by UNICEF it is found that the urban/rural divide is great in Eritrea: 79% of children in urban areas attend school, while only 24% children from the country side are in school (UNICEF, 2000, p. 5). The main reason for this is that the average distance between schools is about 14.8 km at elementary and 34.5 km at the middle level while the average distance between villages is about 7.2 km (MOE, 1999, p. 38). This indicates the long distance of schools from home. Therefore, in addition to strong cultural constraints and indigence, longer distance from home to school affects girls more than boys. In many families, girls do not attend school not only because parents feel that the education received by girls is inappropriate but also the risks are too great.

Extensive research on education has produced the advantages that can be obtained by hiring female teachers (Bellew and King, 1993, pp. 294-296). Surveys show that the presence of female teachers is likely to encourage parents to send their children to school, both because it gives parents an increased sense of security, and because it improves learning among girl students (Watkins, 2000, p. 115). Gender gaps in education are expected to narrow in schools with a higher proportion of female teachers. As can be seen from Table 11, the gap between

male and female enrolment in elementary level in Eritrea has widened from 8.2 in 1991/92 to 15.4 in 1992/93, and finally to 10.0 in 1999/00. During this time, the gender gap between male and female teachers has increased from 23.2 in 1991/92 to 25.2 in 1999/00. A similar situation has also happened in the middle level. With an increase in absolute gap in enrolment in middle level (from 3.2 in 1991/92 to 10.4 in 1999/00), the gender gap in teachers has also widened (from 64.6 in 1991/92 to 74.6 in 1999/00). Different from the above, as the gap between male and female secondary students extremely widened (from 3.4 in 1991/91 to 26.0 in 1999/00) the gender gap in teachers has narrowed from 82.4 in 1991/92 to 79.2 in 1999/00. If, by assuming that gender gap in school will narrow with a high proportion of female teachers, we calculate the simple linear correlation between absolute gender gap in enrolment and absolute gender gap in teachers, we find in elementary level a weak positive correlation, in middle level a relatively high positive correlation, but in secondary level there exists a negative correlation which is contrary to the general concept that both gaps move together.

The argument that there is a positive correlation between participation of female teachers and female enrolment is applicable to Eritrea, but only for a given period of time, level of education and regions (see Table 12).

Table 11 Gender gap in students and in teachers, 1991/92-1999/00 (in percentage points)

Year	Gender Gap in Students (GGS) and Gender Gap in Teachers (GGT)					
	Elementary level		Middle level		Secondary level	
	GGS	GGT	GGS	GGT	GGS	GGT
1991/92	8.2	23.2	3.2	64.6	3.4	82.4
1992/93	15.4	25.8	6.0	66.6	8.8	79.4
1993/94	11.2	29.2	10.6	71.4	18.6	79.6
1994/95	11.0	29.4	10.4	70.6	20.4	80.0
1995/96	10.4	30.6	9.0	68.6	21.0	80.2
1996/97	9.0	27.8	12.6	66.6	19.6	77.6
1997/98	9.6	24.8	15.4	70.8	21.2	76.4
1998/99	9.6	30.0	12.6	75.4	25.4	77.2
1999/00	10.0	25.2	10.4	74.6	26.0	79.2

Source: MOE, 2000a, pp. 9, 16, 20, 22 and author's calculation.

Table 12 Percentage of female enrolment and female teachers by region and level of education, 1999/00

Zone	% Female enrolment by grade			% Female teachers by grade		
	(1-5)	(6-7)	(8-11)	(1-5)	(6-7)	(8-11)
Anseba	43.2	41.3	28.2	29.9	6.1	7.1
Southern Red Sea	34.3	37.8	38.5	18.5	10.0	0.0
Southern	46.2	39.5	27.4	38.9	8.0	7.0
Gash-Barka	41.4	35.1	24.9	26.8	9.0	5.4
Central	50.0	54.4	46.3	53.3	20.0	13.1
Northern Red Sea	35.5	31.4	24.3	20.4	7.4	9.6

Source: MOE, 2000b, pp. 45-69; and author's calculation.

If we observe from Table 12 the percentage of female enrolment and the percentage of female teachers in elementary level in Central administrative zone, we notice that both parameters have the same percentage effect. In elementary level in Southern administrative zone, where one in 2.6 teachers was female in 1999/00, girls comprised 46.2% of all elementary school students. Similar analysis, but with weak correlation, can also be

made in elementary levels in Anseba and Gash-Barka administrative zones.

It is frequently asserted that gender-bias in schools reduces female desire for education. Gender stereotype in curricula and textbooks, teachers' insensitivity to gender issue and teachers' perception of female students' ability are all examples of gender-bias in school that hampers female enrolment. In Eritrea, instructional materials are scarce and gender-biased. Besides, girls' learning needs are not met through existing curriculum and teaching materials (UNICEF, 2002, p. 1). Moreover, as an in-school factor, lack of school facilities such as lavatories and other hygienic facilities is also expected to have a negative effect on girls' school participation.

Other than the above factors, girls' participation in school can be influenced by political or institutional factors such as government budget constraint, insufficient public support for the poor, poor quality of educational programs, lack of clear strategy for women and girls' education, and inconsistent educational policies (UNESCO, 1997, p. 9).

Finally, when all these factors combined, the end result will be either low female enrolment or high female school dropout or, in extreme case, high proportion of illiterate women, and with that reduced contribution to national economic and social development. In their article about the gender gap in education in Eritrea, Brixiova, Bulir and Comenetz (2001, p. 17) have

found that the effect of increased educational inequality in Eritrea would, other things being equal, reduce long term per capita GDP growth by about 0.1-0.2 percentage point a year. The possible negative effect of the widening gender gap in education in Eritrea, according to them, is the cost on productivity and growth resulting from low accumulation of human capital, inefficient allocation of resources within household and high fertility rate. Therefore, unless the aggregate education achievements increase very fast, gender gap in education will likely to have a negative effect on the aggregate increase in human capital.

10 Main strategies and policies for reducing gender gap in education.

Since the barriers to female education are many, taking a simple preventive measure cannot eliminate gender gap in education. Therefore, a number of different measures have to be taken either to narrow gender gap or, if possible, to achieve gender equality in education. Concerning Eritrea, gender gap in education can be reduced by

(a) Community mobilisation: By conducting a campaign for female enrolment there is a possibility of increasing community or parental awareness of the benefits from women's education. As a result of family awareness, the participation of girls in school can be increased. In his article on women and education in Eritrea, Smith (2001, p. 21) has stated that campaign to raise

women's profile, commemoration of significant female figures, celebration of female achievements, and persuading people the importance of women, as professionals are best methods for mobilising community. In the mobilisation process, religious leaders, community elders and local administrators can play a great role in Eritrea. This is important because the greatest barriers to girls' participation in education in Eritrea still continue to be social and cultural beliefs that have existed for a long and are not easy to change in a short period of time. However, with an advancement of societies, there is a hope that beliefs entrenched by tradition will slowly change;

(b) Improving access to schooling: Because long distance to school is believed to discourage parents from sending their daughters to school, the most cost-effective mechanism of improving access to schooling is the introduction of double or multiple shifts at school. With the introduction of this, a rise in female enrolment is expected to happen. Apart from this, class size increase, introduction of multigrade classes, expansion of single-sex schools, introduction of quotas that reserve school places for girls, and location of schools in places where more children exist are alternative ways of improving access to schooling. Regarding an increase in class size, it is argued that a small increase in class size does not affect the performance of students, rather it gives students, especially girls, the opportunity to enrol in school near their home. Access to schooling in

Eritrea can also be improved by encouraging the private sector. This is important because the contribution of the private sector in education in Eritrea is still low. For instance, in 1999/00 the share of schools administered by non-government and the share of students enrolled in non-government schools were only 15.2% and 8.7% respectively (MOE, 2000b, pp. 16 and 26).

(c) Lowering the direct cost of education: Since to invest in education one has to incur direct costs, parents who cannot afford the money to send all their children to school prefer boys to enrol. However, to tackle such a problem and thus give girls the chance to enrol, reduction in direct cost of education is essential. This can be done through reducing school fees, providing learning materials and textbooks free of charge, giving transportation and/or uniform subsidy, and by giving girls scholarships to help pay for their education. So far, to help parents with the direct cost of schooling, students in rural areas of Eritrea are not obliged to use school uniforms. Besides, for the introduction of uniforms on mass production and cost effective ways in the long run, a study has been conducted in Eritrea (MOE, 1999, p. 41). Understanding the financial difficulties of parents, the government has also tried to supply school materials to rural schools (MOE, 1999, pp. 41). In spite of all these efforts, education in Eritrea remains inaccessible for many children, especially for girls.

(d) Reducing opportunity cost: For girls' education, parents must also allocate time other than cash outlays. Since girls in developing countries spend many hours in doing household activities, the opportunity cost of sending a girl to school is always high. However, by lowering the opportunity cost of girls' schooling (but not preventing parents from getting the benefits that could be get by not sending their daughters), there is a possibility of increasing girls' participation in education. For instance, by expanding evening classes, by making school schedule more flexible, by providing day-care centres, and by introducing a simple labour saving techniques. A particular case of the need to expand evening schools in Eritrea is that 61% of the evening students who passed an exam in grade 7 National Examination and 70% of the evening students who took an examination in Eritrean Secondary Education Certificate Examination (ESECE) in 1999/00 were female (MOE, 2000b, pp. 76-77);

(e) Recruitment of female teachers: Based on the general evidence that female enrolment increases with the increase in female teachers, it is suggested that recruitment of female teachers, especially in rural areas, could help more girls to enrol. As stated by UNICEF (2002, p. 1) only 35% of all teachers in Eritrea are female (as low as 12% in rural areas). Though, it is expected that female teachers are less likely to teach in rural areas, incentives such as free boarding, extra training and salary are vital for hiring more female teachers;

(f) Improving the overall quality of schooling: The argument for the need to improve the overall quality of schooling stems mainly from poor curricula design. Hence, curricula presented in textbooks must avoid gender-sensitivity and gender-bias texts; and finally

(g) Gender issues through education systems should be taken as an integral part in any plan for development.

10 Conclusions

Notwithstanding traditional beliefs in male superiority, special focus on female education in Eritrea has its roots in the national liberation struggle period. During the colonial periods, no specific effort was made to educate Eritrean women. The participation of women in the struggle for independence has helped women to be treated equally in aspects of employment and education. The inclusion of some female fighters in the EPLF's ranks and the establishment of women's organisation are two examples of movement towards greater sexual equality. Such progress has also continued after independence. Despite a desire for increasing girls' participation in education, access to education in Eritrea, especially to girls is still limited. From both the total enrolment and the GER one can observe the existence of gender gap in education in Eritrea at all levels

of education. Each year, the increase in enrolment does not help to narrow the gender gap. However, it is known that women's education has not only economic but also social benefits. The increase in women's education has a great benefit at both macro and micro levels. The twofold problem of gender gap in education in Eritrea is out of school factors and in school factors. Actually, there is no simple remedy for the existing educational gender gap in Eritrea, however, the traditional beliefs and customs of the people have to be changed primarily so as families and communities understand much about the importance of female education. Simultaneously, improvement in access to and quality of schooling, reduction in direct and indirect costs of education, and increase of female teachers have to be made to narrow gender gap in education in Eritrea.

Appendix 1: Map of Eritrea



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