

## ICT in Education in Sudan

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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

Sudan’s experience of the last two decades in building and capitalising on ICT as a gateway for sustainable development is a landmark in the country’s history. The institutional, legal, and regulatory frameworks were reformed to advance ICT as tools for integrating the economy into the global market.

The Sudanese government has budgeted future revenues for infrastructure refurbishments, and a multi-donor trust fund (MDTF) – administered by the World Bank – was created to support development projects. Investments from the MDTF will be divided between the Government of Southern Sudan (GOSS) and the national government in Khartoum. In November 2005, the MDTF gave the first disbursement of \$20 million to the GOSS for the rebuilding of health and education services.<sup>2</sup>

However, the full potential of ICT is greatly hampered by the lack of capacity of communities to make the best use of the services. Therefore, UNDP is intervening to assist the government through its ICT institutions to promote ICT for human development.

## Country Profile

Sudan is the largest and one of the most diverse countries in Africa, home to deserts, mountain ranges, swamps, and rainforests. With a unique position in the northeast of Africa, Sudan plays a major role in the diffusion of civilisation, exchange of culture, and knowledge into and from Africa.

Sudan is a tolerant multi-racial society with a variety of cultures and ethnic minorities. Sudan has experienced two major conflicts: a civil war involving southern Sudan, and a complex, multi-party armed struggle in Darfur. Both have hindered development and resulted in a general deterioration of security infrastructure and conditions in some regions. After two years of negotiation, the government and rebels signed a comprehensive peace agreement in January 2005.

Table 1 provides some selected socio-economic indicators for the country.<sup>3</sup>

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

Indicator	
Religions	Sunni Muslim 70% (in north); Christian 5% (mostly in south and Khartoum); indigenous beliefs 25%
Languages	Arabic (official); Nubian; Ta Bedawie; diverse dialects of Nilotic; Nilo-Hamitic; Sudanic languages; English

Population	41,236,378 (July 2006 est.)
Population growth rate	2.55% (2006 est.)
Literacy	Male: 71.8% Female: 50.5% Total population: 61.1% (2003 est.)
GDP (US dollars)	\$25.5 billion (2006 est.)
GDP per capita (US dollars)	\$2,300 (2006 est.)
Labour force	7.415 million (1996 est.)
Unemployment rate	18.7% (2002 est.)

## The Education System

In 1991, a new education philosophy was introduced to provide a frame of reference for the reforms. Education was to be based on the permanence of human nature, religious values, and physical nature.

The educational ladder was changed in Sudan in 1991 from 6-3-3 to 2-8-3 to include two-years of pre-school, eight years of basic, and three years of secondary school. Following a political decree by the Higher Authority of Arabization, Arabic was made the official language of teaching and scientific curriculum at the governmental higher education institutions.

Table 2 provides a quantitative perspective of some selected system indicators.<sup>4</sup>

**Table 2: Selected Education Data**

Institution	Total
Public schools	11,752
Private schools	1,035
Technical schools	81
Others	5,808
Number of school students for all levels	4.6 million
Public universities/higher institutions	27
Private universities/higher institutions	47
Technical	6
Number of university students	446,998
Public schools with computer labs	4,363
Private schools with computer labs	647
Technical schools with computer labs	20
Schools with Internet connection	20
Public universities with computer labs	27
Private universities with computer labs	47
Public universities with Internet connection	20
Private universities with Internet connection	47

Technical secondary schools enroll students who fail to continue their academic education. These schools meet the country’s needs of specialists, technicians, and experts in the different technical fields. Schools of general education for both sexes are currently covering and servicing the entire country.

The 5,808 other informal education institutes, such as religious institutes, youth centres, national industries, and professional training institutes, are not under the supervision of the Ministry of Education. However, their high-achieving graduates are offered a chance to join a number of universities and higher institutes.<sup>5</sup>

Education is financed by government, parents, councils, and some NGOs. General education in Sudan is not compulsory.

Table 3 provides data on school enrolment and attendance.

**Table 3: School Enrolment and Attendance<sup>6</sup>**

Education Statistics	Percentage
Primary school enrolment ratio 2000-2005, gross, male*	64
Primary school enrolment ratio 2000-2005, gross, female*	56
Percent of primary school entrants reaching Grade 5, 2000-2004	92
Secondary school enrolment ratio 2000-2005, gross, male*	34
Secondary school enrolment ratio 2000-2005, gross, female*	32

\*Percent of gross is the number enrolled as a percentage of the number in the eligible age group.

## ICT Policies

### National policy

In June 1999, the Sudanese national ICT strategy was formulated and a high-level ministerial committee was formed to oversee its implementation. The strategy focuses on five major areas: technology (infrastructure), human resource development, software industry development, content (Arabic reservoir), and geo-information.

Based on the knowledge and recognition of the importance of public-private partnerships in enhancing any development process, the Sudanese government is constantly seeking partners to implement the national strategy, including e-government projects, the development of an electronic smart city, distance learning, and telemedicine.

The General Ministry of Education Information Centre is the entity responsible for the development of a strong ICT infrastructure. The national policy encourages the use of ICT in developing local policies to ensure the complete integration of ICT in education and training on all levels, including the development of school curricula, teacher training, managing and organising educational institutions, and supporting the idea of lifelong learning by designing ICT training programmes to satisfy the educational needs of employees working in the field.<sup>7</sup>

### **Education Sector Policy**

The ICT policy for education was launched in 2002. The Information Directorate and Curriculum Centre and Training Directorate are the entities managing the implementation. In 2004, ICT was introduced in secondary education curricula. A number of computers were installed in schools (around 50% of secondary schools), at an average of 10 computers per school. In schools the connectivity is mainly through dial-up and ADSL. However, in higher education systems, it is through ADSL only. The country is planning to have computers available in all education levels by the year 2015 as agreed to at the ICT summit in Geneva.

The ICT curriculum has been introduced at Grade 4. The teachers have been trained on the basics of ICT. Both the government and the private sector provide access to the Internet as a learning resource.<sup>8</sup>

### **Infrastructure**

In the last two decades Sudan built and capitalised on ICT, and the government has opened up competitive investments in telecommunication. Licensing was granted for newcomers employing advanced technologies, which are hoped to increase the spread of and access to ICT and make products affordable.

Development in ICT in Sudan is evident in a substantial expansion of infrastructure and capital investment including management systems and human capital.<sup>9</sup>

### **Radio stations**

Following are three examples of radio use in Sudan:

- *Civic Education via Radio for Southern Sudan:* In partnership with the National Democratic Institute (NDI), Education Development Center Sudan Radio Service has developed a new civic education radio series that will increase listeners' knowledge of political developments and also promote increased discussion of political developments, tolerance of diverse viewpoints, and non-violent solutions to complex problems.
- *Sudan Radio Service:* As part of an effort to increase the participation of the southern Sudanese, the Sudan Radio Service provides access to balanced and useful information through radio-based education and entertainment programmes presented by local presenters in several local languages.
- *dot-EDU Southern Sudan Interactive Radio Instruction (SSIRI) Program:* This programme designs, develops, and pilot-tests appropriate and cost-effective

technologies such as interactive radio instruction in an effort to provide learning opportunities for children, adults, and teachers in southern Sudan.<sup>10</sup>

Table 4 provides a snapshot of the state of ICT infrastructure in the country.<sup>11</sup>

**Table 4: ICT in Sudan**

Indicator	
Telephones - main lines in use	670,000 (2005)
Telephones - mobile cellular	1.828 million (2005)
Radio broadcast stations	AM 12; FM 1; shortwave 1 (1998)
Television broadcast stations	3 (1997)
Internet users	2.8 million (2005)
Computer penetration	3 per 1000 inhabitants
ADSL	Introduced in 2004

## Current ICT Initiatives and Projects

A major contributor to the development projects and initiatives undertaken to help Sudan emerge from its current situation is the Sudan Multi-Donor Trust Funds (MDTFs), which provide an avenue for donors to co-ordinate and create synergies on initiatives and projects for the reconstruction and development needs of both northern and southern Sudan.

The MDTFs are funded by donor countries and managed by two technical secretariats, one that which focuses on war-affected areas of northern states (based in Khartoum), and a second for southern Sudan (based in Juba). Both trust funds provide funding for priority projects and programmes that are both pro-peace and supportive of poorer areas.

Table 5 summarises the current and recent ICT initiatives and projects in Sudan.

**Table 5: ICT Initiatives and Projects**

Programme	Description
<b>Computers in educational institutes</b>	The Ministry of Education has started providing schools and teachers' institutes with computers. An order to import 10,000 or more computers has been placed to provide the rest of the educational institutions with computers. There is an initiative for developing an educational management information system. <i>Partners/donors:</i> Ministry of Education in collaboration with UNESCO and UNICEF Khartoum.
<b>The development of an ICT system</b>	The system will connect schools, process exam corrections, and display the grades of the Sudanese Certificate on-line.
<b>EMIS Project</b>	This project will connect school localities and states on the

	<p>national level. The project will start in 2007 after signing the agreement.</p> <p><i>Partners/donors:</i> Collaboration between UNICEF, EU, and the Education Planning Directorate.</p>
<b>Open University of Sudan Development</b>	<p>CfBT Education Trust is a leading education consultancy and service organisation that has undertaken two consultancies for the Open University of Sudan in Khartoum, providing training for trainers and advice on the curriculum for the OUS on its recently introduced distance learning programme to improve the methodology and subject knowledge of English-language teachers working at primary and secondary schools throughout the country.<sup>12</sup></p>
<b>Reconstruction of basic education in Sudan</b>	<p>In 2005 UNESCO contributed its technical expertise to the preparation of a programme for the reconstruction and development of basic education in Sudan.</p> <p><i>Partners/donors:</i> UNESCO</p>
<b>Multi-purpose Community learning centres (MCLCs)</b>	<p>MCLCs are local centres that provide lifelong learning opportunities to empower local communities in villages, slums, and poor urban areas. MCLCs provide education combined with skills and training for income-generating activities leading to improving the quality of life of poor people. Several MCLCs have been set up in Lebanon, Syria, Palestinian Camps, Egypt, Sudan, Morocco, and Yemen.</p> <p><i>Partners/donors:</i> UNESCO</p>
<b>Focusing Resources for Effective School Health (FRESH)</b>	<p>This is a project to assess health education and HIV/AIDS prevention education in schools of the Arab world. The goal is to develop a common plan of action that will help address existing needs, particularly in the areas of information-sharing and training.</p>
<b>Center of Learning</b>	<p>This is an initiative for developing the learning resources through the national commission for UNESCO in Sudan. The infrastructure is being developed through the efforts of the government to get loans and assistance from NGOs.<sup>13</sup></p>

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

Table 6 provides a summary of the current stage of ICT development in Sudan in terms of enabling or constraining features in the education system.

**Table 6: Factors Influencing ICT Adoption**

Factors	Enabling Features	Constraining Features
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<b><i>Policy framework and implementation plan</i></b>	The national ICT policy was formulated mid-1999 and followed in 2002 with a national ICT policy on education, targeting mainly infrastructure, access, developing content, and human resource development.	Outreach to rural and remote areas still poses a considerable challenge. Poverty, lack of resources, and political unrest puts ICT lower on the priority list of basic needs in most areas of Sudan.
<b><i>Advocacy leadership</i></b>	A high ministerial committee was formed to oversee the prompt implementation of the national ICT policy, as well as the supervision of the Information Directorate and Curriculum and Training Directorate for the implementation of the education ICT policy.	Political unrest and civil war hinder nationwide implementation.
<b><i>Collaborating mechanism</i></b>	The Sudanese government has budgeted future revenues for infrastructure refurbishments and a multi-donor trust fund (MDTF) was created to support development projects. The UNDP is also supporting the government heavily through its ICT institutions to collectively share the interventions that promote ICT for human development.	
<b><i>Human resources</i></b>	One of the major areas of concern of the national ICT policy formulated in 1999 is human resource development.	Skilled, trained staff who are well acquainted with the ICT tools are very limited. They also tend to prefer the private sector to government positions.
<b><i>Support</i></b>	The government encourages investment and is paving the road for public-private partnerships as a means of offering more venues and creating better opportunities for the implementation of the ICT vision. Sudan is increasingly attracting attention from international investors interested in the oil revenues. These have attracted investment from Kuwait and UAE, and open the door for encouraging more investment.	Financing and donor interest in Sudan remains limited, especially with the number of embargos that were imposed.
<b><i>Rural/urban divide</i></b>	The efforts of the government	There is a huge digital divide



	remain focused on outreach to all parts of the country.	between rural and urban areas, especially in relation to computer literacy, and access to telecommunication infrastructure countrywide remain alarmingly low.
<b><i>Learning material</i></b>	Provision of content is among the five founding pillars of the national ICT policy. The government is focused on building a strong reservoir of Arabic content reflecting the culture and tradition of the region, and being accessible to a wide population.	Arabic electronic content greatly lags behind. Educational material and curriculum need total restructuring and rebuilding. Traditional and longstanding material and curriculum are still in use, which do not comply or meet with the needs of modern society.
<b><i>Gender equality</i></b>	A number of informal education projects target women as an under-served sector of the society. Women's participation and inclusion is also slowly increasing on the government level.	Female participation in public life in general and education and in the workforce in particular remain fairly low due to longstanding cultural factors and traditions.
<b><i>Sustainability</i></b>	The peace treaty signed in 2005 sets the grounds for more stable implementation of projects in different domains. A number of international development agencies, NGOs, and civil society organisations are dedicated to the development process with particular emphasis on education.	The political instability in Sudan is a great hurdle that impedes the development process.

## Notes

<sup>1</sup> The World Factbook 2007. <https://www.cia.gov/cia/publications/factbook/geos/sd.html>

<sup>2</sup> Energy Information Administration (EIA). <http://www.eia.doe.gov>

<sup>3</sup> The World Factbook 2007. <https://www.cia.gov/cia/publications/factbook/geos/sd.html>

<sup>4</sup> Ministry of Education. *Education Statistic Yearbook 2004-2005, 2002-2003*; Khartoum.

<sup>5</sup> Ministry of Higher Education. *Statistic Yearbook 2002- 2003*; Khartoum, Sudan.

<sup>6</sup> Sudan. UNICEF. [http://www.unicef.org/infobycountry/sudan\\_statistics.html#26](http://www.unicef.org/infobycountry/sudan_statistics.html#26)

<sup>7</sup> Sudan. United Nations Economic Commission for Africa (UNECA).

<http://www.uneca.org/aisi/nici/Sudan/sudan.htm>

<sup>8</sup> Sudan. Internet World Stats. <http://www.internetworldstats.com/africa.htm#sd>

<sup>9</sup> Elamin Abdelgadir, K. Promoting ICT for Human Development in Sudan. 2004. ICS Portal for Technology Transfer. <http://www.ics.trieste.it/Documents/Downloads/df2124.doc>

<sup>10</sup> Sudan. International Education Systems (IES). <http://ies.edc.org/wherewework/country.php?id=452>

<sup>11</sup> The World Factbook 2007.. <https://www.cia.gov/cia/publications/factbook/geos/sd.html>

12 Training Programme for the Open University of Sudan (OUS). 2004. CfBT Education Trust.

<http://www.cfbt.com/train/supportingteachers/pastprojects.aspx>

13 UNESCO. [www.unesco.org](http://www.unesco.org)

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