

ICT in Education in Eritrea

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Source: *World Fact Book*¹

Please note:

This short *Country Report*, a result of a larger *infoDev*-supported *Survey of ICT in Education in Africa*, provides a general overview of current activities and issues related to ICT use in education in the country. The data presented here should be regarded as illustrative rather than exhaustive. ICT use in education is at a particularly dynamic stage in Africa; new developments and announcements happening on a daily basis somewhere on the continent. Therefore, these reports should be seen as “snapshots” that were current at the time they were taken; it is expected that certain facts and figures presented may become dated very quickly.

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Overview

Eritrea has made significant efforts to reform its education system with the objective of providing its citizens with accessible and high-quality education that is modern, technologically advanced and that will create an internationally competitive human resource. The rise in the gross enrolment rates, the construction of new classrooms and reconstruction of those destroyed, and the capacity-building initiatives at the Ministry of Education all are indications of a country that is ready to learn.

The government's acknowledgement that ICT has a role to play in improving both access and quality of education is commendable given the bigger challenges of poverty, hunger, disease and access to basic education. The National ICT for Education Policy and the completion of the implementation master plan is bound to generate the necessary momentum within government and other education sector players to seriously start integrating ICTs into education.

Country Profile

Eritrea was awarded to Ethiopia in 1952 as part of a federation. Ethiopia's annexation of Eritrea as a province 10 years later sparked a 30-year struggle for independence that ended in 1991 with Eritrean rebels defeating government forces. Independence was overwhelmingly approved in a 1993 referendum.

Eritrea has a land mass of 124,000 square kilometres and a population of 4.8 million with 44% under the age of 15. It is bordered by Ethiopia and Djibouti in the south, by Sudan in the west and north, and by the Red Sea in the east.¹

The economy is predominantly agricultural: this sector contributes 9% of the GDP, and it is estimated that 80% of the population depends on it. The country's lowland and escarpment have great potential for agricultural development that, with proper conservation and utilisation of water, can be exploited for intensive and extensive cultivation of variety of staple and cash crops. Eritrea also has high-quality livestock.

Fishing and salt panning are other major activities. The high salt content of the seawater and the hot climate in the region allow for cheaper salt production. Salt is exported to Europe and the Far East.

Table 1 provides some selected socio-economic indicators for the country.^{1,2}

Table 1: Socio-economic Indicators: Eritrea

Indicator	
Population	4.8 million (2006)
Languages	Afar, Arabic, Tigre, Kunama,

	Tigrinya, other Cushitic languages
GDP per capita	\$1,000 (2005 est.)
Human Development Index (2004)	157 (out of 177 countries)
Human Poverty Index (2004)	70 (out of 102 countries)
Expenditure on education (as a percentage of GDP)	3.8% (2004)

The Education System

In spite of setbacks engendered by years of war and the recent border conflict with Ethiopia, the Government of Eritrea has established and exercises administrative control over schools in all catchment areas throughout its territory. The Ministry of Education has six regional (district) or *zoba* education offices and 55 sub-regional offices. In 2000/01 there were 91 pre-schools, 667 elementary schools, 142 middle schools, 43 secondary schools, three special schools, 10 technical schools, two teacher-training schools, 874 literacy training centres, and two universities.

Eritrea pursues a 2-5-3-4 education system: two years in pre-primary, five years in elementary, three in middle school, and four in secondary. There are nearly 238,000 students in the primary, middle, and secondary levels of education.^{3,4}

Education is officially compulsory between seven and 13 years of age. One of the unique features of the system is the commitment by the government through its educational policy to provide basic education in each of Eritrea's mother tongues. Education is therefore delivered in nine different local languages at the primary school level.

Table 2 provides rates of enrolment at various levels of education.

Table 2: Selected Education Statistics⁵

Net primary enrolment	47.8% (2004)
Net secondary enrolment	23.9% (2004)
Gross tertiary enrolment	5.6% (2004)
Gender parity index*	0.7% (2004)

*Gross enrolment ratio in primary and secondary

Education policy

The thrust of Eritrea's National Education Policy, which is based on education as a fundamental human right and lifelong process, is the creation of a modern, technologically advanced, and internationally competitive economy. Education provision in Eritrea is further aimed at human capital formation for self-reliance, self-consciousness, and self-motivation with a view to fighting poverty, disease, and the attendant causes of backwardness.

Eritrea's education policy is based on the principle of universal primary education of up to eight years, as well as skilled manpower requirements of both the public and private sectors,

which are to be met by steadily increasing enrolments at the secondary, technical, and vocational schools.

Completion of elementary education is compulsory for all Eritrean citizens, while completion of middle school (thus acquiring a full basic education) is compulsory for all school-age children. Education in public schools up to the completion of high school is free for all school-age Eritreans who maintain acceptable standards of performance.

The policy framework also advocates the promotion of continuing education through formal and informal channels to achieve higher literacy rates, as well as the selective expansion of tertiary education to meet the envisaged manpower requirements of the economy, while resorting to opportunities offered by the international community to diversify skills acquisition. On all aspects of education, the government aims to eliminate gender disparities and ensure girls' full participation at all levels, as a significant number of households are headed by females and sustainable socio-economic development cannot be realised without women's full participation. The policy also takes into account the need to provide for other socially disadvantaged groups, including physically disabled people, internally displaced persons (IDPs), nomads, those afflicted with HIV/AIDS, elderly people, orphans, those living in rural or remote areas, and anyone who is out-of-school or unemployed. The strategy of mainstreaming people with disabilities into the education system is consistent with an inclusive education policy. The policy further highlights the following priority areas:⁶

- Technical/vocational training through multi-craft dexterity and skills that enhance job adaptability and the retraining potential of students
- Joint participation by the government, communities, and direct beneficiaries
- Official recognition of the professional accreditation of skills and academic attainment through established certification procedures
- Maintenance of the standards of public schools through curricula issued by the Ministry of Education, while private schools follow the same curricula but are not limited by their coverage
- Provision to non-secular schools of accreditation of professional competence (in non-religious matters) only on the basis of established national certification procedures
- Unrestrained private sector participation in the provision of education.

This effort notwithstanding, nearly 60% of children of eligible age do not have access to elementary education (first five years). For middle and high school levels, the proportions are 88% and 86% respectively. Access rates are clearly inadequate to provide Eritrea with the number of educated people required to increase productivity, support private investments, and facilitate growth. In fact, currently more than 70% of the population is illiterate.⁷ This is due to a number of factors: the limited physical capacity of existing schools, the distance to schools, the lack of fiscal resources required to bring schools closer to learners, and the overall poverty.

National ICT in Education Policy

The Eritrean Ministry of Education adopted an ICT in Education Policy prepared by an international consultant in 2005 through its Education Sector Development Programme. The

broad policy objectives articulated in the document include a national framework in all ICT-related initiatives in the education sector.

The document also identifies important components of effective ICT integration into education in order to build awareness among stakeholders. It proposes co-ordination and management of ICT in education and a cross-sector strategy for its implementation to maximise effective utilisation of tools and to minimise wastage. The document also recognises the challenges of the “digital divide” by addressing key constraints through the use of ICT to ensure all citizens of Eritrea have equitable access to ICT. The ministry has also finalised the development of an implementation master plan.⁸

The ministry has been conducting ICT capacity-building activities for staff and agencies in line with the policy objectives. Some secondary schools, especially those in urban areas, have started teaching ICT as an examinable subject at the middle level, but ICT has not been integrated as a teaching and learning tool. About 15 schools have computer labs that with Internet access. These labs were equipped with assistance from World Links (an NGO supplying used computers to schools), from NGOs in the developing countries, and from Fair Allocation of Infotech Resources (FAIR).⁹

There is more use of ICT in the higher levels of education including universities and tertiary colleges, but again most of it dedicated to administrative tasks.

Infrastructure

Liberalisation of the ICT sector in Eritrea in the last 15 years of independence has led to rapid growth of technology deployment in the country. However, the country still has a low penetration level of ICT infrastructure, which is coupled with network congestion and high costs. As a result, ICT access is limited to just a few people and mostly in urban areas where cyber cafés have mushroomed.¹⁰

Table 3 provides some current statistics for ICT infrastructure in Eritrea.

Table 3: ICT Infrastructure in Eritrea

Telephone lines	37,700 (2005)
Mobile phone subscribers	58,000 (2006)
Internet users	70,000 (2006)
Television stations	2 (2006)
Internet hosts	1088 (2006)
Radio stations	AM 2/shortwave 2 (2000)

In the education sector, some ICT is in currently in use. With the adoption of the ICT in Education Policy, ICT is considered as a strategic tool to improve access to, and the quality of, education.

ICT in schools

There is almost no movement to use ICT within the pre-primary and primary school levels as most of the resources go to providing basic education and constructing classrooms. However, the ESDP framework provides for the establishment of 20 computer labs in 20 secondary schools by 2009. At the secondary school level, ICT is taught and has been made an examinable subject in the higher grades. Courses cover basic computer operations including the use of word processors, spreadsheets, and other utility and productivity applications.

The Ministry of Education also owns and operates a radio station that broadcasts educational content to secondary schools. It is said the Ministry has gone even further and initiated a programme to give free radios to schools that cannot afford them, especially in rural areas. The radio broadcasts are also in local languages and cover subjects such as civics, agriculture, and health.

ICT in universities and tertiary colleges

ICT is used more at the university and tertiary college level, but mostly for research and administrative purposes. There is no clear policy or strategy to use ICT in these institutions despite the government's acknowledgement of the key role that ICT will play in improving its human resource development. The vocational training centres have been particularly earmarked to pass on technical skills, including ICT skills for students dropping out at the different levels of the education system.

Current ICT Initiatives and Projects

Education Sector Development Programme

This is a sector-wide programme based on four pillars that cover access to basic education, improved quality and access to secondary education, and capacity-building for the Ministry of Education. Within the project, 20 computer labs will be established in 20 secondary schools and a total of 400 computers will be distributed. This project is supported by the African Development Fund and the Government of Eritrea.

For more information:

www.afdb.org/pls/portal/docs/PAGE/ADB_ADMIN_PG/DOCUMENTS/OPERATIONS_INFORMATION/ADF_BD_WP_2004_130_E.PDF

Computers for Libraries Project

This project was initiated by the British Council and is aimed at equipping all public libraries in Eritrea with computers including CD-Roms and Internet access. The first phase was successful, and a second phase was planned to cover libraries in secondary schools. The partners in this project include Computer Aid International, Library and Information Association of Eritrea, the Ministry of Education, Computer Technology Services, Research and Documentation Centre, and the British Embassy.

For more information: www.britishcouncil.org/eritrea-lis-computers-for-libraries.htm

World Links Computer Labs Project

World Links is a global NGO with a mission to improve educational outcomes, economic opportunities, and global understanding for youth through the use of ICTs and novel approaches to learning. World Links has helped establish computer labs in six secondary schools together with networking equipment in its pilot phase. The project is expected to roll out to more schools. World Links has assistance from the World Bank.

For more information: www.world-links.org/en/news/latest/welcome-to-world-links.html

Fair Allocation of Infotech Resources (FAIR)

FAIR is co-operating with the Eritrean Ministry of Education to distribute and establish ICT labs and training in Eritrean schools. In the first phase, nine schools in the Massawa received complete computer labs. Thereafter schools in the districts of Ghatalai, Ghindae, and Nefasit were added. The project is supported by Norwegian Agency for Development Corporation (NORAD).

For more information: www.fairinternational.org/

Implementing ICT in Education: What Helps and What Hinders?

Table 4 lists the core factors influencing the implementation of ICT in education in Eritrea, and summarises both the enabling and constraining features.

Table 4: Factors Influencing ICT Adoption

Factors	Enabling Features	Constraining Features
<i>Policy framework</i>	With the finalisation of the implementation master plan, the ministry will be able to guide the process of institutionalising ICT in the education sector, which will have the benefit of a structured adoption.	The ICT for Education Policy is part of the Education Sector Development Plan, which seems not to focus on higher education including the universities.
<i>Infrastructure and cost of bandwidth</i>		Despite the liberalisation of the telecommunications sector, the cost of bandwidth is still out of reach of many schools. Access to ICT is also hindered by the penetration level as most of the infrastructure was destroyed during the war.
<i>Electricity</i>		Electricity remains a major problem in Eritrea and inhibits the use of ICTs, especially in rural areas. The national electricity grid is limited to commercially viable areas, missing out most rural areas. The use of ICTs can therefore be mapped with areas that have electricity.

<i>ICT as a priority</i>		A lot of resources are aligned with the sector development programme with its bigger project dealing with fundamental challenges such as construction of classrooms and availability of textbooks, so ICT is not a priority area.
<i>Tutor technicians</i>		Lack of trained teachers with ICT knowledge contributes to the lack of interest or seeming lethargy in adopting ICT in the classroom.
<i>Interested partners</i>	Two of the main distributors of refurbished computers in schools, Computer Aid and World Links, have started working with the Ministry of Education. The pilot by World Links is now due for a wider rollout.	
<i>Literacy and awareness</i>		Use of ICT is almost proportional to the level of literacy and awareness. Illiteracy is still very high and awareness of the benefits is very low.

Notes

1. The World Factbook 2007. <https://cia.gov/cia/publications/factbook/geos/er.html>
2. Country Fact Sheets: Eritrea, "Human Development Report." 2006. UNDP. http://hdr.undp.org/hdr2006/statistics/countries/country_fact_sheets/cty_fs_ERI.html
3. "Education in Eritrea." 2007. Wikipedia. http://en.wikipedia.org/wiki/Education_in_Eritrea#_note-0
4. Eritrea: Basic Education Indicators. 2006. UNESCO. <http://education.nairobi-unesco.org/PDFs/eritrea.pdf>
5. The World Bank, Education Statistics, Summary Education Profile <http://devdata.worldbank.org/edstats/SummaryEducationProfiles/CountryData/GetShowData.asp?sCtr y=ERI,Eritrea>
6. Bongjoh, F. "Appraisal Report: Education Sector Development Programme." 2004. African Development Fund. http://www.afdb.org/pls/portal/docs/PAGE/ADB_ADMIN_PG/DOCUMENTS/OPERATIONSINFORMATION/ADF_BD_WP_2004_130_E.PDF
7. Eritrea-Education Sector Improvement Project, Updated Project Information Document. 2003. World Bank. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2003/05/03/000094946_0304230409215/Rendered/INDEX/multi0page.txt
8. Interview with Mr. Fisseha H, Education Sector Development Plan – Project Management Unit.
9. FAIR International. www.fairinternational.org/
10. Ravinder, R. "Information Technology and Development in Africa: The Case of Eritrea." 26 November 2006. Worldpress.org. www.worldpress.org/Africa/2578.cfm

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