COTE D'IVOIRE : ICT AND EDUCATION

1. OVERVIEW

This report shows that Côte d'Ivoire's education sector could benefit enormously by integrating ICT, that is, large quantities of information to be shared and disseminated rapidly. ICT can allow access new training programs, expand learning opportunities (even to very remote areas), and introduce innovative teaching methods. Finally, ICT can help spark and develop the skills and interests of young generations by means of new media, and can help these students prepare for their post-secondary education and future careers.

The advent of ICT in Côte d'Ivoire's colleges and universities and teaching institutions should be able to now revive distance training, the exchange of training programs relating to technology, access to computer equipment, and soon allow for a more large-scale and efficient integration of ICT.

The main challenges that face Côte d'Ivoire are the lack of necessary infrastructure, computer equipment, qualified human resources, and the high cost of ICT materials. Furthermore, a large disparity between genders, ethnicities, and regions needs to be remedied. Despite these obstacles, the gradual adoption of training programs, public and private initiatives, and other activities have been making the future of ICT in Côte d'Ivoire education system a realistic vision.

2. PROFILE

Côte d'Ivoire is a West African country with a surface area of 322,000 sq km. The Republic of Côte d'Ivoire is bounded by Mali and Burkina Faso to the North, by Ghana to the East, and by Guinea and Liberia to the West. It has 550 km of coastline along the Atlantic Ocean, to the South. Its official capital, Yamoussoukro, is located at the country's center, and its principal commercial centers are Abidjan and San-Pédro, on the Gulf of Guinea, and Bouaké, in the center.

3. FACTS AND STATISTICS

Surface area:	322,463 sq km
Population:	18.1 million people
Population growth rate:	3.4%
Life expectancy:	46.0 years
Human Development Index:	164 (ranks out of 175)
GDP (billions of US$):	15.5
GDP per capita (US$):	866
Growth rate (2005):	1.8%
Literacy rate:	50.7%

4. EDUCATION SYSTEM

Côte d'Ivoire has in place a national plan for developing the education and training sector for the years 1998-2010 (PNDEF): This plan integrates important structural reforms:
- In primary education, to achieve universal schooling;
- In secondary education, to thoroughly train and prepare students for the workforce or higher education;
- In higher education, to improve the quality and efficiency so as to train and prepare students for entering a career, primarily in the private sector.

In 2002, Côte d'Ivoire had about 3 million students, 73% of whom were in primary school, 17% in middle school, 5% in high school, 1% in a trade or technical school, and 4% in a college or university. This has been accomplished thanks to the financial effort made by the government and partnerships with the private education sector. There are still some significant challenges in addressing educational needs of a continuously growing population.

Table 1: Rate of Schooling

Primary Education			Secondary Education		
Number of students					
Boys	1,162,300	**56.78%**	Boys	414,871	**64.78%**
Girls	884,561	**43.22%**	Girls	224,589	**35.22%**
Total	**2,046,861**	**100%**	Total	**639,460**	**100%**
Number of teachers					
Men	35,325	**79.52%**	Men	18,103	**87.15%**
Women	9,099	**20.48%**	Women	2,672	**12.85%**

Total	**44,424**	**100%**	Total	**20,775**	**100%**

5. NATIONAL ICT POLICY

Since the 1970s, Côte d'Ivoire has taken steps to ensure being up-to-date with developments in computers and related technology. The Ivorian government considers that ICT are a priority and has and has conceived a "national strategic plan for the development ICT infrastructure in Côte d'Ivoire." This plan identified five strands in of ICT development:
1. infrastructure development
2. access
3. training
4. digital content development
5. legal and regulatory aspects

A coordination and follow-up mechanism was later introduced at governmental, private and civil society levels. To implement the plan, the Ivorian government has created the Ministry for Communication and Information Technology, though the national ICT policy still remains unclear. Different bodies in charge of regulating and overseeing developments in the sector have been instituted, but a well conceived ICT policy and strategy capable of indicating a clear direction and defining the domain of activity of each body. Nevertheless, the policy in education is not yet formulated.

Currently, regulation operates at two levels:
- First, Côte d'Ivoire Telecommunications Agency (ATCI), whose members appointed by the Ministry of Communication and Technology; ACTI delivers first degree arbitration.
- Second, there is Côte d'Ivoire Telecommunications Council (CTCI) which intervenes in the event of appeals. Very often, decisions from these two regulatory bodies are in contradiction, much to the despair of operators.
- To remediate to this situation, the creation of a strong and independent regulatory body, ARTCI, responsible for both first degree and appeal arbitration.

6. ICT INFRASTRUCTURE

Table 2: Telephone and Internet Usage

Number of users	End of December 2001	End of December 2002	End of December 2003
Fixed telephone lines	293,568	332,970	238,000
Cellular	730,445	1,027058	1,239,131
Internet	13,934	10,509	12,213

Table 3: Communication density

Televisions per 1000 people	60
Radios per 1000 people	183
Fixed telephone lines per 1000 people	18
Cellular phones per 1000 people	45
Personal computers per 1000 people	7.2
Internet users (in thousands)	70

Fixed telephone lines: The telecommunications network in Côte d'Ivoire is characterized by a low telephone density, significant geographical disparities between Abidjan and the interior on one hand and urban and rural areas on the other. The number of telephones per 100 residents was about 2.5% in 2001-2002 and reached 10% in 2005 (in 1995, it was 0.82%). In rural zones, this rate rose only from 0.1% to 0.7% between 1995 and 2000, and to 1.5% in 2005. Only 40% of the demand for telephone lines was met in 2001-2002.

Computers and Internet: Côte d'Ivoire has been connected to the Internet since 1996 through the Leyland link. Currently this link operates at 256 kbps toward the USA through MCI, at 1 Mbps toward France through France Télécom, and at 256 kbps toward Canada through Téléglobe. There are 6 Internet service providers (ISP). On May 31, 2002, these providers had about 15,354 subscribers through RTC, 105 through RNIS and 108 through special connections.

Table 4: Telephone usage

Year	Cellular phone users	Fixed line users	Total Population	Rate of telephone use %
1997	36,005	142,322	15,292,000	1.17
1998	91,212	171,001	15,854,000	1.65
1999	257,134	219,283	16,377,182	2.91
2000 (May)	322,500	240,000	16,917,629	3.32

Table 5: Communication Infrastructure

ICT Infrastructure Indicators	2000	2001	2002	2003
Number of fixed line providers	1	1	1	1
Number of fixed line users	263,700	293,600	336,100	332,000
Telephone distribution (per 100 people)	1.78	1.8	2.04	
Internet speed (Mb/s)	2	33	33	45
Number of public telephones [telecenters]	1450	1931	2000	
Number of cellular phone providers	2	3	3	3
Number of cellular phone subscribers	473,000	728,500	1,027,000	900,000
Cellular lines out of total phone lines	64%	71%	75%	73.6%
Number of Internet subscribers	40,000	70,000	90,000	
Number of PCs	90,000	100,000	118,000	

Source : Center for Business Development Promoting and Facilitating Access to underwater cables SAT-3/WASC/SAFE Diagnostic – COTE D'IVOIRE 2004

7. ICT IN EDUCATION

The education sector Cote d'Ivoire is first in Africa to implement beneficial Internet applications. Multimedia enhanced education, distance training, and distance research of scientific information are important assets for those seeking to advance their knowledge.

It is clear that the computerization of institutions, especially those in development or teaching, is becoming an urgent need, but it will be an arduous process.

There are in Côte d'Ivoire schools offering training in computer management and networks, but there is further need for quality training programs for technicians and engineers.

Some private and public educational institutions have however launched timid initiatives towards the integration of ICT in teaching:

- Gateway to the Information Superhighway for Youth is a project supported by the institute of new technology in information and training (intif.francophonie.org).

- The Internet Resource Center of the Distance Education Center of Côte d'Ivoire is part of the World Bank's GDLN network. The CED-CI is a center specializing in continued training administered by the State of Côte d'Ivoire, with technical, instructional, and financial support from the World Bank. The Center offers the exchange and sharing of knowledge through videoconferences and e-learning.

- Occasional private initiatives to promote ICT (Internet Day Celebration, for example)

- SchoolNet Côte d'Ivoire, a branch of SchoolNet Africa

A number of ICT projects exist within higher education, but elementary and secondary schools remain largely marginalized. This is so because of the priority accorded to social issues by current policies.

8. MAJOR INITIATIVES AND CURRENT PROJECTS

Sample innovations:

- MEN/DIPES/SDGI: Ivorian School Computer Project, 2006-2007, (www.simenci.org)
- Computers in Schools and ICT in Education (IETICE)
- Ciscolabs: Ciscolabs and NetSolutions is a young enterprise aiming at reducing the digital gap by taking advantage of regulatory changes underway in West Africa and Senegal.
- BAOBAB Cyber Villages: The BAOBAB Company was established to develop a network of ICT service centers in sub-Saharan Africa. BAOBAB has a collective approach to improving access to information and communication tools among associations, co-ops, small businesses, and liberal professions. It also develops relevant content for users.

- Assafad: Côte d'Ivoire is the seat of Assafad (African Association for African Training). It hosts several projects in "tele-education" and is also involved in the francophone project Olympus. It acquired important equipment a few years ago and had educational faculty trained as specialists in distance training. But like all the francophone countries that benefit from grants and financial aid from the Francophone Communities Agency, training has been in steady decline since 1998. (Source: www.allafrica.com)

The primary institutions that offer training programs in ICT are:

- National Institute of Technical Education (INSET): Offers training in ICT and runs the School of Tertiary Technology (ETT);
- National Polytechnic Institute- Houphouet-Boigny (INP-HB): Runs several schools that feature ICT programs:
- African Institute for Economic and Social Development (INADES): Offers training in IBISCUS programs to help libraries/resource centers use ICT
- National Academy of Extension and Telecommunications (ENSPT);
- National Higher Technical School (ENTS);
- Center for Continued Training (CFC).

9. ENABLING AND CONSTRAINING FACTORS IN ICT USAGE

Enabling factors

As a facilitating factor to ICT development in Cote d'Ivoire, one would point to the the existence of a "Master Plan for Computers in Schools".

The advantages of ICT in education are at different levels:

- Administration and management;
- Sharing of school and education related information;
- Pedagogy: use of t computers and ICT in support of teaching and learning.

Constraining factors

In general, the constraints identified by the different stakeholders are varied and may be broken down as follows:

- Affordable availability of ICT equipment;
- Affordable availability of dependable a telecommunications network, in particular fixed telephone lines in urban and rural regions;
- Affordable Internet access for large numbers of people in urban and rural areas so as to spread knowledge and consolidate a participation in socio-economic development;
- Citizens' access to different sources of information from the authorities, organizations, businesses , etc., as well as access to e-commerce services;
- Fast access to reliable and low-cost Internet service for education centers ("tele-education") and hospitals (tele-medicine);

- Human resources development and skills building for all social groups through ICT;

Other constraints arising from gender, geographic location, ethnicity, and socio-economic status have also been identified. The gap in computer access seems to emphasize traditional disparities.

It also to be noted that the educational system does not possess the equipment suitable for keeping up with the fast-pace and massive information of ICT age and modern society. One of the main reasons for this situation is the high cost of computer equipment, which is partially attributed to customs taxes, absence well thought out policies, and effective projects for the integration of ICT in schools.

Source: Report conducted by Kadia Georges Aka, Business and Entrepreneurial Development Specialist, ICT Consultant for the Distance Education Center of Cote d'Ivoire (CED-CI) for the World Bank GDLN network.

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CONTACT : Afeli Kouakou : Email : afelighislain@yahoo.fr; Ministry of National Education – Abidjan; Phone: 00225507186799