

ICT in Education in Zambia

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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

The penetration levels of ICTs in Zambia's education institutions remains low, with those schools that are equipped mostly utilizing second-hand and refurbished computers. The integration of ICTs in learning and teaching practice has been limited, although the introduction of computer studies as a school study subject has begun to change this. The recent adoption of a national ICT policy, as well as the development of a draft ICT policy for education and an associated implementation framework, provides an enabling policy environment to promote far greater access and use of ICTs across all sectors of Zambia's education system, including a system for enhancing education management, administration, and teaching and learning. While the goals and targets set in these policy documents seem realistic, realising them within the established time frames remains a challenge.

Country Profile

Zambia is one of the poorest countries in the world; more than three-quarters of the population live on less than USD\$1 per day. Zambia also suffers a high rate of HIV/AIDS, with 16% of Zambians age 15 to 49 years being HIV positive and an estimated 1.1 million children orphaned, many themselves HIV positive.² There is chronic food insecurity and weak governance with devastating social and economic consequences. The economy is vulnerable to natural disasters such as flood, drought, and animal disease which impacts food security.³

The Zambian economy has historically been heavily dependent on copper mining. Since the early 1970s the terms of international trade shifted towards a significant decline in copper prices. This led to the closure of mines and had a far-reaching effect on the economy. Slow progress in diversifying the economy and high levels of borrowing and debt relief are contributing factors to the country's economic malaise.⁴

Table 1 provides some selected socio-economic indicators for Zambia.

Table 1: Socio-economic Indicators: Zambia

Indicator	
Population	11.7 million (2005)
Languages	Official language: English. Local languages: Bemba, Kaonda, Lozi, Lunda, Luvale, Nyanja, and Tonga.
2005 Economic activity (% of GDP)	Agriculture: 18.6% Industry: 25.2% Services: 56.3%
Human Development Index	165 (out of 177 countries) ⁵
Per capita gross national income	\$400 (2004); \$490 (2005)

(US dollars)	
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More recently, the Zambian economy has been showing signs of improvement precipitated by growth in the mining, manufacturing, tourism, and construction sectors. Zambia has also received extensive debt relief based on the outcome of the Group of 8 meeting in Gleneagles in July 2005 and the Multilateral Debt Relief Initiative (MDRI). Its external debt burden has reportedly been reduced from \$7.1 billion to \$0.5 billion, which makes available funds allocated to pay back loans, to be spent on health and education.⁶

The Education System

Zambia's education structure starts with four years of pre-school education, which are optional. Primary schooling extends over seven years at an entrance age of seven years, followed by five years of secondary education at an entrance age of 14. Currently the Zambian government is placing emphasis on ensuring the provision of primary education. In 2005 Zambia had 6,962 basic schools with 2.8 million learners and 463 high schools with more than 136,000 learners.⁷

Almost two-thirds of the children end their education at the primary level. Only one-third of the primary school dropouts have the opportunity to go to secondary education. Of those who enroll for primary education, less than 20% enter secondary school, and only 2% of the 20 to 24 age group enter a university or some other form of higher education.⁸

Higher education is provided by two universities under the aegis of the Ministry of Education and various specialised institutions (colleges and institutes) controlled by the Ministry of Science, Technology and Vocational Training. Primary and pre-primary school teachers are trained at primary school teacher-training colleges while secondary school teachers are trained in teacher colleges and at the University of Zambia.

Distance higher education is offered by technical and vocational colleges and the University of Zambia.

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

Table 2: Selected Education Data

Indicator	
Enrolment in primary education (% gross)*	99 (2004)
Enrolment in secondary education (% gross)*	26 (2004)
Transition to secondary	54 (2003)
Gender Parity Index (GPI)**	0.98 in primary; 0.79 in secondary (2004)

*Percent of gross is the number enrolled as a percentage of the number in the eligible age group.
 **GPI = gross enrolment ratio (GER) of females, divided by the GER of males and indicates the level of access by females to education compared to males. A GPI of 0.79 suggests there is limited gender parity.

Despite the introduction of free basic education in 2002, many girls and other vulnerable groups drop out of school before they complete primary school, largely due to poverty and the impact of HIV and AIDS on families. According to UNICEF, the Zambian education sector has a combination of low school enrolment and low school achievement, which means that one out of five children realise their right to quality basic education.⁹ Adult literacy in Zambia was 80.6% in 2003 (86.8% for men and 74.8% for women).¹⁰

The Department for International Development (DFID) reports more recently, however, that Zambia has shown improved performance against the Millennium Development Goals (MDGs) in primary universal education and promoting gender equality in schools with net enrolment rates increasing from 71% in 2000 to 95.6% in 2005. However, DFID also notes that more needs to be done if the MDGs are to be achieved by 2015.¹¹

Infrastructure

Zambia has a modest ICT infrastructure that is concentrated in urban centres. Zambia underwent a process of liberalisation of its telecommunications and broadcast sectors in the early 1990s.

Table 3 provides a snapshot of the state of national ICT infrastructure in Zambia.¹²

Table 3: ICT in Zambia

Fixed-line subscribers (2004)	91.7 per 1,000 persons
Mobile subscribers (2004)	464 per 1,000 persons
Dial-up subscribers (2004)	16.5 per 1,000 persons
Broadband subscribers (2004)	0.023 per 1,000 persons
Internet users (2004)	231 per 1,000 persons
Television broadcast stations (2002)	9
Radio stations (2001)	AM 19 ; FM 5; shortwave 4

The current regulatory framework is fragmented with three bodies regulating the sector. The Communications Authority regulates the telecommunications sector, the Ministry of Communications and Transport regulates the postal and courier services, and the Ministry of Information and Broadcasting regulates broadcasting. There will be attempts to harmonise the regulatory framework with closer collaboration between the different ministries in view of the country's new national ICT policy.

A major boost to Zambia's ICT infrastructure is the impending establishment of the East African Submarine Cable System (EASSy), which is a submarine optical fibre system running along the east coast of Africa and which includes some of the landlocked countries like Zambia. This project is facilitated by the New Partnership for Africa's Development (NEPAD) eAfrica Commission in partnership with a host of telecom companies; in Zambia, Zamtel is the key partner.¹³

ICT Policies

National Vision 2030

The National Vision 2030 is the Zambian government's long-term plan "to be a prosperous middle income nation by the year 2030." The vision emanates from a series of discussions with a range of stakeholders from civil society, the private sector, and within government, and it articulates national and sectoral goals for the socio-economic development of Zambian economy and society.

Fifth National Development Plan

The Fifth National Development Plan (FNDP) represents the fifth of a series of successive five-year plans to promote the social and economic development of Zambia. The FNDP extends from 2006 to 2010 and has "broad based wealth and job creation through citizenry participation and technological advancement" as its theme and "economic infrastructure and human resources development" as its strategic focus. Unlike previous national plans, the FNDP makes specific references to ICT development. It proposes the installation of provincial and district fibre optical cables and the establishment of rural community multi-purpose telecentres.

The FNDP represents the engine for developing other forms of ICTs including capacity-building related to technologies and equipment as well as broadening access content such as news, information, and knowledge resources by the general public.¹⁴

National ICT Policy

In March 2007, the Zambian government launched its national ICT policy. At the launch, President Mwanawasa reportedly emphasised the creation of an innovative, market responsive, highly competitive, co-ordinated, and well-regulated ICT industry.¹⁵

The policy identifies three goals for ICT:

- To enable a diversified and export-oriented economy
- To improve livelihoods and protect the vulnerable through service delivery
- To provide an efficient and effective public sector

The policy recognises the need to face the following challenges in education:

- Low levels of ICT literacy
- High cost of technology acquisition

- “Brain drain” resulting in considerable loss of skilled personnel
- Limited local ICT industry
- Lack of standardisation and certification programmes in ICT
- Inadequate institutional capacity

The policy states that computer studies was introduced as a subject in public schools in 1998 and that Zambia’s private schools were producing ICT literate students. It also highlights challenges such as the financial and technological resource constraints, inadequate awareness on the benefits of integrating ICTs in the administration of the delivery chain of education sector, and the high opportunity costs and lack of co-ordination.

While the policy does not provide clear guidelines on how the challenges will be confronted, it does suggest the need to scale up the introduction of computer studies in schools and the need to focus research and development on products to service the local market.

ICT Policy in Education

With the support of the International Institute for Communication and Development (IICD), the Commonwealth of Learning (COL), and the United States Agency for International Development (USAID), the Zambian Ministry of Education had developed a draft ICT policy for education by October 2006¹⁶ and an implementation strategy by January 2007.¹⁷ This represents an extension of Zambia’s national education and national ICT policies. The vision is for ICTs to contribute towards reaching innovative and lifelong education and training in Zambia by 2030.

The guiding principles of policy include the following:

- It must fit into national policies on education and ICTs
- There is a commitment to establishing strategic partnership with stakeholders
- There is a combined effort with government, the private sector, and NGOs
- The policy reflects general standards that the Ministry of Education wishes to uphold
- An integrated approach must be adopted that integrates all aspects of the value chain in the education process

The policy also provides an overview of goals, objectives, and government commitment in key programme areas of ICT infrastructure to education institutions, content development, curriculum integration, teacher training, distance education, administration and support services, and finance.

Linked to the policy is an implementation framework that sets out in detail the implementation objectives, activities, time frames, and budgets for each of these programme areas. It also outlines the ministry’s commitment to promote collaboration between the private sector and education institutions and to establish appropriate structures to facilitate the integration of ICTs in the education system. The estimated

budget to support access to computer facilities and Internet access to the ministry headquarters, provincial offices and districts; the 14 colleges of education; the nine provincial, 78 district, and 400 zonal resource centres; and the 350 high schools and 460 basic schools is USD\$63.6 million.

Current ICT Initiatives and Projects

Computers for Zambian Schools Trust

The Computers for Zambian Schools is a registered trust established by the local educational and ICT specialists, representatives from the British Council, Ministry of Education, and the Beit Trust. It operates as a partnership between the Computers for African Schools, which is a UK-based registered charity, the British Council, HSBC, the British High Commission, the Beit Trust, SchoolNet Zambia, MTN, ZamNet, and the Zambian Ministry of Education.

The British Council has reportedly facilitated the import of duty-free equipment to Zambia. The Beit Trust provided grants to the project and MTN supported the operating costs for the technical centre.

To date the project has reportedly sent 4,500 computers that reached 300 schools in Zambia. It is based at a boys' high school in Lusaka where it takes in PCs and refurbishes and redistributes them to schools to be used to support the study of computer studies.

The main activities in which Computers for Zambian Schools are involved include training of ICT teachers, distribution of ICTs to schools, provision of technical support to schools, and recycling computers in partnership with a South African company.

For more information: <http://www.cfzs.org.zm>

eBrain Forum

eBrain is a non-profit, membership-based organisation that promotes ICTs for development in Zambia. Its objectives are to lobby, advocate, build capacity, and conduct research on ICT for development issues.

For more information: www.ebrain.org.zm

SchoolNet Zambia

SchoolNet Zambia was initially established as a short-term pilot project supported by the IDRC in the late 1990s. When this project came to an end, the organisation paused for a while and was then re-started with the support of SchoolNet Africa and its partnership with Multichoice Africa and the Open Society Initiative for Southern Africa (OSISA). With the support of Multichoice Africa and Multichoice Zambia, SchoolNet Zambia was able to promote access to satellite television and video in a few schools in order for learners and teachers to access education channels such as Mindset Learn, Discovery

Channel, and National Geographic. With the support of OSISA and in partnership with Computer for Zambian Schools, it extended the PC refurbishment centre.

For more information: <http://www.schoolnet.org.zm>

OneWorld Africa

OneWorld Africa is a registered NGO in Zambia which forms part of the OneWorld International online network of media and human rights practitioners and civil society organisations. OneWorld Africa has been involved in lobbying and advocacy on ICT for development issues in Zambia, including education. OneWorld Africa has an Education Support Network Project that involves volunteers in the development of teacher support materials for nine schools in the country. OneWorld Africa also has a collaborative partnership on thematic channels such as its learning channel, which provides information on education opportunities for individuals and institutions across the globe. Another is its kids' channel which provides a host of information and learning opportunities for children.

For more information: Africa.oneworld.net

University of Zambia and Copperbelt University

The University of Zambia and the Copperbelt University offer computer science as a study subject, and both institutions have invested in ICT infrastructure. The University of Zambia installed PCs with Internet connectivity in its regional offices. The Copperbelt University has a curriculum development centre that develops the syllabus on computer studies for Grades 1 to 9 with Grades 10 to 12 following international syllabuses on ICTs.

For more information: www.unza.zm

UNESCO Distance Learning Course on Telecentres¹⁸

In 2004 UNESCO supported the establishment of three learning centres in five African countries including Zambia. The project provided the centres with digital radios, data interfacing equipment, and technical backup, which enabled large numbers of local learners to participate in a course on telecentres. The course was delivered using the combined live audio and slide show (CLASS) technology of WorldSpace Corporation.

Resource Co-operative Society

The International Institute for Communication and Development (IICD) supports the Resource Co-operative Society in Ndola, which uses computers to conduct small-scale training for students and members of the community in lifelong skills to improve their employability.¹⁹

Implementing ICT in Education: What Helps and What Hinders?

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

Table 4: Factors Influencing ICT Adoption

Factors	Enabling Features	Constraining Features
<i>Policy framework and implementation</i>	Zambia has a national ICT policy that includes references to ICTs in education. Zambia also has a draft national ICT for education policy and implementation framework developed by its Ministry of Education which is the outcome of a multi-stakeholder consultative process.	
<i>Advocacy leadership</i>	Zambia has had dedicated champions for the cause of ICTs for development both within government and civil society.	
<i>Gender equity</i>	The national ICT policy mentions a stated commitment to gender equality and women's empowerment.	While the ICT for education policy and implementation framework make some references to gender, they do not explicitly refer to the promotion of gender equality and women's empowerment. These considerations may well be included in subsequent drafts.
<i>Infrastructure and access</i>	Zambia's national policies promote a commitment to universal access, and a range of organisations and groups have made headway in improving the country's ICT infrastructure.	
<i>Collaborating mechanisms</i>	Zambia's national ICT policy and draft ICT for education policy both promote multi-stakeholder collaboration and propose the establishment of dedicated structures to facilitate collaboration.	
<i>Human resource capacity</i>		Zambia has extremely limited human resource capacity.
<i>Fiscal resources</i>		Zambia's ICT for development strategy is strongly dependent on external donor funding.

Learning content	The implementation framework to support the ICT for education policy provides a detailed plan for the promotion of localised electronic content. Zambia has also introduced computer science as a subject in school and the draft policy promotes the greater spread in the provision of computer science as a school-based subject.	There is little digital education content based on the local curriculum frameworks available in Zambia's education institutions.
Procurement regulations	Organisations like Computers for Zambian Schools and their partners have successfully negotiated duty-free import of equipment.	
Attitudes	The leadership of Zambian government, the local private sector, and civil society have demonstrated an enthusiasm and positive attitude in promoting ICTs for development in general and in education in particular.	

Notes

- 1 The World Factbook 2007. <https://www.cia.gov/cia/publications/factbook/geos/za.html>
- 2 Critical Issues for Children, ESARO. 2007. UNICEF. http://www.unicef.org/har07/index_37543.htm
- 3 Where We Work – Zambia. 2007. World Food Program. http://www.wfp.org/country_brief/indexcountry.asp?region=3§ion=9&sub_section=3&country=894
- 4 Hesselmark, O. and P. Esselaar. "A Country ICT Survey for Zambia." 2003. Sida.
- 5 List of Countries by Human Development Index. Wikipedia. http://en.wikipedia.org/wiki/List_of_countries_by_Human_Development_Index#Low
- 6 DFID: Zambia. <http://www.dfid.gov.uk/countries/africa/zambia.asp>
- 7 Zambian Ministry of Education. 2006. National ICT Policy.
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- 11 DFID: Zambia. <http://www.dfid.gov.uk/countries/africa/zambia.asp>
- 12 World Telecommunications Development Report. 2006. ITU.
- 13 "NEPAD ICT Infrastructure Program: Addressing Africa's ICT Infrastructure Challenges Using Broadband Networks." E-Africa Commission. www.doc.gov.za/signing/Infrastructure.pdf
- 14 Zulu, B. "Zambia's National Development Plan 2006-2010." *ICT Journalist*. 19 August 2006. <http://brendait.blogspot.com/2006/08/zambias-national-development-plan-2006.html>
- 15 "Zambia: New National ICT Policy." *Pambazuka News*. 30 March 2007. <http://www.pambazuka.org/en/category/internet/40552>
- 16 Draft ICT Policy. 2006. Ministry of Education. 2006.

17 Draft MOE ICT Policy: Implementation Framework: Objectives, Activities, Timeframes, Budgets.
January 2007. Ministry of Education.

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http://portal.unesco.org/ci/en/ev.phpURL_ID=13920&URL_DO=DO_TOPIC&URL_SECTION=201.html

19 <http://www.iicd.org/files/NdolaResourceCentreZambia.pdf/view?searchterm=zambia>

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