

## ICT in Education in Tanzania

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Source: *World Fact Book*<sup>1</sup>

*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

The past few years witnessed a host of activities aimed at injecting ICT in Tanzania's education sector. From the International Institute for Communication and Development (IICD)-supported roundtable in Bagamoyo where 11 ICT for education projects were formulated to the Swedish International Development Agency (SIDA)-supported stakeholders forum of January 2005, which saw the birth of the Tanzania eSchools initiative and many other activities in between. All this has, as a result, tremendously increased the awareness of the benefits of ICT within the Education sector, not to mention the support from several development partners.

With the raised awareness the potential that ICT has demonstrated in improving the quality and access to education, the government, through the Ministry of Education and Vocational Training has recently developed an *Information and Communication Technology (ICT) Policy for Basic Education* (July 2007) that will among other things, structure the adoption of ICT within the education sector.

## Country Profile

The United Republic of Tanzania was formed out of the union of two sovereign states, namely Tanganyika and Zanzibar. Tanganyika became a sovereign state on 9 December 1961 and a republic the following year. Zanzibar became independent on 10 December 1963, and the People's Republic of Zanzibar was established after the revolution of 12 January 1964. The two sovereign republics formed the United Republic of Tanzania on 26 April 1964. The Government of the United Republic of Tanzania is a unitary republic consisting of the Union Government and the Zanzibar Revolutionary Government.

Tanzania has an estimated population of 37.5 million,<sup>2</sup> 43.7% of which is under 15 years. The country is ranked 162nd out of 177 countries in the UNDP Human Development Index, ahead of Benin and Cote D'Ivoire.<sup>3</sup> The economy depends heavily on agriculture, which accounts for almost half of GDP, provides 85% of exports, and employs 80% of the workforce.

Table 1 provides some selected socio-economic indicators for the country.

**Table 1: Socio-economic Indicators: Tanzania**

Indicator	
Population	37.5 million (2006)
Languages	Kiswahili, English, and other local languages
Adult literacy rate	80.2 % (2004)
GDP (in US dollars)	\$29.25 billion (2006)
Human Development Index	162 (out of 177 countries)
Human Poverty Index	62 (out of 102 countries)

## The Education System

Education in Tanzania is managed mainly through the Ministry of Education and Vocational Training, which currently has a minister, deputy minister, permanent secretary, chief education officer, and several directors in charge of basic education, secondary education, teacher education, policy and planning, administration and personnel, inspection of schools and vocational training.<sup>4</sup> The ministry also has several independent agencies under it responsible for some core functions such as the National Education Council of Tanzania ([www.necta.go.tz](http://www.necta.go.tz)), the Tanzania Education Authority ([www.tea.go.tz](http://www.tea.go.tz)), the Tanzania Institute of Education ([www.tie.go.tz](http://www.tie.go.tz)), the Tanzania Library Services Board ([www.tlsb.or.tz](http://www.tlsb.or.tz)), the Institute of Adult Education (IAE), the Teachers Service Department (TSD), and the Agency for Development Education Management ([www.ademtz.com](http://www.ademtz.com)).

Tanzania follows a 7-4-2-3 system of education. Primary schooling takes seven years, followed by four years of secondary, two years of high school (advanced level), and three years of first degree university studies. Reports from the ministry indicate that there are a total of 14,700 primary schools, 2,289 secondary schools, 20 tertiary colleges (vocational training centres), and 53 teacher-training colleges. In 2006, there were 6.7 million new enrolments in pre-primary schools, 1.3 million standard one enrolments, and 243,359 enrolments in Form one. Teacher-training colleges enrolled a total of 13,425, an increase of more than 500% from 2005.

In 2006/07, the budgetary allocation for the education sector stood at TZS958 billion (USD\$740million) with 64.5% going into primary education, 12.5% to secondary, and the rest to teacher training (1.1%) and tertiary and higher education (21.9%).<sup>5</sup>

Table 2 provides a quantitative perspective of some selected system indicators.

**Table 2: Selected Education Statistics**

Indicator	
Net primary enrolment*	96.1 (2006)
Net secondary enrolment*	13.4 (2006)
Gender parity index (GPI)**	0.99
Education expenditure (as a percent of GDP)	3.9% (2004/05)

Source: Ministry of Education and Vocational Training

\*Net enrolment = the percentage of school-age children currently enrolled (i.e., it does not count older learners who may be enrolled)

\*\*GPI = the level of access by females to education compared with males.

## ICT Policies

Tanzania has just finalized its *Information and Communication Technology (ICT) Policy for Basic Education* which incorporates the integration of ICTs in pre-primary, primary, secondary and teacher education, as well as non-formal and adult education. The policy has

been developed in consultation with stakeholders, including a workshop in October 2006. The policy considers issues of infrastructure; curriculum and content; training and capacity development; planning procurement and administration; management, support and sustainability and monitoring and evaluation<sup>1</sup>

References to ICTs are also prominent in all three policy documents that govern the education sector in Tanzania in general. These are the Education and Training Policy of 1995,<sup>6</sup> the Primary Education and Development Plan (PEDP) 2002-2006,<sup>7</sup> and the Secondary Education Development Plan (SEDP) 2004-2009.<sup>8</sup> All three documents emphasise the need for access to and improved quality of education for all despite the increasing numbers of enrolments. The ministry estimates an increase in enrolled pupils from just under five million in 2002 to almost eight million in 2006, which will require approximately 45,000 additional teachers.

Both the PEDP and SEDP prioritise ICT-based information management at all levels and an introduction of computer courses into primary and secondary education.

As in many other countries in Africa, implementation of ICT projects tends to precede the policy and strategy phases, thereby allowing unco-ordinated efforts and sometimes wastage due to duplication of effort. ICT in education initiatives in Tanzania started in 2002 when a stakeholders' workshop was called by the ministry with support from the International Institute for Communications Development (IICD), a Dutch NGO.<sup>10</sup> The round table identified areas of ICT interventions and 11 project proposals were generated. These projects helped to raise awareness of the benefits and the potential gains in adopting ICT in the education sector which in turn elevated ICT to a priority area in education planning.

### **ICT in Schools**

Most private schools in the urban centres, especially Dar es Salaam, are already using ICTs, albeit without a formal setting or a policy framework. The impetus has come from parental pressure and the desire for students in these schools to achieve high national grades. However, even in these schools ICTs are mostly confined to administration. There is some limited use for teaching basic ICT skills, however, in most cases ICTs have not been integrated as a medium of instruction. Most of the activity is within the secondary school level, with negligible movement in primary and lower levels.

The eSchool Forum, which is comprised of ICT for education stakeholders, has formulated a five-year ICT in secondary schools programme, the eSchools Programme. This programme is meant to equip schools with ICT equipment (including access to the Internet), adopt educational management information systems at both the school and ministry level, and develop curriculum and online content for secondary schools. The programme proposal suggests a phased approach for ICT starting with 200 schools in phase one and a large scale rollout of 2000 schools in phase two with a nationwide coverage. The eSchools Programme proposal is currently under review by the MoEVT.<sup>11</sup>

### **ICT Teacher Training**

The Ministry of Education with support from the Swedish International Development Cooperation Agency (Sida) initiated a programme for introducing ICT in teachers' colleges in 2005. The programme is aimed at improving the quality of teacher education by using ICTs to improve both pre-service and in-service teacher education.

The teacher training programme now forms the first phase of the implementation of the sector-wide implementation of ICT in education. This project has already started and software and hardware procurement is in progress and installation is expected to be complete for the 32 teacher training colleges by mid-2007. The colleges will be equipped with thin client computers with a server and Internet access. Tutor technicians are being trained on support and networking essentials to be able to offer installation and maintenance services to colleges<sup>2</sup>. –numbering of footnote???. Should point to [www.teachers.or.tz](http://www.teachers.or.tz)

## Infrastructure

The Tanzanian government issued an order to ban the use of computers and television in 1974; this order was lifted in 1984 and since then the country has been playing catch-up in its use and adoption of ICT, fortunately with renewed vigour. The country adopted a national policy in 2003 that identifies the development of infrastructure as key in the development and use of ICT in the country.<sup>12</sup> The policy also recognises the strategic input that ICT can have in the education sector.

The liberalisation of the communications sector gave a big boost to the development of telecommunications. The Tanzania Telecommunication Company Limited (TTCL) exclusivity period in data and voice service provision ended in 2005. This meant that new data and voice providers could be licensed to compete with TTCL. To date there are two national operators, four mobile operators, eight public data operators, and 12 Internet service providers.<sup>13</sup>

Table 3 provides a snapshot of the state of national ICT infrastructure in the country.

**Table 3: ICT in Tanzania**

Indicator	
Telephone lines	138,227 (2006)
Mobile phone subscribers	5.7 million (2006)
Internet users	333,000 (2005)
Television stations	29 (2006)
Internet hosts	8609 (2006)
Radio stations	47 (2006)

The use of ICT in Tanzanian schools is not entirely new. In the late 1960s and early 1970s primary and secondary schools were provided with radios to enable students to listen to educational programmes designed by the Ministry of Education in collaboration with and broadcast by Radio Tanzania, the state radio station.<sup>14</sup>

The implementation of the new ICT Policy for Basic Education will undoubtedly improve access to and use of ICT in education. The policy foresees the use of a wide range of ICTs, from radio and mobile telephony to computers and Internet, to reach educational objectives.

Other initiatives aimed at bringing ICTs into schools have been championed by several NGOs such as the Tanzania Computers Literacy in Secondary Schools Trust Fund, which procures and refurbishes computers for use in schools and which has equipped over 20 schools with computer labs and trained students to maintain the computers. The organisation has also experimented with the use of open source software and thin client technology in an effort to lower the cost of acquisition. Other NGOs active include the Tanzania Education Services Trust, the Best Education Trust Fund, and the Distance Learning Educational Services, which prepares and hosts on-line study notes and past examination papers for revision by students.

### **Current ICT Initiatives and Projects**

There are several projects currently underway at the national level, projects that have now been included as part of the draft national ICT policy for education.

#### **ICT Implementation in Teachers' Colleges**

This is a collaborative effort between the Ministry of Education and Vocational Training and Sida aimed at introducing ICT in all teacher-training colleges in the country. The project was initiated in 2005 when a proposal was developed by Schools Online, an NGO based in the US and with offices in Tanzania at the time, and sold to the ministry as an initiative to improve access and quality of education in the country.

The programme's main goal is to improve the quality of teacher education by using ICTs in pre-service and in-service sessions. Tutors are expected to become ICT literate and able to use ICT as a tool for teaching and learning as well as for management and administration. The benefits of preparing ICT-literate teachers are expected to spill over to schools when implementing initiatives like e-school or e-learning.

For more information: [www.teachers.or.tz](http://www.teachers.or.tz)

#### **ICT Development in Secondary Education**

The eSchool Forum which was formed after the education stakeholders workshop organized by the ministry of education in January 2005, has submitted a programme proposal to the Ministry of Education and Vocational Training. The proposal recommends the introduction of ICT in secondary education, in phases starting with 200 schools in phase 1 (2006 to 2008), a large scale rollout covering 2,000 schools in phase 2 (within five years), and nationwide coverage by 2015.

The proposal covers a wide range of activities that need to be undertaken within the programme, including ICT infrastructure development in the schools, technical resources, student management at school levels (integrated EMIS), content and curriculum

development, e-learning, sensitisation, human resources, and programme co-ordination and funding.

### **Education Management Information System (EMIS)**

The Ministry of Education and Vocational Training is implementing a nationwide education management information system (EMIS) to produce and manage educational data and information. The EMIS is expected to collect, process, utilise, and disseminate education data to educational stakeholders on a timely basis. This project is currently being implemented at the ministry headquarters, however some regional and districts offices have been provided with computers and printers. Computer training has taken place for 19 regional education officers, 19 regional academic officers, 35 district education officers, and 34 statistical and logistics officers. Efforts are underway to ensure that the remaining districts are trained and provided with computers and printers.

*For more information:* <http://www.moe.go.tz/ict4e>

### **Computer Procurement and Refurbishment for Schools**

This project is managed by the Tanzania Computer Literacy for Secondary Schools Trust Fund, a local NGO based in Dar es Salaam. The project procures used computers and receives donations from donors and other organisations, refurbishes these computers and uses them to equip computer labs in secondary schools. The project also trains students in basic computer maintenance so that they can become the first-level support for the labs. This project is supported by the International Institute of Communication Development.

*For more information:* [http://www.tanedu.org/proc\\_computers.asp](http://www.tanedu.org/proc_computers.asp)

### **Tanzania Education Services Web site**

This Web site publishes information on the education sector in Tanzania, including information about schools, examination results, and school administration. There is a wealth of information including contact information for 1,060 schools and 47 teacher colleges. This project is supported by the International Institute of Communication Development.

*For more information:* [www.tanedu.org](http://www.tanedu.org)

### **Barclays/Digital Links/TEA Computer for Schools Project**

Barclays Bank and Digital Links International have forged a partnership to spur the growth of ICT in schools across East Africa. A three-year programme has set targets to place 10,000 computers in approximately 500 schools. Implementation of the programme will be through collaborative partnerships with organisations in each country. Barclays Bank East Africa has allocated UK£150,000 for the programme.

For Tanzania, the Barclays ICT project for schools is implemented by Tanzania Education Authority (TEA), Tanzania Commission of Science and Technology (COSTECH), and Mkombozi Centre for Street Children.

For more information: <http://www.tea.or.tz/news.htm>

## Implementing ICT in Education: What Helps and What Hinders?

Table 4 provides a summary of the current stage of ICT development in Tanzania in terms of enabling or constraining features in the education system.

**Table 4: ICT Initiatives and Projects**

<b>Factors</b>	<b>Enabling Features</b>	<b>Constraining Features</b>
<i>Policy framework and implementation</i>	The new policy, when enacted and implemented, will help guide the development of ICT in education and therefore make the ministry assume leadership	The lack of a policy framework has hindered the uptake of ICT in education to date which contributed to the limited active promotion of ICTs in education within the Ministry of Education ..
<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. Rural schools that are out of the national telecommunications network need to use expensive satellite technologies.
<i>Language of the Internet</i>	There is an increasing interest in developing online content in Kiswahili and some applications now come with Kiswahili dictionaries. The advent of open source software has helped localise ICTs and the Internet and therefore increased access.	Language has been identified as one of the major inhibitors of ICT use in Tanzania. A majority of the population is comfortable in Kiswahili and only learns English in later years in late primary school or early secondary school.
<i>Electricity</i>		The national electricity grid is still limited to commercially viable areas missing out most of the schools, which are in the rural areas. This, coupled with major breakdowns and load shedding, has increased the cost of owning ICT infrastructure.
<i>Tutor technicians</i>		ICT in education is still a new concept. The teachers- colleges are now training teachers in ICT . A lot more effort will be required to give in-service training to



		teachers in ICT.
<i>New technologies</i>	There is proliferation of new technologies that are promising to drastically lower the cost of entry and ownership of ICT in schools. These include open source software and Wireless Connectivity solutions using GSM networks, which have a wider coverage in the country.	

## Notes

1. World Factbook 2007. <https://cia.gov/cia/publications/factbook/geos/tz.html>
2. Ibid.
3. "Tanzania Fact Sheet." Human Development Report 2006. [http://hdr.undp.org/hdr2006/statistics/countries/country\\_fact\\_sheets/cty\\_fs\\_TZA.html](http://hdr.undp.org/hdr2006/statistics/countries/country_fact_sheets/cty_fs_TZA.html)
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11. Nills Jensen. "ICT Integration in Tanzania's Secondary Education Policy" <http://www.digitallearning.in/octmag06/Action.asp>
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15. ICT in Secondary Schools, The e-School Program. Presentation by C. Philemon et al. Rural Connectivity Workshop, Dar es Salaam, May 2006.

<sup>1</sup> Ministry of Education. <http://www.moe.go.tz/ICT4E/ICT4E.html>

<sup>2</sup> WaKute. <http://www.teachers.or.tz/>

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