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Education in Eritrea: Developmental Challenges

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Abstract

The ongoing national reconstruction process of Eritrea is centered on educational reformation. The government of Eritrea placed educational policy on top priority for national development which demands the emergence of new class of trained youth blended with disciplined minds and skills instead of raw graduation. It had established about eight colleges at tertiary level within a short span of time to build human resource required for the present and future. In line with this, it laid down new policies and curricula suit to the immediate national scenario. This article analyzed the strengths and weaknesses of the educational policies, planning and the infrastructure requirements to meet the intended goal. It explored and analyzed Eritrean educational development and its key challenges. It also provided some useful insights for policy development. The data for the study were mainly collected from the reports of Ministry of Education and other colleges in Eritrea. The outcome of the educational reformation is expected to have a profound effect in the development of the country.

Keywords: Education, Eritrea, Human capital and Economic development, Economic growth, Gender inequality.

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INTRODUCTION AND BACKGROUND

Increase in human population imposes rapid changes on the planetary resources of a country. The scope and impact of such changes have multiple dimensions and implications that transcend geographic and cultural boundaries. The Human Development Report states that "to address the growing challenges of human security, a new development paradigm is needed that puts people at the centre of development, regards economic growth as a means and not an end, protects the life opportunities of future generations as well as present generations, and respects the natural systems of which all life depends" (UNDP, 1994).

Many authors have discussed the crucial role of human capital for growth and economic development. Even though some authors underlined the possibility of a negative relationship between girls' education and growth (Barro & Sala-i-Martin, 1996), most of them showed the importance of girls'

education (Blackden & Bhanu, 1998; Rena, 2007). However, many developing countries exhibit huge gender inequalities in education. Enrolment rates remain lower for girls than for boys in most developing countries (Rena, 2008). In low income countries, the gross enrolment rates in primary education are equal to 103 percent for boys and 84 percent for girls. In high income countries, they are about 103 percent for boys and 104 percent for girls (World Bank, 2000; Rena, 2000).

Education plays a dominant role as an effective instrument for large-scale achievement and revolution in all spheres of human endeavor. Purposeful education enables the individual to understand and study the real life situation and to develop an opportunity for creating confidence in the minds of younger generation, and provide a strong base for rational and value-oriented and nation-building progress (Myers & Harbison, 1965; Mingat & Tan, 1986; Rena, 2000). Education helps youth preserve and change society, and also to understand,

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control and harness the forces of nature (Rena, 2006). Through shaping the behavior of youths and creating confidence in the minds of youth, education provides a strong base for rational and value-oriented, nation-building progress (Woodhall, 1992). Education further assists in the acceleration of economic growth (Rena, 2005).

Technical and vocational courses in higher education play a significant role in this context. Therefore, a close introspection of the trend of technical and vocational courses in higher education is essential, not only for making them attractive, but also in shaping them to be economically and socially relevant in Eritrea (Rena and Eyob, 2008). The World Bank (2000) acknowledged the importance of technical and higher education for countries not to be left behind in a global economy based on knowledge. Criticizing an analysis that measures the benefits of higher education solely in terms of incremental earnings accruing to individuals, higher education is regarded as 'simultaneously improves individual's lives and enriches wider society' (World Bank, 2000, p. 37).

As soon as we stepped into the new millennium, the global economy has already experienced unprecedented changes, more so in the last three decades. Rapid strides in science and technology, the advent of computers, globalization and the pressure of world market made a great spur in the educational sector. We are witnessing several paradigm shifts in higher education, from "national" to "global education," from "state controlled" to an "open market economy," from "general education" to an "educational system driven by market forces," from "one-time education for a few" to "lifelong education for all," and from "teacher centered" to "learner centered" education, from classroom education to "digital learning" and from "science laboratory" to "virtual laboratories". These changes make new demands and pose fresh challenges to Eritrea's established education systems and practices (Rena, 2008).

Country Profile

The State of Eritrea is a small mountainous newly independent developing country in the northern part of the "Horn of Africa" on the Red Sea. Eritrea got its independence on May 24 1991 after thirty years of freedom struggle. It has an area of 121,144 sq km and has an estimated population of 4,670,000 (2005 est.).¹ It is bordered in the North and West by Sudan, in the South by Ethiopia and Djibouti and in the East

by the Red Sea. Its capital is Asmara. The population is composed of nine ethnic groups and the country divided into six administrative regions.² The population is about equally divided between Christians and Muslims. Like many African economies, the economy of Eritrea is largely based on subsistence agriculture, with more than 70 per cent of the population involved in farming and herding. It has the GDP (nominal) per capita income of \$271 (2007 estimates) (Wikipedia, 2008). Despite scarce resources, attributable to the harsh environment on the highland plateau and barren desert along the Red Sea strip, limited agricultural space in the lowlands for sustainable agricultural activities such as subsistence and pastoral farming, and the many challenging issues associated with development that have been exacerbated by the additional environmental and social burdens associated with the aftermaths of a post-conflict era, Eritrea has made and continues to make good socio-economic progress. Eritrea remains one of the poorest countries in the world, with a HDI index (0.483) of 156 out of 177 countries (Wikipedia, 2008). More than half of the population lives on less than US\$1 per day. Eritrea's biggest asset is its hard-working people (Rena, 2007).

The Eritrean-Ethiopian War severely hurt Eritrea's economy. GDP growth in 1999 fell to less than 1%, and GDP decreased by 8.2% in 2000. In May 2000, Ethiopian offensive into southern Eritrea caused some \$600 million in property damage and loss, including losses of \$225 million in livestock and 55,000 homes. The attack prevented planting of crops in Eritrea's most productive region, causing food production to drop by 62%. Further, as of May 6th, 2008 Eritrea is the most expensive place in the world to buy fuel. At \$9.58 per gallon, gasoline is 85¢ a gallon higher than in the next most expensive country, Norway (Wikipedia, 2008).

A look at the educational profile: at tertiary level, there are one University, Eritrea Institute of Technology (3 colleges) and 5 other colleges located in different parts of the country. The total number of students at all levels was about 186,000 in 1991 and reached over 700,000 in 2007. Eritrea places strong emphasis on education. The Macro Policy of Eritrea states, among other things, that in the long term, Eritrea will be producing "knowledge intensive" goods and services able to penetrate the world market (Government of Eritrea (GoE), 1994). The emphasis on education is also reflected on the government's policy on poverty eradication (Rena, 2006).

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Since independence, the government of Eritrea has embarked on a wide-ranging program designed to revitalize and develop the collapsed economy and to promote its long-term growth. The overall vision of Eritrea's future progress is ultimately to tone up the human capital, particularly through strengthening the education and health sectors (GoE, 1994).

This article explored and analyzed Eritrean educational development and its key challenges. It also provides some useful insights for the policy development. This article is based on the secondary data collected from various sources. The data were mainly collected from the reports of Ministry of Education and other colleges in the country. In some cases data has been projected by the author himself based on the current trends in the country.

YOUTH AND EDUCATION IN ERITREA

Soon after Independence in 1991, the educational reconstruction process in Eritrea gained top priority and recorded drastic changes at all levels including primary, secondary and tertiary education. Particularly, the recent past witnessed radical changes in tertiary education obviously aimed at rehabilitating the youths of Eritrea, who missed the formal higher education in lieu of freedom struggle, en mass into intellectual resource within a short span of time. Eritrean youths played a vital role in the freedom struggle and are considered to be the pillars of the future nation.³ The government body of Eritrea is actively involving them in the current Warsay Yikiallow Nation building process (Rena & Eyob, 2008). The greater obligation of integrating the youths into the academic stream along with the backlog of the current students from the formal educational stream is necessary for the educational development of Eritrea. The priority-based political will of Eritrea to build manpower resource ingrained with discipline and literacy skill is unique in the rest of the African continent. While a closer analysis of such developments will be of extreme importance for national builders and educational administrators of Eritrea, its future impact and long term benefit will be an ideal case study for educational reformists around the world.

For a young nation, Eritrea human capital formation plays a cardinal role in activating the process of socioeconomic transformation. The building up of human capital is tremendously influenced by the standard of education made available by the educational institutions (Rena,

2007). While committing to the human capital building process, the policy makers enshrined enough room for diversification in the capacity building when the need arises. For example, while the Nation experiences all round reconstruction process, there is obvious scarcity of trained manpower initially for various administration and planning within the public sector. It included the urgent requirement of administrators and teachers in educational sector, public administrative clerks and engineers (building and repairing of road, offices and industries). Hence the birth of higher educational institute—Eritrea Institute of Technology (EIT) is linked with the generation of skilled manpower for the immediate requirement. EIT at Mainefhi (Central region) houses three colleges: the College of Engineering and Technology, the College of Science, and the College of Education. However, it is accommodating the College of Arts and Social Sciences to be shifted to Adi Queyha town (southern Region) in 2009.

Given that upgrading youth capabilities will strengthen the position and advancement of the country, the Government of Eritrea is undertaking youth rehabilitation and qualification programs in various fields of human capital development, and accordingly, giving them more emphasis. For instance, Eritrea allocated more than 4 percent of its national income, and about 37 per cent of budget services, for educational programs (Rena, 2007). This financial investment translates directly into the building of pre-schools (kindergartens), elementary and secondary schools up to university education (Rena, 2008).

Eritrean youth are solid assets of the country. The country could not have put its economy onto a successful development path without the readiness of its citizens, especially its youth. Hence, youth in Eritrea are playing a pivotal role in the reconstruction of the economy and the *Warsay Yikealo* National Development Campaign. Recognizing this, the Eritrean government is trying to provide the privilege of education to those youth who have participated in such development activities as a kind of incentive. For example, the 5,500 youth that took the first matriculation examination in 2003 in the *Warsay Yikealo* Secondary School were given the opportunity to continue learning in the Eritrea Institute of Technology (EIT), Mai Nefhi. Additionally, the 8,500 students who took the matriculation examination in July 2005 have joined the EIT. Every year substantial number of students join EIT and other colleges in the country.

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In Eritrea, the students' who complete grade XI attend the *Warsay Yikealo* Secondary School at Sawa⁴ to complete grade XII and sit for the matriculation examination there. Based on the matriculation examination results, the students are then assigned to either EIT- Mai Nefhi or other colleges (*see table 1*). The basic qualification for the students to enter into the higher learning institutions

is that they have to complete their matriculation in Sawa with grade 12 and secure the required Grade Point Average (GPA) which differs for degree and diploma which vary from time to time. The details are presented in table 1. With such strong academic opportunities available to them, Eritrean youth have a good chance of finding ways of supporting their own life and the life of their families for future.

Table 1: Performance of students in Matriculation (CGPA for both 2004 and 2005 batches)

Matriculation CGPA	Number of students (2005 batch)	Number of students (2004 batch) students	Percentage of students (2005Batch)	Percentage of students (2004 Batch)
0-.2	7	1273	0.31	25.63
.2-.4	224	397	9.85	7.98
.4-.6	217	374	9.54	7.54
.6-.8	199	363	8.75	7.32
.8-1.0	192	408	8.45	8.22
1.0-1.2	189	363	8.31	7.32
1.2-1.4	175	376	7.69	7.57
1.0-1.6	176	375	7.70	7.55
1.6-1.8	146	344	6.42	6.92
1.8-2.0	152	248	6.68	4.98
2.0-2.2	135	197	5.93	3.96
2.2-2.4	94	124	4.14	2.50
2.4-2.6	77	67	3.38	1.35
2.6-2.8	74	26	3.26	0.51
2.8-3.0	46	20	2.02	0.39
3.0-3.2	44	8	1.93	0.16
3.2-3.4	40	1	1.76	0.02
3.4-3.6	43	1	1.91	0.02
3.6-3.8	29	2	1.27	0.04
3.8-4.0	16	1	0.70	0.02
Total	2275	4968	100.00	100.00

Sources: Ministry of Education and EIT Records (2006)

The table above reveals that one-fourth of the students of 2004 batch were in 0-0.2 Matriculation Cumulative Grade Point Average (CGPA) grades which obviously is not a laudable one. In comparison to this only 0.31 per cent students of 2005 batch were in 0 – 0.2 Matriculation CGPA grade. Again the percentage of students with 2.6 and above is much higher in 2005 than that of 2004

batch. Another revealing point is that most of the students of 2004 batch (70 percent and above) hovering from 0-.2 to 1.8-2.0 Matriculation CGPA. At the prima facie, it seems 2005 batch students are better than 2004 batch. The CGPA for the same group of students (2005) at EIT is presented in Table 2.

Table 2: Students CGPA groups based on EIT report (2005)

Matriculation CGPA	Number of students 2005 Batch	Percentage of students 2005 Batch
0-.2	117	5.14
.2-.4	64	2.81
.4-.6	98	4.31
.6-.8	115	5.05
.8-1.0	131	5.76
1.0-1.2	155	6.81
1.2-1.4	154	6.79

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1.4-1.6	192	8.45
1.6-1.8	189	8.31
1.8-2.0	189	8.31
2.0-2.2	157	6.82
2.2-2.4	167	7.35
2.4-2.6	130	5.76
2.6-2.8	115	5.06
2.8-3.0	91	4.00
3.0-3.2	72	3.17
3.2-3.4	46	2.02
3.4-3.6	43	1.89
3.6-3.8	29	1.27
3.8-4.0	21	0.92
Total	2275	100.00

Sources: Ministry of Education and EIT Records (2006)

Table 2 indicates that the percentage of students who secured 2.6 and above CGPA at EIT is comparatively better than the Matriculation CGPA (see Table 1). In other words, students of 2005 batch have done comparatively better in EIT than their Matriculation Examination. It is important to note that 2005 batch students who secured 2.6 and above performed better than the 2004 batch as EIT CGPA for 2005 batch 2.6 + is 18.13 per cent against 10.31 per cent for 2004 batch of students.

Hence, it is imperative that enabling citizens go through education and skill enhancement is more critical today to bring the needed social and economic change that the country desires. There is fairly well-founded concern that in the next decade, Eritrea could find itself performing a difficult balancing act: catering for the needs of a significantly large growing population while trying to find opportunities for a newly emerging workforce of youth that do not have marketable skills. It is imperative we note that thousands of youth enter the workforce each year in Eritrea without the benefit of a high school education and most do not have skills for the job market (Rena, 2007).

The imparting of skills largely depends on the Industrial Training Institutes (ITIs) and technical schools that have a base in the public and private sectors of Eritrea. The ITI system, despite some attempts at revamping, is viewed as insufficient and weighed down by factors such as the limited range of skills taught, outdated technology, high cost, and the requirement that those entering the system possess at

TERTIARY EDUCATION IN ERITREA

To foresee better the challenges of tertiary education in Eritrea, the MoE has estimated the enrollment

least a high school qualification. In line with this, the Government of Eritrea has established National Center of Vocational Training in Sawa in March 2007 and trained more than 3,000 students. Yet, the challenge before the State, therefore, is to build on the existing infrastructure of ITIs, schools, colleges, and institutions in the private sector. Computers and multimedia now make it possible to learn in an interactive manner and should help form the core of any new strategy (Rena, 2008). The potential of multimedia to train both literate and illiterate youth makes it more attractive. Courses in the service sector areas, such as tourism and health care, could be taught at centers utilizing such technology, in addition to the existing schools and colleges in Eritrea.

The youth's economic reconstruction efforts have been successful in improving the quality of the country's infrastructure. The overall reliability of the supply of power, transport and communication services has been restored and improved substantially in most parts of the country through the *Warsay Yikealo* Development Campaign since 2002. Eritrean youth not only cherish deep memories of their aspirations to break the fetters of colonial rule, but also renew their pledge to build the Homeland and create a solid foundation embodied with the concepts of ardent patriotism, unshakable unity, and hard work. Hence, the youth have a strong belief and confidence that "we can do it and we will do it" (Rena, 2006).

patterns for 12th grade level and also the corresponding enrollments at the tertiary level. The Ministry of Education prepared these forecasts for

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the next 10 years for the 12th grade level. If the current levels of access are maintained, it assumes even a lower figure of 40 percent (15% degree and 25% diploma) access rate to tertiary education (*see table 3*). To obtain the estimates of the total student

population at the tertiary education institutions, degree programs are assumed to have durations of 4 to 5 years while the corresponding figures for the diploma programs are assumed to be 2 to 3 years (MoE, 2006).

Table 3: Forecast of student enrolments at the 12th grade level and at tertiary institutions

Academic year	Students enrolled in the 12 th grade	Students accepted for tertiary education	Total number of students attending tertiary education
2006/2007	21,700	5,400	16,700
2007/2008	22,600	8,700	21,400
2008/2009	24,900	9,000	25,300
2009/2010	27,900	10,000	28,800
2010/2011	31,400	11,200	32,400
2011/2012	35,600	12,600	36,400
2012/2013	40,400	14,200	41,100
2013/2014	45,200	16,200	46,400
2014/2015	49,900	18,100	52,400

Source: Ministry of Education, 2006

The University of Asmara's total student enrollment in degree programs increased from 2,836 in 1995-1996 to 3,912 in 1999-2000, an increase of 28% in 4 years. In 1999-2000, total enrollment at the institution topped 4,500. In addition, the university awarded 1202 degrees and diplomas in 2006 out of which 948 were first degrees, 209 diplomas and 45 Master's degrees in select fields. The university has graduated batches for the 14th time since independence with a total of 10,160 students of which 70% are in degrees (Rena, 2007). However, it has remained closed since September 2006 and all the staff and students were transferred to EIT and other concerned colleges. Currently, those students who have completed high school and who have qualified to enter tertiary institutions are mostly admitted at the EIT. They attend one of four freshman streams: (a) Engineering and Technology, (b) Pure and Applied Sciences, (c) Business and Economics, and (d) Arts, Humanities and Social Sciences. The Rest of the, students are siphoned to similar streams offered by the other colleges.

Eritrea Institute of Technology (EIT)

The Eritrea Institute of Technology is considered as Eritrea's biggest boarding educational institute in the post-independence period. It is established in February 2004 and situated at about 28 kilometers (17 miles) southwest of the country's capital, Asmara. It caters for the needs of more than 10,000 students and about 400 faculty members, including expatriates, Eritreans of Diaspora and graduate assistants and the students of University service (Rena, 2008). It has a number of new and emerging departments; indeed, it is hoped that EIT makes an institute of its own kind that will boost Eritrea's educational, technical and developmental standards in the coming years. In fact, EIT within its four years of inception has recorded tremendous growth so as to offer fifteen Degree programs and equivalent or more Diploma programs from its 21 Departments (*see table 4*).

Table 4: The Degree and Diploma Programs in Various Colleges in Eritrea

Institution	Degree	Diploma
Eritrea Institute of Technology	12	16
College of Marine Science	3	3
College of Business and Economics	6	4
College of Agriculture	5	6
College of Health Sciences	5	7
College of Arts and Social Sciences	3	2

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Total	34	38
University of Asmara*	30	3

Source: Rena, 2007, p.131.

Note: * currently not in operation.

After four years EIT was found, with enough breathing time, focus has been laid on the improvement of other sectors including agriculture, health, management of marine resources and trade and commerce. Thus four more colleges were built to cater for these purpose which includes: the College of Agriculture at Hamelmalo in Anseba region, the College of Marine Sciences at Hirgigo in Northern Red Sea region, the College of Business and Economics at Halhale in Southern region, and the College of Health Sciences at Asmara in the Central region. The Orotta School of Medicine is also linked with the Health College. With the opening of new colleges, access to tertiary education has increased to about 45 percent. This is in contrast to the corresponding figure of 10 - 15 percent before the opening of colleges (MoE, 2006).

The duration of the degree programs is five years and diploma programs three years in the College of Engineering and Technology, while the duration in other colleges for degree is four years and diploma is two years. The college of Engineering and Technology offers the following courses in different disciplines. It is to be noted that during the academic year of 2007-08, the Department of Chemical Engineering is established with degree and diploma programs in chemical engineering. Diploma programs in town planning at the Department of Civil Engineering, and refrigeration and air conditioning in the Department

of Mechanical Engineering are also expected to start in the future.

The pleasant weather, newly built road facility, transportation support, adequate computers, the upcoming infrastructure, disciplined-students and pollution-free environment certainly contribute towards nation building to meet the Millennium Developmental Goals (MDGs) set by the United Nations. Undoubtedly, EIT becomes the single most knowledge-base for the Nation (through liberal blending of the expertise of the largest expatriates with the local doyens). As stated earlier, the institute has been offering degree, diploma programs in numerous advanced disciplines with ambitious need of serving its country by its own human resources in the near future. However, there is an urgent need for the establishment of Information and Communication systems and laboratories to equip the nation's youth with the essence of science and technology. The ideology probably centered on "enrich the institute more and serve the nation better".

Table 5 and 6 provide the growth of degree and diploma students in five colleges of Eritrea. It is apparent that these colleges produce 6,865 graduates and 3,755 diploma holders by 2015. This number may not be sufficient to the growing needs of the nation since it has been working on Free Trade and Mining in the country. Hence, there is a need to develop tertiary educational institutions in the country.

Table 5: Growth rate for degree program in EIT & TE [Ten Year Projection]

S/ No	Year	Engineering	Science	Education	Social Science	Total
1	2005-06	280	280	56	168	784
2	2006-07	585	647	116	334	1,682
3	2007-08	888	948	176	499	2,511
4	2008-09	1,215	1,021	196	542	2,974
5	2009-10	1,486	1,320	255	761	3,822
6	2010-11	1,803	1,613	307	922	4,645
7	2011-12	2,093	1,966	359	1,081	5,499
8	2012-13	2,379	1,979	362	1,098	5,818
9	2013-14	2,725	2,267	414	1,255	6,661
10	2014-15	2,790	2,350	428	1,297	6,865

Source: Author's Projections based on the existing enrolment trends in EIT

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Table 6: Growth Rate for Diploma Program in EIT & TE [Ten Year Projection]

S/ No	Year	Engineering	Science	Education	Social Science	Total
1	2005-06	405	45	489	90	1,029
2	2006-07	805	89	543	136	1,573
3	2007-08	851	113	552	149	1,665
4	2008-09	1,248	201	623	163	2,235
5	2009-10	1,255	209	620	176	2,260
6	2010-11	1,647	252	630	209	2,705
7	2011-12	1,685	260	695	223	2,863
8	2012-13	2,073	302	704	166	3,245
9	2013-14	2,108	309	713	180	3,310
10	2014-15	2,492	351	767	145	3,755

Source: Author's Projections based on the existing enrolment trends in EIT

The existing scientists, technocrats and policy makers in Eritrea need to work hard to produce more skilled manpower in science and technology. In this line, the establishment of EIT is the major developmental breakthrough which is highly appreciable. Further strengthening the institute so as to diffuse the knowledge base into industrial needs can bring multi-faceted developments which can ultimately make Eritrea a self-reliant country. The vision and implementation style of Eritrea in manpower building impregnated with discipline and literacy skill can be example for other African countries to emulate.

CHALLENGES FOR EDUCATION DEVELOPMENT

Education in Eritrea has seen several challenges before attaining its present status. The Italians, the British and the Ethiopians have left their respective marks (Rena, 2005). The extensive educational reforms currently taking place at all levels is aimed at structuring education to respond to the development needs of the country and to enable Eritrea to participate appropriately in this 21st century characterized by globalization and widespread knowledge based activities (MoE, 2006; Rena, 2007). The Eritrean education system faces challenges that are fairly common to other education systems in Sub-Saharan Africa. These are limited access; low quality; doubtful relevance; inefficiencies; inadequate financial and non-financial resources; and poor delivery capacity. The Government's vision for addressing these pressing challenges is well-articulated across key policy documents (Government of Eritrea, 2003, p. 8).

After the independence of Eritrea, despite the scarcity of resources and the shortage of

academic staff, the University of Asmara was re-established to resume its academic work on October 10, 1991 with a few hundred students and five faculties. Then it struggled to accommodate many more courses including Engineering, pharmacy, agriculture etc., and a greater population of students than it was originally designed to cater for. Despite the positive developments the university was closed. If Eritrea wants to develop its own manpower, it needs to restart the University of Asmara with the "masters" and other research programs that are imperative in fostering the country's manpower and economic development.

Higher education is very expensive. The cost of providing instruction, laboratories and libraries and other accoutrements of higher education has gone up dramatically. Libraries and laboratories in particular now require major investments of resources (Altbach, 2007, p. 6). The new communications technologies, as well as keeping abreast of the dramatic growth in knowledge are also costly as Eritrea is trying to get loans from the World Bank and other international financial institutions. For example, USD 200 millions is sanctioned for the establishment and development of EIT. It also seeks financial assistance from its development partners like UNDP, Norway, China and Dutch etc. Besides, all the higher learning institutions are depending on expatriate teacher's particularly from India (majority), Pakistan (10), Russia (1) etc. It is to be noted that more than 50 per cent of the faculty members are expatriates where the country needs to pay almost 8-10 times more than its own manpower. For a young and small nation like Eritrea, it would be a heavy burden.

Over-crowded classrooms at tertiary level are a very serious issue. It is observed that, the pupil-classroom ratio is 1: 90 in EIT. Although, these

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higher learning institutions function at double-shifting (morning and afternoon), yet it could still not accommodate many aspirants who seek higher education.

Information and Communication Technology in education

Providing citizens with quality education is the means by which the socio-economic development of a country can be achieved. To accomplish this, improving the standard of education is imperative. Introducing Information and Communication Technology (ICT) in educational system can play a pivotal role in promoting education. The government of Eritrea has been pursuing the opportunities and constraints to introduce and sustain Information and Communication Technology in education.

Information and Communication Technology was introduced in 2004-05 in the new education system as part of the educational reform process. It is intended to improve the quality of education by supplementing the student-centered interactive pedagogy with latest technology. Currently, many secondary schools in the country introduced ICT as a subject. The Ministry of Education provided at least 60 computers for each secondary school. Some secondary schools such as Denden, Halay, Dembe Sembel etc, have Internet connections as part of the ICT education system. It is a strong belief that ICT education would help the students to discover a broad knowledge in other subject areas by searching different Websites.

The ultimate goal of introducing ICT in the education system is to use ICT as a tool in the teaching and learning process across all subject areas of the national curriculum. In other words, teachers are expected to use ICT to facilitate teaching and learning process in their respective subject areas. Similarly, students would have access to ICT facilities, including Internet, which can ultimately enhance their learning abilities through knowledge and information. Other goals of ICT instruction in Eritrea are:

1. Increasing access to knowledge for the benefit of the public;
2. Nurturing knowledge concepts in Eritrea Institute Technology;
3. Promoting application of knowledge in business and industry;

4. Promoting equal opportunities in terms of access, equity, relevance and continuity of education to all school-age children; and
5. Providing Adult education through formal and non-formal channels to produce more literate and skilled citizens.

ICT can also be a useful tool in facilitating distance learning. It can fill the gap created by the lack of formal education. This method is expected to be used by Eritrea Institute of Technology to reach people in rural areas in the future. It encourages the transfer of a great deal of information across various localities.

Eritrea has seen some progress in introducing Information Technology in education; yet, the government is required to recognize the importance of technology and initiate it at grass-root level starting at the primary school system. However, the Ministry of Education should train and appoint qualified teachers in that field. Since the country do not have the qualified teachers in this domain; it recruited large number of ICT experts from India during the recent past. It is important for Eritrea to spread ICT education in remote places where more than 70 percent of people live; it would obviously enable the citizens to get equal opportunities in the country.

Gender Inequality

Even if the positive relationship between economic development and the gender gap in education seems to be clear, the sense of causality remains uncertain (Kremer & Chen, 1999). Indeed, we can wonder if the gender gap in education is the cause or the consequence of underdevelopment. In order to highlight the relationship between girls' education, growth and economic development, we examine the gender gap in education and its consequences, notably on income inequality (Rena, 2007).

The female participation at all the levels is not encouraging; this is so particular in higher education, where less than 20 percent are entering into higher education. The data from the Ministry of Education shows that there are many reasons behind the low enrollment of female students. In the lowland areas where the Muslims are majority, many families tend to withdraw their children from school early because they do not want them to go to the same school with the boys (Rena, 2007). There is also an issue of underage marriage. They do not want to send them to Sawa to complete their high school.

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Many prize-winning students tend to stop their education due to cultural and religious barriers. The absence of middle schools in Molki, Shambiko, Logo Anseba and Barka also has its role to play. The male students can rent a house in towns and go to school. Parents do not allow their female children to do same.

Above all, the parents do not have faith in their female children to be as productive as their male counterparts even after education. Nevertheless, in some of the schools, there is equal participation of both boys and girls and most of the prize winners are females. It is felt that girls can compete with their male counter parts if they have equal chance to study. In the first semester of the academic year 2006-2007 for example, in Sewra Elementary School, 47.6 percent of the students were females. Around 55 percent of those who stood from 1st to 5th were females.

Furthermore, as they grow older, female students get weaker due to home related works. In Zoba Debub for example, female enrollment is 35-39 percent in middle school. It drops to 27-28 percent in high school. It further declines to less than 20 percent at tertiary level. The distribution of middle and high school is lower than elementary which forces students to travel long. Parents do not allow their female children to rent a house around the school; they do not buy them a cycle either. This ultimately, encourages early marriages. Besides, cultural stigmas, economic problems are additional reasons for their low enrollment. It is observed that if parents die of HIV/AIDs, the female children tend to take the responsibility of the family, which narrows their chances of succeeding in education.

Children and youth need to have role models. The Ministry has been trying to train female teachers so that they will serve as role models to the students. However, most of the teachers in remote areas are males for many reasons. It is easier for female teachers to bring behavioral change in female students. There is anecdotal evidence that, this method has brought an ideal change in some boarding schools like Maria Boarding School. This is not enough; as government should create job opportunities and encourage the women to participate in the educational development process.

CONCLUSIONS

The Government of Eritrea developed educational policy on top priority of national development which demands the emergence of new

class of trained youth blended with disciplined mind and skill instead of raw graduation. Despite the strenuous efforts made by the government in the development arena, the self-reliance in human resources has not yet been achieved. Thanks to the educational reforms initiated in 2003. There were many colleges established but they need libraries and laboratories and other needed infrastructure. Although, the country is on the way to have its own teachers at the middle and secondary level, there is still a long way to achieve its manpower needs at the tertiary level.

Besides, Eritrea has been facing serious challenges such as: low quality; doubtful relevance; inefficiencies; inadequate financial and non-financial resources; and poor delivery capacity etc. Above all, there is a gender disparity in every level of education. To bring about economic development and social justice, we should ensure equal participation of women in all sectors. The parents, society and the government should remember education is the gift that could be offered to Eritrean children irrespective of their gender.

Education has been viewed as a strategic tool for development; therefore, the content of the educational system needs to be reviewed carefully. The education system in Eritrea must be geared up, not only at raising the general, social and scientific knowledge of the youth, but also must equip the youth/individual with skills that would enable him/her to lead a productive, sustainable life.

Notes:

1. The population of Eritrea includes about 350,000 refugees from the Sudan. Every year hundreds of these refugees have been coming back to their homeland –Eritrea.

2. Eritrea has nine ethnic groups. They are: Tigigna, Tigre, Saho, Afar, Bilein, Hidareb, Kunama, Nara and Rashaida. All these ethnic groups have their own languages and cultures. There are six administrative regions: Anseba, Debub, Maekel, Gash Barka, Southern Red Sea, Northern Red Sea.

3. Eritrean youth have been in the forefront of all historically registered national engagements. For example, the youth had a prominent position and participation during the thirty years freedom struggle (1961-1991). They also led the first post-independent development plan aimed at transforming the country's economy. They, also, played a vital role during the border conflict from 1998-2000 in

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safeguarding the country and reconstructing the economy.

4. There is one area of continuity with Eritrean People's Liberation Front (EPLF)'s earlier practices; national service is required of all young people (men and women alike) who did not previously serve in EPLF. They receive six months of military training and are then deployed in rural areas for a year to help with road building, reforestation, and other projects. Some Muslim Eritreans have tried to argue for the exemption of Muslim women and some families apparently tried to use marriage as an exemption for women, but the government has held fast to the requirement that all young citizens regardless of Contradictions of Liberation and Development in Eritrea gender, religion, or marital status must do their national service. The requirement of not only national service but military training for women is a significant legacy of EPLF's revolutionary culture. It also can be interpreted as emphasizing the supreme authority of the government over its female citizens over and above patriarchal domestic and religious authorities.

REFERENCES

- Altbach G. P. (2007). Tradition and Transition: The International Imperative in Higher Education. The Netherlands: Sense Publishers.
- Bacchus, M. K. (1992). Meeting the Higher Educational Needs of small States: Financial and Management Implications. *Journal of Educational Planning and Administration*, 6(4): 373-400.
- Barro, R. & Sala-i-Martin, X. (1996). Economic Growth, New York: McGraw-Hill.
- Barro, R. J., & Jong-Wha, L. (1993). International Comparison of Educational Attainment. *Journal of Monetary Economics*, 32: 363-94.
- Blackden & Bhanu, (1998). Gender, Growth and Poverty Reduction: Special Program of Assistance for Africa. *the World Bank, World Bank Technical Paper no. 428*.
- Government of Eritrea (1994). Macro Policy Document. Asmara: Government of Eritrea Press.
- Government of Eritrea (2003). Education Sector Improvement Project (ESIP) Environmental and Social Management Framework (ESMF), Document No. E737 (April), Asmara: The Government of Eritrea.
- Kremer, M. & Chen, D., (1999). Income Distribution Dynamics with Endogenous Fertility. *American Economic Review*, Vol. 89(2):155-160.
- Mingat, A., & Tan, J. P. (1986). Financing Public Higher Education in Developing Countries: The Potential Role of Loan Schemes. *Higher Education* 15: 283-297.
- Ministry of Education (2004). Eritrea: Basic Education Statistics from 1995-2004, Asmara: Ministry of Education.
- Ministry of Education (2006). Tertiary Education in Eritrea: Issues, Policies, and Challenges. *Eritrea Profile*, 13, (56 and 57) (Part- I on 20 September); (Part-II on 23 September).
- Myers, C. & Harbison, F., (1965). Education, Manpower and Economic Growth: Strategies of Human Resource Development, New York: McGraw-Hill.
- Rena, Ravinder (2000). Financing and Cost Recovery in Higher Education: A Study with Special Reference to Private Colleges in Andhrapradesh. *A Thesis submitted for the award of Doctor of Philosophy in Economics, Department of Economics, Osmania University, Hyderabad, India*.
- Rena, R. (2005). Eritrean Education – Retrospect and Prospect. Nairobi (Kenya): *Eastern Africa Journal of Humanities and Sciences*, 5(2):1-12.
- Rena, R. (2006). Education and Youth in Post-independent Eritrea – An Analytical Study. USA: The African Symposium, 6 (3&4): 85-94.
<http://www2.ncsu.edu/ncsu/aern/TAS6.3.4.pdf>
- Rena, R. (2007). Higher Education in Africa – A Case of Eritrea. New Delhi: *Journal of Educational Planning and Administration*, 21(2): 125-140.
- Rena, R. (2008). Financing Education and Development in Eritrea – Some Implications. New Delhi: *Manpower Journal*, 43(1): 97-112.
- Rena, R. & Eyob, K. (2008). Eritrean Educational Reforms– Issues, Perspectives and Policy Implications, Hyderabad, (India): The ICFAI University Press, pages: 285; ISBN: 978-81-314-1721-8.
- Tilak, J, B. G. (2003). Higher Education and Development. *Conference Paper: International Seminar: University XXI*. Internet:

Rena, R.

www.mec.gov.br/univxxi/pdf/Jandhyala.pdf
(Last accessed: February 25, 2007).

United Nations Development Programme (1994).
Human Development Report New York:
Oxford University Press. P. 4.

Wikipedia (2008).

<http://en.wikipedia.org/wiki/Eritrea>.

Retrieved 10 November, 2008).

World Bank (2000). Peril and Promise: Higher
Education in Developing Countries,
Washington DC.: World Bank.

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