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1. INTRODUCTION

Education has long been recognized as a central element in development. It is a vital input in modernization where the developing countries particularly in Africa began their drive for social and economic development since their independence. Education is perceived as a means not only of raising political and social consciousness, but also of increasing the number of skilled workers and raising the level of trained manpower (Tilak, 1994; Rena, 2000:1). Ultimately, the human capital formation is receiving increased attention from policy makers and scholars interested in promoting economic development in Third World countries. Models of endogenous economic growth stress the importance of investment in knowledge, including basic education, as a critical factor in economic expansion. Specialists have long argued that education should form a principal component in any development strategy (Akkari, 2004: 144). In line with this, Education is widely accepted as a leading instrument for promoting economic growth. For Africa, where growth is essential if the continent is to climb out of poverty, education is particularly important (Bloom, et al., 2006:1).

Therefore, the investments in education are justified by the contributions which education makes to economic growth, poverty reduction and social welfare. Education contributes to economic growth directly by increasing the productivity of labor, the principal asset of the poor. It also facilitates the development of new technologies, and integrates these technologies into economic activity (Psacheropolous, 1994). Education is also a welfare indicator per se, reflected in improved health and reduced infant mortality. Education also creates positive social externalities by promoting institutions of civil society, improving social equity, strengthening national cohesiveness, and lowering crime rates (Psacheropolous, 1993; Tilak, 1994; Rena, 2000; Varghese, 2004).

Indeed, it is understood that higher education can lead to economic growth through both private and public channels. The private benefits for individuals are well established and include better employment prospects, higher salaries, and a greater ability to save and invest. These benefits may result in better health and improved quality of life, thus setting off a virtuous spiral in which life expectancy improvements enable individuals to work more productively over a longer time further boosting lifetime earnings. Public benefits

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are less widely recognized, which explains many governments' neglect of tertiary schooling (Thompson, 1981; Tilak, 1992; Rena, 2000; Varghese, 2004). But individual gains can also benefit society as a whole.

1.1 Literature Review

A series of studies have taken into account the broader impacts of higher education. It is interesting to analyze some of those studies that were undertaken about higher education and its impact on economic growth. The inattention to higher education within development initiatives lies in the shortage of empirical evidence that it affects economic growth and poverty reduction (Tilak, 2003). After World War II, several economists, including Shultz, Milton Friedman, Gary Becker, and Jacob Mincer, developed the "human capital" theory to examine the benefits of education for individuals and society. Friedman and his wife Rose originally suggested that there was no evidence that "higher education yields 'social benefits' over and above the benefits that accrue to the students themselves." On the contrary, they hypothesized that higher education may promote "social unrest and political instability" (Milton and Rose, 1980).

In contrast to this early view, recent evidence suggests that higher education is a determinant as well as a result of income, and can produces public and private benefits (Bloom, Hartley, and Rosovsky, 2006). Higher education may create greater tax revenue, increase savings and investment, and lead to a more entrepreneurial development. It can also improve a nation's wealth and health, contribute to reduced population growth, improve technology, and strengthen governance. With regard to the benefits of higher education for a country's economy, many observers attribute India's leap onto the world economic stage as stemming from its decades-long successful efforts to provide high-quality, technically oriented tertiary education to a significant number of its citizens ((Bloom, Hartley, and Rosovsky, 2006:1).

Conventional rate of return analysis shows higher education in a less favorable light than it shows primary and secondary schooling. Psacharopoulos and Patrinos reviewed 98 country studies from 1960–1997 and found that the typical estimates of the rate of return from primary schooling were substantially higher than those for advanced schooling. The average public rate of return for the former was 18.9 per cent, while for tertiary education it was just 10.8 per cent (Pasacharopoulos, and Patrinos, 2002). Such studies have had a major influence on international development policy. More recent studies cast some doubt on the applicability of these findings (Bloom, Hartley, and Rosovsky, 2006). Traditional rate of return analysis focuses solely on the financial rewards accrued by individuals and the tax revenues they generate. It neglects the broader benefits of advanced education manifested through entrepreneurship, job creation, good economic and political governance, and the effect of a highly educated cadre of workers on a nation's health and social fabric.

A study in Taiwan showed that higher education played a strong role in the country's economic growth (T-C Lin, 2004). It found that a 1 per cent rise in higher education stock[1] led to a 0.35 per cent rise in industrial output, and that a 1 per cent increase in the number of graduates from engineering or natural sciences led to a 0.15 per cent increase in agricultural output. This work examined the effects of concentration in different disciplines and concluded that study of the natural sciences and engineering had the largest effect on output. In another study Wolff and Gittleman showed that university enrollment rates are correlated with labor productivity growth. The number of scientists and engineers per capita is also associated with economic growth (Wolff, and Gittleman, 1993).

De Meulemeester and Rochat, in their study of six developed countries showed that higher education had a strong causal impact on economic growth in France, Japan, Sweden, and the United Kingdom, but no impact in Australia and Italy. The authors conclude that higher education is necessary for growth but not sufficient. "It is vital," they argue, "that the social, political, and economic structures and the technological level of the society to which the educational system belongs are such that graduates can actually make use of their accumulated knowledge" (De Meulemeester and Rochat, 1995).

Bloom, Hartley, and Rosovsky showed that workers in American states where the proportion of college graduates is high earn significantly more than those in states with few graduates, whether or not they have received a tertiary education themselves(Bloom, Hartley, and Rosovsky, 2006). The same study showed a positive correlation between higher education and entrepreneurship (Bloom, Hartley, and Rosovsky, 2006:37). The authors used Babson College's Global Entrepreneurship Monitor's Total Entrepreneurship Activity (TEA) Index, which uses information from 17 countries to measure the share of adults involved in new firms or start-up activities. Individuals with higher education levels were more likely to engage in entrepreneurial activity, and more educated entrepreneurs' created larger numbers of jobs than less-educated entrepreneurs. Unfortunately, there are no comparable studies investigating such spillovers in a developing country like Eritrea.

Another channel for improvement is through research and development, which can boost economic growth and productivity growth. In a recent World Bank study, Lederman and Maloney conducted a cross-country regression analysis that showed that the rate of return on R&D was 78 per cent (Lederman, and Maloney, 2003).

Bloom, et al., found a positive and statistically significant correlation between higher education enrollment rates and governance indicators, including absence of corruption, rule of law, absence of ethnic tensions, bureaucratic quality, low risk of repudiation of

contracts by governments, and low risk of appropriation (Bloom, Hartley, and Rosovsky, 2006).

Bloom and others in their recent study (2006) experimented with different combinations of primary, secondary, and tertiary education, for both the production function effect and the technological catch-up effect, but none of the alternative combinations showed an improvement in fit. No other component of education was significant in affecting technological catch-up. They analyzed whether Africa is close to the production possibility frontier. Africa can only benefit from technological catch-up if there is a gap between current production and the production possibility frontier. They also analyzed the GDP difference between the predicted level of GDP and the initial level of GDP to determine the extent of the production possibility frontier gap (Bloom, Canning, and Chan, 2006).

In a speech in 2000, UN Secretary General Kofi Annan argued:

> The university must become a primary tool for Africa's development in the new century. Universities can help develop African expertise; they can enhance the analysis of African problems; strengthen domestic institutions; serve as a model environment for the practice of good governance, conflict resolution and respect for human rights, and enable African academics to play an active part in the global community of scholars.[2]

1.2 Methodology and Method of Data Analysis

The data collected was analyzed using descriptive statistics. The information obtained from various books and articles on education in Africa and the Ministry of Education, the State of Eritrea, Bulletins and reports, the Asmara University administration (Registrar), the World Bank reports, are discussed and this assisted in the drawing of conclusions and recommendations. The Heads of some higher learning institutions in Eritrea are consulted and discussions are held with them.

An attempt is made in this paper to analyze the higher education and its impact in economic development of Africa. This paper also provides some review of relevant literature. It mainly delves with the education in Eritrea. The paper is been divided into five sections. The second part deals with the higher education in Africa along with a brief note on financing of education in Africa. Section three devoted to explain higher education trends in Eritrea post independence period. Section four discusses some of the major challenges in Eritrean education and the final section ends with some concluding remarks and recommendations.

2. HIGHER EDUCATION IN AFRICA

Enrollment rates in higher education in Sub-Saharan Africa are by far the lowest in the world. Although the gross enrollment ratio has increased in the past 40 years – it was just 1 per cent in 1965 – it still stands at only 5 per cent (Bloom, Hartley, and Rosovsky, 2006:3). Africa's recovery and sustainable development will therefore depend on many important factors, including the expansion – both quantitative and qualitative – of the continent's stock of human capital through education (Thompson, 1981; Rena, 2005b).

The key role of education, despite the economic and political difficulties in most African countries and concentrating on developing theories and fashions during the past decades, is now accepted as indispensable for any effective development. All African governments were certainly convinced of this key role of education in the early years of their independence. African governments have accordingly placed heavy emphasis on expanding educational opportunities from primary school to university in the two or three decades since their independence (Alexander, 1988; Abdi, 2003; Bloom, Canning, and Chan, 2006).

2.1 Financing Higher Education in Africa

Some African universities are beginning to take privatization initiatives. The University of Zambia and Eduardo Mondlane University in Mozambique have generated significant benefits in enhanced capacity, information and income by establishing internet nodes linked to local electronic networks, which sell subscriptions to non-university business, organizations and individuals. Ghana and Nsukka have been fairly successful in their initiatives. Ghana indicated a profit of 9% on a total income of US dollars 22,700 in 1991(Saint, 1992). Its policies and methods of operating the consulting center are very popular and might prove to be useful model for other universities. Nsukka claimed a profit of US $ 35,238 through its consulting activities over the period 1982 - 1991, on a turnover of US$ 90,398, with the consultants receiving 50% of the profits and the university and department receiving 30% and 20% respectively (Anyona, Gravenir and Mse, 2005).

3. HIGHER EDUCATION IN ERITREA

3.1 Country Profile

Eritrea is located in Africa bordering on the Red Sea and includes the Dahlak Archipelago. It has an area of 46,770 sq mi (121,144 sq km), population (2005 est.): 4,670,000 (including about 350,000 refugees from the Sudan). Capital: Asmara. It is bordered on the northeast by the Red Sea, on the southeast by Djibouti, on the south by Ethiopia, and on the northwest by Sudan. Eritrea also includes the many islands of the Dahlak Archipelago, which is located in the Red Sea. When we look at the educational profile: at tertiary level, there was one University, Eritrea Institute of Technology (3

colleges) and 4 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 to about 700,000 in 2006. 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, 1994). The emphasis on education is also reflected on the government's policy on poverty eradication.

After the liberation of Eritrea, despite the scarcity of resources and the shortage of academic staff, the University of Asmara was re-established and resumed its academic work on October 10, 1991 with a few hundred students and five faculties to mention a few, faculty of natural science, social science. It is now struggling to accommodate many more courses including Engineering, pharmacy, agriculture etc., and a greater population of students than it was originally designed to cater for. Table-1 provides the information on the University students and their enrolment during the period 1991-92 to 2002-2003.

The university'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 awards 1202 in 2006 out of which 948 with degree, 209 with diploma and 45 in Masters 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 degree.

In the past, access to university level education was indeed very low. Of those who attend the Eritrean Secondary Education Certificate Examination, for example, only between 10% - 15% managed to have access to university education. This has been a serious problem and had ramifications even at the high school level (it can be said that most of the high school students knew that they are unlikely to make it to the university and usually got disinterested in their studies). The most rational way of increasing access to university education is to increase university level facilities. As the reforms are required to be consistent with the educational policy of the country, the government adopted a strategy of decentralizing the tertiary education system. Accordingly, the decision was made to establish various colleges at different locations of the country (Ministry of Education, 2006).

The Government has also opened many colleges in the country such as: a college of nursing and a college of medicine in Asmara, agricultural Colleges at Hal Hale and Hagaz, a technical school in Massawa, a teacher training institute at Adi Keih, and the Eritrea Institute of Technology at Mai Nefhi. In 2005, a Cabinet Ministers meeting, underlined the need to strengthen the colleges of science and technology in the country, but expressed no concern over the future of Asmara University. "We have tried to link the various colleges with the related development sectors. For instance, the College of

Marine Biology has work relation with the Ministry of Fisheries and is located in Massawa, Northern Red Sea Region," the Minister of education Osman Saleh stated on the eve of University graduation day in July 2006. So far College of Agriculture, College of Arts and Social Sciences, College of Marine Biology, College of Business and Economics, College of Nursing and Health Technology and Eritrea Institute of Technology have been established to provide college level education in the country.[3]

The number of degree and diploma programs that are offered by the colleges is given in table -1. Dramatic increase in the diploma programs in the colleges is noted. In terms of student population, at its peak the UoA had a student population of about 6,000, while the current total number of students at the tertiary level is about 12,000. In just a period of four years, the student population has doubled (Rena, 2005c ; MoE, 2006).

Table - 1The Degree and Diploma Programmes 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
Total	34	**38**
University of Asmara	**30**	**3**

Source: Ministry of Education, 2006

With the opening of the new colleges, access to tertiary education has increased to about 45%. This is in contrast to the corresponding figure of 10% - 15% before the opening of the colleges (MoE, 2006).

In 2003, the first batch of students who completed their 12th grade at the Sawa High School were transferred to Eritrea Institute of Technology (EIT)- Mai Nefhi. The University of Asmara did not enroll any freshmen students in the academic year 2003/2004. In 2004 the university was again informed that all the students who were finishing high school in Sawa are sent only to EIT -Mai Nefhi (Rena, 2005c). In relation to this, President of Eritrea, Isaias Afewerki made it clear during his visit to the University of Asmara in 2005 that the staff should not be surprised if they don't get any fresh students in the coming 4-5 years. The reason, he explained, is that "we are in a transition period".

In 1991, only 8 (12.9%) of 62 faculty members held doctorates. In 1994, the university recruited over 50 new faculty members, 37 of whom held PhDs. By 1998, this figure had increased to 85 (38.1%) of 223. A larger percentage of faculty members with doctorates are expatriates. In 1999, 210 faculty members taught at the university; 90 held PhDs. Of

these 90, only 38 (42%) were Eritreans (Cheryl, 2003, Rena, 2005a). Since, many faculty members are expatriates, their salary scale is not standardized. Teachers from India, for example, make up a large proportion of the expatriate faculty at the university. Many of them are provided with subsidized housing, in addition to higher salaries. In 2003, the government took over payment of all salaries from the UNDP. The university then came under the direct jurisdiction of the Department of Education, Ministry of Education. However, by all accounts, the university is completely closed in the academic year 2006. However, the enrollment trend in the Asmara University presented in the following Table2.

Table -2 Enrolment of Students, by Gender and Type of Course from 1991/92 to 2002/03 in University of Asmara.

Academic Year	Degree			Diploma			Certificate			Total		
	F	M	T	F	M	T	F	M	T	F	M	T
1991/92	223	1619	1842	224	551	775	-	-	-	447	2170	2617
1992/93	348	1248	1596	173	391	564	-	-	-	521	1639	2160
1993/94	252	1824	2076	113	249	362	-	-	-	365	2073	2438
1994/95	338	2496	2834	59	186	245	-	-	-	397	2682	3079
1995/96	317	2526	2843	29	81	110	-	-	-	346	2607	2953
1996/97	252	2474	2726	37	329	366	15	52	67	304	2855	3159
1997/98	360	2304	2664	29	343	372	5	55	60	394	2702	3096
1998/99	471	2832	3249	32	537	569	37	139	176	540	3490	3994
1999/00	519	3074	3593	31	386	417	42	83	125	592	3543	4135
2000/01	596	3407	4003	20	422	442	45	138	183	661	3967	4628
2001/02	636	3897	4533	19	505	524	84	365	449	739	4767	5506
2002/03	613	4201	4814	74	515	589	86	445	531	773	5161	5934

Source: University of Asmara – Different Records.

In order to foresee better the challenges of tertiary education in Eritrea, the MoE estimated the enrollment patterns at the 12th grade level and also the corresponding enrollments at the tertiary level. The Ministry of Education has prepared these forecasts for the next 10 years for the 12th grade level. If the current levels of access are maintained, then assuming even a lower figure of 40% (15% degree and 25% diploma) access rate to tertiary education, the picture looks like that shown in 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 enrollment at the 12th grade level and at tertiary institutions.

Academic year	Students enrolled in the 12th 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

3.2 Financing of Education in Eritrea

It is a strong belief that by spending enormous amounts of money on educational development, the government of Eritrea will enhance the physical, human, and institutional capacity of the system. In line with this, the Government of Eritrea is trying to develop the country to recover from the devastating effects of the war. Virtually all-critical Government policy documents clearly emphasize PEOPLE as the most central resource that Eritrea has and on which the country can depend for its reconstruction and development. A document developed in 1999 for human resources development Our People Are Our Future summarizes this conviction. Although, still not adequate, the Government has been steadily increasing expenditure on education. Between 1993 and 1997, expenditure on basic and secondary education increased by 15 percent annually and these levels has been maintained through to 2000. Between 2000 and 2001, the recurrent budget has increased by 8 percent, and the overall budget has increased over 10 percent. As a percentage of GDP, spending in education rose from 4.9 percent in 1997 to 7.7 percent in 2000 and dropped to 5.0 percent in 2001 but remains close to the average for sub-Saharan Africa, The Government recognizes the need to increase spending on education as a percentage of total Government spending which still stands at an average of about 7.6 percent. The Government's plans for the education sector are well articulated. The draft Eritrea National Education Policy (February 2003) clearly spells out the policies and strategies for the sector while the draft of the Eritrea Education Sector Investment Program (EESIP): Framework 2003/04 - 2007/08 (April 2003) prioritizes additional expenditures on basic and secondary education over five years (GoE, 2003; World Bank, 2003:20).

The development costs include capacity building of system management at center, Zoba, as well as school levels. The coverage will extend to areas of budgeting and planning,

teacher development, curriculum development and management, supervision, assessment, etc. In addition, the capacities for financial management, education management information system, etc, also need to be further strengthened. The development cost of education was estimated between 2003 and 2007 and reported that under EESIP, it is estimated that additional US $18 million is needed to finance teacher development and training, temporary expatriate teachers at secondary level, curriculum development, national assessment and examination reforms, and computer classrooms at secondary schools. IDA finances 15 million of the total cost. The unit cost for classroom construction is estimated at $15,000 per classroom at elementary and middle level, and at $20,000 per classroom at secondary level, including ancillary facilities. These unit costs in Eritrea are very high compared to other sub-Sahara African countries. For example, in Tanzania, Kenya, and Uganda, the average cost of classrooms is around $5,000. High unit cost in Eritrea is arguably due to the imported construction materials, as well as the current construction mode of using contractors with little community involvement and contribution in kind. High unit cost is a major factor that delays the solution of the classroom over-crowding issue. Given the current limited resources, the moderate target for the following 5 years would still require double-shifting of classroom utilization. However, the double-shifting ratio is expected to reduce gradually: from 60 percent to 35 percent at elementary level, from over 100 percent to 40 percent at middle level and secondary level (World Bank, 2003 GoE, 2003 Rena, 2005b). The development costs also include textbook printing and provision. Free provision of textbooks up to 1: 1 book-pupil ratio covers all subjects at elementary and middle level. The current 1:3 book-pupil ratio at secondary level is also assumed to be maintained. The unit cost of book-printing is low in Eritrea.

It is believed that the government expenditure on education is expected to provide economic benefits in such as i] providing the basis for poverty reduction, overall human capital development, and accelerated economic growth; and ii] rationalization of public expenditures for the welfare of the people in Eritrea.

I] Poverty reduction and economic growth

Education is a key element of the government's strategy to reduce poverty. Weak system capacity, including inadequate physical infrastructure, insufficient numbers and untrained teachers, and limited management capacity for service delivery, has been one of the key factors responsible for unsatisfactory education sector performance, reflected in low enrollment ratios and poor education quality. Hence, the Government of Eritrea focuses on capacity enhancement for education service delivery at elementary, middle, secondary, and tertiary levels. Thus, strengthening Eritrea's education system capacity is important from the perspective of economic growth.

II] Rationalization of public expenditures

The Government's total spending on basic and secondary education was US dollar 33.9 million, 34.9 million and 26.8 million in years 1998, 1999, and 2000.[4] As stated earlier, between 2000 and 2001, MoE recurrent expenditure increased by 8 percent. Social and economic progress requires a broad-based education and training sector reform with the establishment of sustainable sector financing accompanied by an adequate planning and budgeting process. Furthermore, it is envisaged that the education sector development program is also incorporated in the Interim Poverty Reduction Strategy Plan and integrated into the Medium Term Expenditure Framework prepared in 2004.

Recently, the World bank estimated that a total of USS159 million is needed to support the basic and secondary education system during the period 2003-2007 inclusive:US$74 million in recurrent costs and US$85 million in development costs. It is assumed that a 6 per cent increase in Government financing for recurrent expenditures in education during the first 3 years, and 7 per cent during the following 2 years. The achievement of this growth depends on the economic prospects as well as on fiscal conditions. The Bank also assumed that the domestic resource for investment financing in education is constant at the 2000 level of US$8 million (Government and NGO). The total recurrent cost of education is fully financed under these assumptions. The financing gap is largely in development costs, estimated at $45.3 million. The Bank viewed that the International Development Agency (IDA) credit is critical to ensure that the program is fully funded over the five years period i.e. 2003-2007(GoE, 2003; World Bank, 2003:20-21).

Like most African countries, higher education in Eritrea is free, with the government supporting both tuition and living allowances for students (Rena, 2005a). The rationale for free higher education in Eritrea was based among other things, on the country's desire to create highly trained manpower (GoE, 1994). In turn, graduates were bound to work in the public sector for a minimum of one and half years under national service. Among other factors, economic difficulties and the high increase in population coupled with rising oil prices of 2004-2006 changed this trend, first resulting in the reduction of the recurrent budget allocated to higher education, and then, paving the way for the introduction of user charges in higher education in Eritrea. The performance of higher education in Eritrea is contestable both on equity and efficiency grounds. Austerity in the public budget for higher education, coupled with the poor performance of the sector in promoting access and equity, has led the government of Eritrea to intensify the mechanisms for cost-sharing and user charges in higher education. Asmara University has launched Masters programme in the 6 disciplines and began to charge enormous fee like about US$ 10,000 which is exorbitant when we look at the earning capacity of the people. Unless and otherwise the Master programme is supported by the organizations per se, where that particular student is working, it would be literally impossible for an individual to pay for their master's study. This has also led to the introduction of Eri-British – a private university[5] in that, as more students began to pay for their cost of

education, they began to choose between institutions. This way, private educational institutions began to attract students. Among the 45 master's graduates, in 2006, 27 did their post graduate studies at Asmara University while the rest followed a correspondence with Stony Brook in the United States and UNISA in South Africa. They followed courses in Sustainable Livestock Production, Agronomy, Horticulture, Applied Soil Science, Development Economics' and Organic Chemistry.

It is obvious that the GOE cannot afford to provide free higher education including university education indefinitely. It's essential to introduce the student loan or other similar schemes as practiced in other countries including the rich and developed countries, where students would repay their debt, plus rate of interest, in monthly installments after graduation when they obtain employment. This is the most economically feasible and sensible way forward.

4. CHALLENGES FOR EDUCATION IN ERITREA

Education in Eritrea has seen several challenges before attaining its present status. The Italians, the British and the Ethiopians have left their respective marks. 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). 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, 2003:8).

Over-crowding of classrooms is a very serious issue currently. It is observed that, the pupil-classroom ratio is 1: 90 in EIT. Although these higher learning institutions function at double-shifting (morning and afternoon), but still they do not accommodate many aspirants who seek higher education.

There is no specific focus for the training of middle school teachers and there is also no clear articulation of demand by the Ministry of Education and the supply of teachers from the University of Asmara. Government projections of teacher requirements are posited on the development of new colleges at Adi Keyh[6] (with financing from the African Development Bank) and at Keren. Although some of these institutions (like College of Education and College of Social sciences and Arts) are functioning in EIT but no graduates (both Degree and Diploma) have come out till 2006. Hence, severe shortage of teacher supply will remain for coming years. To some extent, this gap is been filled with about 250 Indian expatriate secondary school teachers working at different zobas of the country for the last 10 years. Phasing out these expatriate secondary teachers is another

urgent challenge for the MoE. Currently these take 19 percent of the secondary teaching establishment and cost on average eight times the cost of an Eritrean teacher (World Bank, 2003, GoE, 2003).

The same is the case with other higher learning institutions in the country where more than 70 per cent of the faculty are Indian expatriates particularly in EIT and other colleges in the country. This problem would continue at least for few more years. There are no post graduation courses[7] offered in the country to produce teachers for higher learning institutions. It is surprising to note that the Graduate Assistants handling the regular classes in some colleges (MoE, 2003; World Bank, 2003).

The institutions should diversify their courses by introducing more science and technology courses like Eritrea Institute of Technology –Mai Nefhi and other colleges in the country that may attract qualified applicants. In order to do this effectively, the institutions should effect equity monitoring and evaluation systems to asses and improve equity and access.

Further on educational finances, the Government of Eritrea can set up an Educational Bank that can consider pegging student loan ceilings to fees charged to enhance affordability of private university education in Eritrea. There is need to spearhead the formation of a consortium of private universities in Eritrea or in the region as a way of pulling or sourcing development capital. The government should also encourage and continue supporting the establishment of private universities by providing the necessary infrastructure such as roads, electricity, offering tax rebates, or land grants as a way of encouraging private university education.

5. CONCLUSION

It is to conclude that educational investment is an engine of economic development in Eritrea. Educational investment is one of the important economic activities that can play a major role in boosting a country's economy (Rena, 2006:73). Past studies linking education to economic growth have focused predominantly on the effects of primary and secondary education. Tertiary education also has an important role in promoting economic growth. This study examines the impact of tertiary education on economic growth. The analysis suggests that increasing tertiary education may be important in promoting faster technological catch-up and improving a country's ability to maximize its economic output. Therefore, investing in tertiary education in Eritrea may accelerate technological diffusion, which would decrease knowledge gaps and help reduce poverty in the country and the same is applicable to the African continent.

Despite over 15 years of political independence, Eritrea's aspirations and hopes remain today largely unfulfilled. This has not been, however, a period of mitigated failure in the history of the country. It is generally believed that while the investment the government

has made in the higher education sector since its independence seems to be quite commendable, the trend will not continue (Rena, 2005c). Current development of an Interim Poverty Reduction Strategy and reforms of economic policy should provide the basis for accelerated economic growth in the future. Accelerated poverty reduction and economic growth will, however, only be achievable and sustainable, if an adequately educated work force is available. The ever increasing pressure for structural adjustment by the World Bank and other donors aside, the tertiary education sector itself is being questioned internally for its limited capacity to provide access to most eligible applicants. Worse, this limited participation in higher education is compounded by gender, socio-economic status, and regional disparities (Rena, 2005b). Therefore the situation in Eritrean education sector needs a systematic study. To do this, the Eritrean educators and scholars have special responsibility in the national effort. They must also deploy all their resources, talents, imaginations, the goodwill and hard work that are necessary for the success of Educational development in Eritrea.

End Notes:

1. As defined by those who had completed higher education, including junior college, college, university, or graduate school.

2. United Nations Information Service (2000): "Information Technology Should be Used to Tap Knowledge from Greatest Universities to Bring Learning to All, Kofi Annan Says." Press Release No: UNIS/SG/2625. August 3, 2000. Internet: www.unis.unvienna.org/unis/pressrels/2000/sg2625.html (Last accessed: February 21, 2006).

3. The eight new Colleges in Eritrea, offering university level programs (diploma and Bachelor of Science or Bachelor of Arts degree) established in 2003/4 academic year. The first established one was the Eritrea Institute of Technology (EIT) located at Mai Nefhi. The EIT has three colleges, which are the colleges of Education, Engineering and Technology, and Science. The other new colleges are, the college of Agriculture in Hamelmalo (near Keren), the college of Health Sciences and the Orota School of Medicine in Asmara, the college of Marine Sciences and Technology in Hirgigo (near Massawa), the college of Arts and Social Sciences to be located in Adi Kieh, and the college of Business and Economics to be located in Massawa. During the 2005/6 academic year, the programs that are being offered by the various colleges are given next.

4. See Eritrea Education and Training Sector. It is to be noted that spending for basic and secondary education includes spending by the MoE and all other line ministries who are involved in education activities.

5. This Eri-British Institute is started in mid- 2004 and it is accredited by the Edexel in UK. Financial aid to students who cannot meet their educational financial requirements is an essential contribution towards achieving equity of access especially in private universities where the fees charged is quite high.

6. The proposed college in this town is College of Social Sciences and Arts currently exists in EIT not started till September 2006. But it is officially declared recently that the college will be shifted soon in early 2007, whereas the Agricultural College, in Hamalmalo (Keren) is started in the academic year 2005.

7. As stated earlier in this article Asmara University (and other distance learning programmes from outside) produced about 45 Post-Graduates in 2006. However, this programme is temporarily stopped in 2006. If this trend continues, it would be difficult for Eritrea to attain its own teachers for higher education development and it will take much longer time than expected.

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