# ICT in Education in Niger

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Source: *World Fact Book*[1]

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This short *Country Report*, a result of a larger *info*Dev-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 Republic of Niger is mostly desert and it is the poorest country in the world. Subsistence agriculture is the principal economic activity of its people who are confronted with inclement seasonal weather changes that further impact negatively on harvest volumes.

The country has an underdeveloped electric power and communications infrastructure that can hamper its drive towards the deployment of ICT in the education sector and the public at large. Another challenge is the scarce financial resources that render the provision of basic educational infrastructure nearly intractable to government not to mention the supply of computers to schools.

It is worthy to note, however, that the Niger government has implemented structures and made plans that should enable accelerated development in the ICT sector if the necessary donor support is found.

## Country Profile

The Republic of Niger is a landlocked country in the Sahel region of West Africa. Niger is bordered by Algeria, Mali, Libya, Burkina Faso, Benin, and Nigeria.[2] The country is plagued by frequent droughts which have an adverse impact on the subsistence-based economy of its large agrarian population. The major languages are French, Hausa, and Djerma.

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

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

| Indicator | |
|---|---|
| Population[3] | 12.5 million (2006 est.) |
| Growth rate | 2.92% (2006 est.) |
| GDP (US dollars) | $2 billion |
| GDP per capita[4] (US dollars) | $170 |
| Human Development Index[5] | 177 (out of 177 countries) |

Uranium[6] contributes 31% to the country's total export earnings. Thirty-three percent of the country's ground area is cultivated by 90% of the population that live off agriculture which contributes about 40% to the GDP. Sixty-six percent of the population lives below the poverty line[7] with 34% in abject poverty. Niger's population has 65% health coverage.

## The Education System

Niger' education system consists of six-years of primary, four years of junior secondary, and three years of senior secondary, and two to four years of tertiary education.[8] The first six years are compulsory, and the mandatory school enrolment age is seven.

The Ministry for Basic Education and Literacy is responsible for primary education, and the Ministry for Secondary, Higher Education, Research and Technology is responsible for secondary and tertiary education.
Each of the two ministries has a regional departmental headquarters located in each of the eight regions of the country that manage issues related to the sector under their jurisdiction. The Ministry for Basic Education has 40 literacy centres and three directorates across the country for its literacy programmes.

The government builds 1,000 classrooms in the rural areas each year under the HIPC initiative. A new teacher recruitment policy was implemented to augment the number of teachers especially in the basic education sector. Further, 35 schools have been rehabilitated for 1,198 pupils.

Education currently receives 28% of the government's budget allocation, 40% of which is from HIPC funds with 50% of the provision for basic education.

Enrolment disparities exist between the urban and rural populations as well as between the sexes. The ratio of girls to boys' enrolment[9] is 65:100 and the rural to urban ratio is 45:100.

The literacy rate[10] for youth is 25.6% and 20% for adults (with males at 30% and females at 11%).

## Infrastructure

### Telecoms

Niger invested more than FCFA 25 billion (approx. USD$50 million) in telecom infrastructure[11] to establish digital international telephone and automatic telex connectivity with the rest of the world. The main operator, Sonitel, is 51% privatised and has 25,000 subscribers (2005) distributed over 13 switching centres in 13 localities without any fibre optic installation.

Other services enabled are Nigerpac, a data packets transmission service; leased line services; the Internet; cellular telephone services; and VOIP services by 11 operators in six of the big cities including Niamey. Many cyber cafés offer VOIP, Internet access, and basic computer training services. Meanwhile a substantial portion of the country's network is analogue and most times it is unreliable except in the capital, Niamey, and some selected cities like Maradi, Koni, and Gaya. There are three mobile operators and 300,000 cellular subscribers with coverage for all the big cities.

There is growing demand[12] in the capital and some rural areas for quality telecoms service. However, capital investment funds from government budget sources are inadequate.

An NGO, Telecom Sans Frontières (TSF),[13] has established a cyber café in Dakoro, one of the cities in Niger that caters for government agencies and private sector companies. TSF intends to train the student population on the use of computers and the Internet. Other interested companies may connect to the VSAT service using Wi-Fi (wireless connectivity) to prevent unnecessary physical movement to the TSF site.

Beyond these possibilities, Internet communication in other cities in Niger is at best via dial-up connections over noisy telephone lines.

**Electrification**

Niger produces 232 KWh of electricity from its thermal plant[14] and sources the rest of its energy needs from Nigeria,[15] but it is able to provide for only 10%[16] of the population in the cities.

The rural areas where 85% of the population resides have no electricity. Consequently in July 2006, the government created the Cellule d'Electrification Rurale (CER)[17] (Rural Electrification Unit) to address the problem.

One group, SOS Kandadji,[18] has also initiated moves to find funding from international sources for the construction of a dam over the Niger River to produce 125 megawatts of electricity. The project has yet to obtain funding.

**Policy framework and implementation[19]**

Niger's NICI plan recognises the role of a national steering committee involving government, private sector, the press (television and radio), and civil society. Development partners are invited as observers to committee sessions. It also establishes the ICT co-ordination centre responsible for ICT application in government.

The policy reveals six main strategic components:

- Infrastructure development
- Linking ICT to the Poverty Reduction Strategy (PSR)
- Legal and regulatory issues on ICT
- Content development
- Capacity-building
- E-government

With assistance from the ECA, Niger finalised and presented its ICT development plan to the national assembly in May 2005.

Further, the High Commission for New Technologies in Information and Communication (HCINTIC) was established to midwife the process, specifically to develop the legal,

regulatory, and institutional framework, including the harmonisation of policies with sister countries and regional organisations. The Commission, which is located in the office of the prime minister, is equally responsible for ICT policy promotion and technology development at the national level.

Niger has established an ICT training centre in Niamey, a branch of l'Institut Africain d'Informatique based in Gabon, and created a sectoral network comprising the press, female parliamentarians, NGOs, youth, and the universities to help accelerate the integration of the various strata of society with ICT development.

Some government departments have already been linked using fibre optic cable, and a study on the harmonisation of sub-networks of the government intranet is being conducted and the feasibility study on the interconnection of ministries and institutions of state is complete.

Siemens Networks has linked[20] Niger via Burkina Faso and Benin, Niger's western and southern neighbors, to the SAT-3 submarine cable using fibre optic cables. A section of the fibre optic backbone laid for international communications and interconnectivity of the national territory was inaugurated in Niamey in November 2006. Siemens Networks has already provided voice and data on 100 client loops. This development has necessitated the call to ISPs to increase bandwidth.

## ICT Policies

Niger's 10-year educational development plan (PDDE; 2003-2012) stipulates:

- Supporting access and retention of girls in school through strategies and implementing plans at the local level
- Offering tutorial assistance to girls
- Improving schools for the handicapped, schools in nomadic zones, and schools for dispersed populations
- Providing food for pupils
- Offering teacher training including the management of multi-grade classes as rural alternative schools
- Developing integrated schools and institutions for the deaf
- Implementing a strategy to cater for dispersed children and adapting the school calendar to disadvantaged pupils

Assistance to disadvantaged populations and girls has become imperative given the current situation where two out of three children are unschooled with a worse statistic for the rural area; only 32% of the students pass their basic school exams; only 16% of the students are successful in secondary schools without repeating; and private school fees are in the order of USD$1,000 compared with USD$15 for the public schools.

This worsened situation is the result of policies introduced upon the implementation of the structural adjustment programme which culminated in the privatisation of services in

the university (restaurant facilities, residential accommodation, and transport); replacement of qualified teachers with poorly paid contractual staff due the cessation of recruitment in the civil service; increase in school fees; and other adverse measures.

The government's ICT plans involve focusing on and reducing the dearth of knowledge and acute illiteracy in the population through employment of ICT. The planned ICT emphasis, it is hoped, will help create jobs. However, owing to the extreme prevailing poverty, the 10-year programme does not include any indication of ICT application in education. Furthermore, government's inability to provide an adequate number of schools and educational infrastructure makes the populace assume that it has abdicated its responsibility[21] to its citizens.

## Current ICT Initiatives and Projects

### ICT law

Niger already has had a draft[22] ICT law since January 2006 that is yet to be promulgated. The law requires the training of officers in its legal institutions, the restructuring of existing institutions, and the establishment of new ones before it can be effectively applied.

### Primary education

The "basic school for food" programme and other educational policies have generated an increase in enrolment from 37.3% in the past to 50% in 2005.

Development partners, specifically the European Union,[23] emphasise assistance on teacher training, the integration of schools into their environments, and development of bilingual training (i.e., the local language and French). In 2005, 80 public schools introduced the teaching of the local languages and French while the teacher-training colleges instituted new teacher training methods.

Since 2005 the UNDP[24] has been donating 400 refurbished computers to 40 primary schools each year. The laboratories enable the pupils to use computers and surf the Internet. The objective is to impact 200,000 pupils each year in 40 schools. The UNDP will also train the teachers who will train their pupils. The project aims at inciting intellectual curiosity, research, and the use of computer tools early in primary school children.

### Vocational and technical training

The European Community is assisting Niger to provide post-primary education training to school leavers. The budgetary support has enabled the country to build community development training centres which provide training for the unschooled and school dropouts. The government has built 25 of these facilities of which 10 are for females.

### Tertiary education

- The University of Lausanne[25] and the Department for Cooperation and Development of the Republic of Germany assisted the Geography Department of the Abdou

Moumouni University in Niamey with 15 computers, which enabled the faculty to run remunerative consultancy services to augment its budget even in dire financial circumstances confronting the university. Receipts from those services enabled the faculty to establish a second geography computer laboratory with Internet connection.

- The World Health Organization donated computer equipment to the Faculty of Health Sciences in the Abdou Moumouni University in Niamey to assist it to combat malnutrition[26] and conduct nutritional surveillance in 2005-2006.
- The Agence Universitaire de la Francophonie[27] has also established a Campus Numérique (learning centre) in the university. The centre is equipped with 50 computers and two servers. There are plans to increase the number of computers to 70. The learning centre enables students to apply to universities in the francophone world. Their applications are vetted and those successful are given scholarships that permit them to pursue degree or master's level programmes at about 15% of the original cost.
- The African Virtual University (AVU),[28] a World Bank-sponsored e-learning project, has adopted the Université Abdou Moumouni of Niamey as one of five francophone universities in its distance learning programme. The AVU learning centres are equipped with VSAT Internet connection, servers, 25 PCs, and ancillary equipment, televisions, and video-conferencing facilities. AVU courses are via the Internet, on video cassette or by video-conference where interactive sessions with instructors in remote places are organised for students and lecturers. The AVU structure permits the intervention of local tutors to assist students in difficulty, practical work, and examination assessment at the local level by local tutors in the host university. The average cost of programmes is USD$900. The very first few students on the AVU programmes are Niger government scholarship holders – an indication of government support for technology driven education.

**Television in education**

Télévision scolaire (education television) was introduced by the French government in Niger in the 1960s. The government then installed television sets in community centres as a way to reach the larger population with the programmes. However, this was discontinued owing to criticisms that while the lessons enabled its audience to learn to read rapidly, it did not equip them with adequate writing skills.

**Radio in education**

The government has envisaged a nationwide interconnected community radio project to be linked to the Internet. The radio network will be used to sensitise the population and produce mainly development-oriented programmes. The Internet connection is to permit the stations to transmit the same programmes when necessary. The system is called RURANET[29] and is to be launched in collaboration with UNICEF, FAO, and other international organisations.

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

Table 2 lists the core factors and provides a summary of the current state of development in Niger in terms of enabling or constraining ICT applications in the education system.

## Table 4: Factors Influencing ICT Adoption

| Factors | Enabling Features | Constraining Features | Risk Factors |
|---|---|---|---|
| ***ICT deployment*** | • Installation of the 2 MB bandwidth connection in Sonitel has made Internet available in Niger.<br>• AVU and the AUF facilities have improved Internet access especially for the university community. | AUF and AVU courses are within the reach of very privileged few who can afford the fees or who obtain a government scholarship. | Inability of government to extend ICT infrastructure due to financial and budgetary constraints |
| ***Non-formal education*** | Political and budgetary support for NFE Community schools: 500 teachers trained. | Insufficient funds once the HIPC initiative ends and necessary government budgetary support may not be available | Financial means to continue and maintain the facilities after completion of the HIPC programme and donor funds |
| ***Gender equity*** | • Awards given to committed female adult learners in the NFE centres to encourage the participation of girls and women<br>• Centres built close to the communities to encourage participation<br>• Some centres created purposely for girls and women | • Tradition that keeps girls from being educated especially in the rural areas<br>• Girls put to domestic chores<br>• Discrimination against girls<br>• Sexual harassment | • Stoppage of the sensitisation programme for girls' education<br>• Exhaustion of the HIPC funds |
| ***Vocational and professional education*** | Government policy to build a lot more technical/vocational schools using HIPC | Government budgetary constraints | Inadequacy of the number of centres |
| ***ICT policy implementation*** | Policy developed and publicised. | Slow pace of implementation due to financial constraints | Government's inability to source vital funds from donors and partners to develop and extend telecom infrastructure and |

| | | | |
|---|---|---|---|
| | | | electricity to the larger population in order to widen access to ICT |

## Notes

1 The World Factbook 2007. https://www.cia.gov/library/publications/the-world-factbook/geos/ng.html
2 US-Africa. http://us-africa.tripod.com/niger.html
3 The World Factbook 2007. https://www.cia.gov/cia/publications/factbook/geos/ng.html
4 Niger Country Profile. CARE. http://www.care.org/careswork/countryprofiles/84.asp
5 Human Development Report 2006. UNDP. http://hdr.undp.org/hdr2006/statistics/
6 Capus, G and al.Uranium Mining in Niger; Status and Perspectives of a Top Five Producing Country. 2004. World Nuclear Association. http://www.world-nuclear.org/sym/2004/souley.htm
7 Millenium Development Goals Indicators. United Nations (UN). http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=583
8 Rapport national sur le développement de l'éducation au Niger. UNESCO. http://www.ibe.unesco.org/international/ICE47/English/Natreps/reports/niger.pdf
9 Niger: Youth literacy rate. Globales. http://globalis.gvu.unu.edu/indicator_detail.cfm?IndicatorID=41&Country=NE
10 Our actions for Basic Education in Niger. UNITERRA. http://www.uniterra.ca/uniterra/uploads/Fiches_pays_pdf/18EducNiger_v2.pdf
11 Réglementation de la Voip cas du Niger. ITU. http://www.itu.int/ITU-D/afr/events/Dakar-2006_Regulatory_Challenges_of_VoIP_Africa/Countries_Experiences/VoIP-%20Experience%20Niger.pdf
12 Déclaration de Politique Sectorielle des Télécommunications. Septembre 1999. Autorité de la Régulation Multisectorielle (ARM). http://niger.arm-niger.org/declationtelecom.htm
13 Telecoms san frontieres. http://www.tsfi.org/tsfispip/imprimer.php3?id_article=165
14 Energy and Environment Data Reference Bank (EEDRB). Republic of Niger. International Atomic Energy Agency (IAEA). http://www.iaea.org/inis/aws/eedrb/data/NE-elico.html
15 The World Factbook 2007. https://www.cia.gov/cia/publications/factbook/geos/ng.html
16 Diallo, Mahamadou. "Accès à l'energie'. Républicain. http://www.energiesosfutur.org/fileadmin/Image_Archive/Actualites/Afrique/2006/Mission_au_Niger/Article_journal_NIger.pdf
17 Cellule d'électrification rurale (CER), Niger. Réseau international d'accès aux énergies durables (Riaed). http://www.riaed.net/spip.php?article175
18 Barrage de Kandadji-Etude de Faisabilité. Haut Commissariat au Barrage de Kandadji.. http://www.nigerembassyusa.org/pdf/part3fr.pdf
19 Plan de développement des Technologies de l'Information et de la Communication ou Plan NICI du Niger. National Information Society Initiative (AISI). http://www.uneca.org/aisi/nici/Documents/Plan%20NICI_MAJ.pdf
20 "Siemens provides fast fibre-optic network for Sonitel in Niger''21 November 2006. Prdomain Business Register. http://www.prdomain.com/companies/S/Siemens/newsreleases/2006112237540.htm
21 Tchangari, M. La Banque mondiale contre l'éducation au Niger. 4 Avril 2006. Alternatives. http://www.alternatives.ca/article2454.html
22 Hamou, Ahmed. Bientôt un cadre juridique des TIC au Niger. 21 Septembre 2006. Centre sur les politiques internationales des TIC Afrique du Centre et de l'Ouest (CIPACO). http://www.cipaco.org/spip.php?article1012
23 Education. Délégation de la Commission Européenne en République du Niger. http://www.delner.ec.europa.eu/section3/education.htm
24 Excellent partenariat entre l'OMS et la Faculté des Sciences de la Santé de l'Université Abdou Moumouni de Niamey. Lettre de l'OMS numéro 4. Jul 2006. ReliefWeb. http://www.reliefweb.int/rw/rwb.nsf/db900SID/VBOL-6VEE9C?OpenDocument
25 Winistorfer, J.& al.Une seconde vie pour les ordinateurs de l'IGUL et de l'UNIL. Université de Lausanne (UNIL). http://www3.unil.ch/spip/article24.html

26 La mise en réseau physique des radios rurales au Niger et leur connexion à l'internet est-elle possible ? Food and Agriculture Organisation (FAO).
http://www.fao.org/sd/ruralradio/fr/24549/highlight_51454fr.html
27 Technologies de l'information et de la communication et appropriation des savoirs .
http://www.refer.sn/article213.html
28 African Geopolitics Quarterly Magazine. http://www.african-geopolitics.org/show.a
29 Ibid.

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