

## ICT in Education in Burkino Faso

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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

Developing the education system in Burkina Faso will involve equipping more people with a basic quality education and guaranteeing development in the post-primary education sector. Through these two main initiatives, Burkina Faso will strengthen its workforce and add to the number of skilled workers, professionals, and other contributors to its culture, economy, and status.

Disparities in access based on location, gender, and age, in addition to the lack of rural communication structures, are Burkina's major constraints to universalising ICT use. However, with a plan to develop ICT infrastructure in Burkina Faso, and an increasing demand for modern technologies and information, the education sector is welcoming progress toward the integration of ICT into its school systems, with the help of various partnerships from public and private organisations.

## Country Profile

Burkina Faso, also called Burkina, formerly Haute-Volta, is a West African country bordering six other countries: Mali on the north, Niger on the east, Benin on the southwest, Togo and Ghana on the south, and Côte d'Ivoire on the southwest. The capital city is Ouagadougou, located in the centre of the country.

Burkina Faso suffers from severe economic depression due to its arid climate and the fact that 80% of its population derives its livelihood from agriculture, which accounts for 32% of the country's GDP.<sup>2</sup>

With a very weak GDP per capita, no direct sea access, and a scarcity of natural resources, Burkina Faso is one of the least developed countries in the world. Over 46% of the population of 13.3 million live below the poverty line.

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

**Table 1: Economic Indicators: Burkino Faso**

Indicator	
Area	274,000 km <sup>2</sup>
GDP (US dollars)	\$5 billion
GDP per capita (US dollars)	\$428 (2005)
Growth rate	7.5% (2005)
Average annual inflation	6.4% (2005 estimate)
Balance of trade	-10.6% of GDP (2004)

## The Education System

The rate of schooling is 36% in primary school and 8% in secondary. In total, only 23% of adults are literate. The country has 16 scientists working in research and development for

every one million people (compared to 2,718 in France and 5,695 in Iceland) and expenditures in this domain represent 0.2% of the GDP (compared with 2.2% in France). Development in education appears to be a major challenge.<sup>4</sup>

The plan for the development of the education system by the year 2010 is based on two principles:

- To increase the coverage of basic education in order to universalise education while improving its quality
- To guarantee the development of the education system, including the post-primary level, in order to meet the demand for a qualified workforce and ensure those who have been to school respond to the needs of the economy, both in quality and in quantity.

The priority for the next 10 years is, therefore, the development of the post-primary levels in education. This means achieving a better balance of the system on one hand, and meeting the development needs of the modern employment sector, and of the urban and rural informal sector, on the other.

In so doing, Burkina Faso wants to promote an education system that is accessible to a great number of people. It should also conform with the collective and individual needs, promote progress, and protect the national cultural heritage. To accomplish these goals, the education system must:<sup>5</sup>

- Permit greater access to basic education by expanding and improving efficiency of its own structures and the development of a large partnership
- Give young learners knowledge, skills, and values that will allow them to flourish as individuals and be prepared to be active participants in life and progress of the community
- Provide the country with the necessary human resources for its economic, social, and cultural development
- Pass down the national values and affirm the cultural identity, while opening children's minds to the outside world and universal values
- Take action in the fight against poverty and inequality in all its forms, in the consolidation of democracy, and the defence of human rights, through the knowledge and values it imparts, and its relationships with the environment

Burkina Faso has two university centres, one in Ouagadougou and the other in Bobo-Dioulasso (the two main cities, about 400 kilometres apart), in addition to the College of Koudougou (approximately equidistant from Ouagadougou and Bobo-Dioulasso). The National Scientific and Technological Research Centre (CNRST) centralises the country's research activities. In 2003, Burkina Faso had nearly 18,000 students enrolled in higher education, with the majority (15,000) in Ouagadougou.

## **ICT Policies**

The setting up of the 2000-2004 national information and communication infrastructure in Burkina Faso was approved in October 2000<sup>6</sup>. There are several sector strategies for its implementation. Some inter-ministerial committees have been created to ensure its follow-through.<sup>7</sup>

The telecommunications sector is regulated by Law 051/98/AN, enacted in December 1998. This law liberalises part of the sector and creates a regulatory body, ARTEL. The National Telecommunication Office (ONATEL) exercises a monopoly on international and fixed telephone services. However, a process for privatisation is underway.

In the domain of computers, the major strategies are defined by the High Council in Computers, presided by the head of government. They are implemented by the Computer General Delegation (DELGI), created in 1990. This delegation plays the role of regulator in the computer sector.

## Infrastructure

Burkina Faso has one fixed and three mobile telephone operators. Table 3 provides a snapshot of the state of national ICT infrastructure in the country.<sup>8</sup>

**Table 2: ICT in Burkino Faso**

Indicator	
Telephone lines	36,000
Cellular phones	200,000
Radios	370,000)
Television sets	2,000,000
Internet users	20,000
Internet service providers	10

## ICT in Education

In a plan to develop national infrastructure and the most important sectors for integrating ICT,<sup>9</sup> the specific objectives in education, research, and innovation aim to improve access to scientific and technical information. Furthermore, the plan seeks to involve researchers in the development of innovative technology that the country needs for its development across a network for education and research. This network will open access to scientific and technological information, education, knowledge, and know-how, and will ill increase the value of locally developed products.

It is a fact, however, that there is a great need for schools to be equipped with computer technology, be it for management or teaching purposes. Currently, the University of Ouagadougou has a specialised 256 kbps connection which serves the National Network of Education and Research (RENER). This network connects a number of organisations including the university's Centre of Computer Calculation; the administration for NTIC-DPNTIC); RESAFAD TICE, an organisation focusing on the development of ICT for education and training; the Inter-State School of Rural Equipping Engineers (EIER; the Institute for Research and Development (IRD); the Digital Francophone Campus (CNF); and the Central University Library (BUC).

The Digital Francophone Campus (CNF) of Ouagadougou has its own specialised 128 kbps connection, hired from ONATEL. It has several rooms for training, database consultation and Internet navigation.

The Virtual African University (UVA) officially supports the University of Ouagadougou. This project, initiated through the partnership with the World Bank, is currently funded by the Canadian Cooperation with the University of Laval. It consists of creating an on-line university, entirely dedicated to Africa. It unites about 20 partner universities throughout sub-Saharan Africa.

## **Current ICT Initiatives and Projects**

### **ICTE-Burkina<sup>10</sup>**

This project seeks to improve the quality of education in Burkina's secondary schools through the integration of ICT in education (ICTE). The focus is on the academic community of the high schools and junior high schools in Burkina, the chief administrators in secondary schools, and educators, librarians, students, and supervisors. Its objective is to guide them all through the process of incorporating ICT, adapted to the structure of their school.

The specific objectives of the project are to:

- Improve access to ICT in high schools and junior high schools
- Build the capacities of key actors in secondary education, in the area of ICT
- Promote the integration of ICTE into teaching practices
- Support the development of local teaching content
- Promote digital culture in secondary schools
- Support initiatives to integrate ICTE in Burkina

Its creation was made possible by the International Institute for Communication and Development (IICD).

### **World Links Burkina Faso<sup>11</sup>**

The World Links programme intervenes mainly in primary and secondary schools for computer equipment, ICT implementation, and teacher in-service training. In addition, it also participates in computer projects at the level of Koudougou Teacher Training School (ENS).

Ten schools (eight secondary and two primary) and two pedagogical institutions have benefited from World Links support. Each school has an Internet-ready computer laboratory with 10 computers connected to the network. Meanwhile, World Links has trained more than 300 teachers and over 750 students and 60 pedagogical trainers on modules about initiation to computing, pedagogical applications of the Internet, managing collaborative projects, maintenance, network setting, ICT applied to other subjects and Web site design.

*For more information:* [www.worldlinks.bf](http://www.worldlinks.bf)

### **E-School Demonstration Project**

This project, the first phase of the NEPAD e-Schools Initiative, hopes to have all secondary schools on the continent computer equipped with Internet connectivity and trained teachers by the end of the next decade. Burkina Faso is one of the countries included in the Demo which is being implemented by private sector consortia. The two consortia working in Burkina Faso are led by Advanced MicroDevices (AMD) and Hewlett Packard (HP).

At the level of higher education, ICT has been recognised as one of the major axes of capacity reinforcement in the universities in the South. The programme “Information and Communications Technology and Knowledge Appropriation” is led by the Francophonie University Agency (AUF).

### **Ben-Scolarite**

Ben Scolarite is school management software that was tested in 15 public secondary schools in Ouagadougou during the 2005-06 school year. This software gives reliable and regular data on financial, pedagogic, and administrative matters in high schools and junior high schools. Microsoft, the Netherlands Embassy, and the World Bank have provided the project with their technical assistance.

### **The e-learning reply to the teacher shortage**

Several efforts have been made to fight the teacher shortage by international organisations such as the Francophone Support Network for the Adaptation and Development of Information and Communications Technology into Education (RESAFAD-TICE) and the AUF. Training at the national level is ensured by many structures. Computer training at the university level integrates the Computer College (ESI) which offers engineer training in computers on one hand, and many other parts of BTS and DUT on the other. Such training is in addition to that provided by university partners such as RESAFAD-TICE, AUF, or the CISCO region centre for network administration in the universities.

### **National Internet Week (SNI)**

During the National Internet Week in June, there is a Web night when the best production of Web content in Burkina is rewarded.

### **Academic partners: distance training<sup>12</sup>**

Many universities are involved in diversified macro projects to develop academic partnerships. For example:

- The Italian Consorzio Nettuno mobilises about 30 universities and the polytechnic institutes of Turin and Milan. This consortium broadcasts courses through digital television and the Internet.
- France currently structures its contribution in this domain and foresees several parallel projects. The management activities will be combined in a project called Canège (around Paris-Dauphine)

These projects provide training in computing, administration, management, and finance. The course are organised with the help of tutors, and students receive hard copies of the courses and liaise with their tutors through e-mail or on-line systems.

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

Table 3 provides a summary of the current stage of ICT development in Burkino Faso in terms of enabling or constraining features in the education system.

**Table 3: Factors Influencing ICT Adoption**

Factors	Enabling Features	Constraining Features
<i>Policy framework and implementation</i>	A national ICT infrastructure was approved in October 2000.	
<i>Advocacy leadership</i>	A plan to develop national infrastructure and the most important sectors for integrating ICT exists.	
<i>Gender equity</i>		A study published by Sylvestre Ouédraogo <sup>13</sup> in September 2000 revealed that the Internet users polled were mainly men (68.7%).
<i>Infrastructure and access</i>		Access is isolated and costly. In rural zones, the electrical network remains chaotic and it is compulsory to use an electrical regulator to avoid power surges.

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## Notes

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