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ICT for Education in Gabon

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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

Gabon has opted to set up a national system for general access to information using computer-related technologies. However, there is currently no plan in the education system to incorporate ICT into the administrative and teaching domains. Of course, the need to computerise schools is becoming urgent, but the initiatives required to address this need are considerable. A plan for managing computers, from the National Ministry of Education, has been in development since 2006.

Country Profile

Gabon is a Central African country on the equator, bordered by Cameroon and Equatorial Guinea to the north, by Congo to the east and south, and by 750 kilometres of coastline to the west. The climate is equatorial, which is hot and humid, with alternating dry and rainy seasons throughout the year. The country is home to forests where flora and fauna are still well conserved.[2] The Ogoué River crosses through it from the west to the east for 1,200 kilometres.

Gabon's area covers 267,667 square kilometres. The population is about 1.5 million (2003) at a density of 4.8 people per square kilometre, and a foreign population estimated to be about 15.2%. The population lives mostly in the urban zones: 73% according to the national census (Recensement Général de la Population et de l' Habitat – RGPH) and 80% according to the 2000 Demographic and Health Survey (Enquête démographique et de santé – EDS). About 80% of women and 75% of men between 15 and 49 years old live in the city.

Gabon is rich in natural resources. It has a number of underground mineral deposits such as petroleum, uranium, manganese, niobium, phosphate, and gold. Petroleum is the country's chief export: between 62% and 78% of 2004's budget resources with a production of 13.5 million tons in 2004. Gabon is the third-largest exporter of manganese in the world. Forestry is the main source of employment and makes up 13% of exports.

The industrial sector (19% of the GDP) is primarily based on oil field activities, wood manufacturing, food agriculture, cement, and construction. There is an important development in the service sector (46% of the GDP), especially in distribution, transport, banks, insurance, business services, and telecommunications.

Libreville, the capital, receives the Central African Fund for Stocks and Shares (BVMAC).

Table 1 provides some selected economic indicators for the country.[3]

Table 1: Economic Indicators: Gabon

Indicator	
GDP (US dollars)	$9.2 million (2004)
GDP per capita (US dollars)	$5,112.2 (2004)
Growth rate	1.5% (2004)
Inflation	1.1% (2004)
Budget balance (euros)	+439.2 million

	(2004)
Total debt (US dollars)	858 million (2003)

The Education System[4]

The education system is made up of pre-primary and primary education, general and technical or vocational secondary education, and higher education. Outside the traditional system there are the professional training and literacy programmes available for youth and adults.

The literacy rate was 85.4% in 2005, one of the highest in sub-Saharan Africa, and the proportion of the population with some primary education is 92%. However, there are efficiency problems within the schooling system in terms of drop-out rates which lead to students having to repeat grades. This phenomenon of repeaters is partially attributed to large classes, the lack of teachers in the rural regions and in certain urban zones, the poor quality of education, and the low qualifications, of the teachers.

A reform for the primary education system has been initiated by public officials. It discusses stimulating activities for pre-primary education and the Approach for Basic Education (APC), which calls to lower the age at which Gabonese children enter primary school from six to five years.[5]

As part of the national action plan of Education For All (EFA), the Gabonese government is considering widening the education informal sector by increasing the adult literacy level to over 50%, particularly for women, by the year 2015. It also envisions all adults having equitable access to basic and permanent education programmes.

ICT Policies

ICT networking development
There is no one institution responsible for ICT development in Gabon. The president takes overall responsibility in this area, and he is advised by an expert in computer technology. The advisor is a member of the Commission Nationale d'Informatique and he also belongs to the Central African sub-regional co-ordination of RINAF, a UNESCO-supported project.

Networking activities within the country have focused on the Réseaux National Gabonais de Développement Durable (RNDD) (Gabonese National Network on Sustainable Development). RNDD has been established with the support of the United Nations Development Program, particularly the Sustainable Development Networking Program (SDNP). A workshop has established the guidelines for the Gabonese network through a national series of meetings. The leading committee has indicated the following areas as main concerns: higher education and research, education and culture, documentation, public administration, environment, trade and industry, media and NGOs, information and communications, and health and the population.[6]

Gabon employs a national system of information and generalised access supporting the use of technology, including the Internet, to promote development through access to the best information available. This governmental system is integrated into a national context that is already in reform.

A development plan conceived by the Network for Sustainable Development was completed in 2000. A conference was held in 2002 with all the stakeholders to update the plan. Infrastructure development was the main focus.

The General Bureau of Computers (DGI) is responsible for the development of all the computers used in the Gabonese administration. It unites the systems for information development in several departments. Using its position and status, it makes national choices in matters of computers and standardises the context of development and electronic information exchange among the different administrations.

Regulatory framework and sector regulation[7]
As of February 12, 2000, telecommunications services have been regulated and as of June 27, 2001, the telecommunications sector has been regulated. Under the law exclusive rights were given to Gabon Telecom (until 2006) for establishing national and international non-radio networks and for installing telephone service operating between fixed locations. In 2007, Morocco Telecom bought the Gabonese Telecom and acquired exclusive rights to provide wire telephone systems in the country.

Currently, the telecommunication sector in Gabon is regulated by the ministry, and a monopoly still exists in the provision of basic telecommunication service through the state-owned Office de Postes et Télécommunications (OPT). All telecommunication investments are financed "independently" from the government, since they are all done by OPT.

Infrastructure
Gabon is one of only two countries in the central African region that possesses a connection to the WASC/SAT3 through sea cable, which links Europe to Asia by skirting the African continent. Since international communication using this cable is 10 times cheaper than by satellite, this puts Gabon at an advantage and places the country in a leading position for future telecommunications platforms in the entire sub-region.

Gabon Telecom is pursuing an active densification policy of its network to cover rural areas – mainly by using VSAT links. It is also planning to extend the optical fibre link from Libreville to Port-Gentil in the south of the country.

Recently, the technological progress and the liberalisation of the telecommunication market have stimulated the development of the telecommunication sector as illustrated by the following figures:[8]

- 40,000 fixed telephone lines
- 350,000 mobile telephone subscribers
- 55,000 Internet users (5% of the population);
- 210 cyber cafés
- 25,000 computers in service.

Gabon had more than 45,000 subscribers to fixed telephone lines in 2005, with a fixed-line telephone density of 2.86%, but it's the cellular phone market that is expanding more quickly with 500,000 subscriptions in 2004 covering 36.2% of the population.

For the Internet, three service provides share the market:

- Gabon Telecom (Inet)
- SOLSI (Online Services and Computer Systems)
- INTERNET GABON

The use of free software solutions is also growing rapidly in the central African region.

ICT in Education

Today, in Gabon, it is clear that although the state spurs the development of technology, there is currently no policy to integrate the administrative and the educational domains to ICT apart from the 2001 plan, which envisioned equipping high schools with computers but no other initiative to promote ICTs.

An outline project set forth by the National Ministry of Education was drafted for school computer equipment, in 2006.[9] By targeting the development of ICT skills and the improvement of the efficiency of the educational system, the Ministry of Education of Gabon is putting information technologies at the core of a national strategy for helping all students to leapfrog into the knowledge society. The educational project is part of an "e-government" framework that includes several projects for developing infrastructure for communication and on-line services for businesses and citizens in Gabon.

Structures for ICT training

- The African Institute for Computer Technologies (IAI), based in Libreville, has trained a large portion of the computer executives and technicians of francophone Africa. Former students and professors have been central to the creation of university departments and specialised schools in the sub-region. The existence of this school, created through the efforts of several nations, has allowed for the development of a small regional scientific community of technicians in computing who come together at the biennial organisation of the Conference on Research in Computer Science, or CARI. The creation of the IAI should be considered the first great project of international co-operation in the field of information technology.[10]
- The University of Science and Technology of Masaku (USTM), located in Franceville in the southeast of the country, is about to become the national centre for training engineers and technical personnel. With the support of the American Embassy it has installed a VSAT link with Houston (USA). This allows the university to have access to the latest information on technology and related issues.[11] Such an investment makes it possible for engineers and technicians to get quality training.
- Campus numérique francophone de Libreville (the Francophone digital campus in Libreville), which is connected to the Université Virtuelle Francophone (Virtual French-speaking university) (UVF), provides training in scientific and technical information.
- The Agence Universitaire de la Francophonie (AUF) offers the TRANSFER programme to "support ICT in higher education and research" through Internet site design training. Another AUF programme is Information and Communications Technology and Fostering Knowledge. Its primary activities concern access to scientific and technical information, Internet access, producing multimedia content, providing documents to the institutional members of AUF, face-to-face vocational training, distance training leading to qualifications, and Web hosting for young, innovative businesses.

Current ICT Initiatives and Projects

The President of the Republic of Gabon, El Hadj Omar Bongo Ondimba, and his government have launched a series of initiatives to develop ICT in the country with a view to becoming a major digital pole in western and central Africa. These initiatives include the following.

ARES, HP, and Ministry of Education
ARES and HP[12] are working with the ministry on a large-scale ICT project that will bring Gabon's education system into the 21st century. The project aims to integrate ICT into schools in order to enhance the quality of teaching and learning activities and raise the level of ICT awareness among students. The goal is to bring ICT to all of Gabon's secondary schools in the coming three years. The project is set to:

- Supply schools with computers and wireless LAN
- Provide teachers with a programme to buy a personal laptop (1,000 teachers are already involved with the first step)
- Deploy a portal for administrative and learning activities based on the Learning Gateway framework provided by HP and Microsoft
- Train teachers on how to use computers and integrate ICT into teaching activities
- Set up a management-of-change programme involving all actors working in the educational system

Other partners include Cisco Systems, which will provide the school wireless LAN equipment, and e Charlemagne, which is providing the school administration system.

Friends of the Net Forum
Friends of the Net Forum is a Gabonese NGO whose goal is to make the Internet easier for youth to understand and use, and to help them create their own jobs. This NGO has already launched two projects: Net Rush and Internet and Education. They concern the popularisation of the Internet to make it easier for youth to use. Training is offered to young people so that they can then become trainers to others.[13]

For more information: www.fan.africa-web.org

AUF
The African Virtual University (UVA) and the Francophone University Agency (AUF) have signed a convention of co-operation that enables collaboration between the two organisations. Further, in honour of International Day of the French Language, AUF and the NGO Friends of the Net Forum organised training for women in ICT use in March 2006. Women were invited to come and learn how to create their own Web sites.

Fibre links at universities
The higher education institutions in developing countries, such as the University of Omar Bongo Ondimba in Gabon, benefit from software and computer materials available to them in spite of the limitations of inadequate telecommunication infrastructure and the lack of support.[14] However, an optical fibre link has been installed at all campuses that will greatly enhance access speed.

African radio

Africa n°1 is the most important African French-speaking radio station. Its programmes are broadcast all over the world thanks to its shortwave transmitters. The radio also has FM relay stations in large French-speaking capital cities. Africa n°1 also deals with games *(La Corbeille* and *Challenge)* in which listeners from all over the world take part. There are also information magazines, history, and health programmes.[14]

Radio Emergence is the education radio in Libreville, Gabon. The station is run by and for youth, and symbolises a real means of expression and responsibility. The Minister of Education co-operates with the National Pedagogical Institute and UNESCO to set up an EMP club (Population Education) in each school in Libreville, a project which Radio Emergence helps to promote. Specialists are working to install a digital network of distance learning. Radio Emergence will also use this opportunity to extend its services throughout the country.[15]

Implementing ICT in Education: What Helps and What Hinders?

Table 2 provides a summary of the current stage of ICT development in Gabon in terms of enabling or constraining features in the education system.

Table 2: Factors Influencing ICT Adoption

Factors	Enabling Features	Constraining Features
Policy framework and implementation	A development plan conceived by the Network for Sustainable Development was completed in 2000.	There is little commitment from the government.
Advocacy leadership	The National Education Syndicate (SEENA) and the Teachers in National Education Union (FESENA), based in Gabon, put pressure on the National Ministry of Education to implement certain programmes.	
Gender equity		Gender inequity for access to ICT exists.
Infrastructure and access	Gabon Telecom is pursuing an active densification policy for its network in rural areas – mainly by using VSAT links.	There is little access to ICT infrastructure.
Policy and collaborating mechanisms		The Gabonese government is slow-to make decisions.
Human resource capacity	The College of Libreville (ENS) offers training to the different ministries.	ICT expertise is lacking among the staff and teachers in the education system.

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Notes

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