Afghanistan

Muhammad Aimal Marjan

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Overview

Afghanistan is located in the heart of Asia. The country is officially named the Islamic Transitional State of Afghanistan (In Pashto: Da Afghanistan Islami Intiqali Dawlath; in Dari: Dawlat-e-Islami Intiqali Afghanistan). Its national language is Pashto and official languages are Pashto and Dari. It has a population of about 22.5 million[1] and an area of some 251,825 square miles[2] (652,225 square kilometres) and is completely landlocked. The nearest coast, lying along the Arabian Sea, is about 300 miles to the south. Its longest border, of 1,125 miles (1,810 kilometres), is with Pakistan to the east and south. The 510-mile border in the west separates Afghanistan from Iran. Afghanistan also has a 200-mile border with the part of Jammu and Kashmir claimed by Pakistan. The combined length of Afghanistan's northern borders with Turkmenistan, Uzbekistan and Tajikistan is 1,050 miles. The shortest border, 50 miles long, is with the Uighur Autonomous Region of Xinjiang of the People's Republic of China, at the end of the Wakhan Corridor, in the extreme northeast. The capital of Afghanistan and its largest populated city is Kabul, which is located in the east-central part of the country at an altitude of about 5,900 feet (1,800 metres).

Unfortunately, at a time when most of the nations of the world were benefiting from the new ICTs, Afghanistan had to endure misery, drought and malnutrition brought by conflicts. All of the basic infrastructure in the country was destroyed in the past two and a half decades.

Afghanistan is an extremely poor, landlocked country, highly dependent on agriculture and livestock raising (sheep and goats). Economic development has played second fiddle to political and military upheavals during the two decades of war, including nearly ten year(s) of Soviet military occupation (which ended on 15 February 1989). During the earlier conflict, one-third of the population fled the country, with Pakistan and Iran sheltering a total of more than six million refugees at the height of the exodus. In early 2000, 2 million Afghan refugees remained in Pakistan and about 1.4 million in Iran.

The gross domestic product has fallen substantially over the past 20 years because of the loss of labour and capital and the disruption of trade and transport. Severe drought added to the nation's difficulties in 1998–2000. The majority of the population continues to suffer from insufficient food, clothing, housing, and medical care. Inflation remains a serious problem. International aid can cope with only a fraction of the humanitarian problems, let alone promote economic development. In 1999–2000, civil strife continued, hampering both domestic economic development and international aid efforts. Statistical data on the country are either not available or, when available, unreliable. Afghanistan was the largest producer of opium poppies in 2000, and narcotics trafficking was a major source of revenue.

History of ICTs in the country

The Afghan Computer Centre (ACC) was founded in 1970. It was a member of UNESCO, RINSCA (Regional Informatics Network for South and Central Asia) and ESCAP. Its shareholders were the Ministry of Finance, Da Afghanistan Bank (the central bank), ARIANA Airways, National Insurance and Central Statistics Department. The main functions of the centre were as follows:

- Keeping records on foreign trade.
- Maintaining updated information of pension beneficiaries.
- Issuing bills for public utilities.
- Operating a database for Da Afghanistan Bank.
- Maintaining a statistical database.
- Managing the ticketing and reservations system for ARIANA Airways.

The first system installed was an IBM 360 imported in January 1971 by Afghan Business Machine (ABM). ABM was based at the Inter-Continental Hotel, Kabul. It was founded jointly by the Afghan National Bank, ARIANA Airways and Afghan Textile. In 1978, ABM processed all the national statistics under the supervision of the Central Statistics Department. In the same year, UNDP donated two IBM 34 systems and two printers.

In the early 1980s, ACC purchased two mainframe EC-1055 systems from Robot Ron, a German company. The centre was operating 21 personal computers in 1991. It was also conducting training programmes in both hardware and software. In 1992, ACC purchased two mainframe IBM

4381-R14 from TELTRAD. The centre had not been operational since 1993. The United Nations Fund for Population Activities (UNFPA) and the Central Statistics Office are planning to reactivate the centre for the national census scheduled for mid-2005. The centre will be renovated for undertaking this task.

Education

The people of Afghanistan have always demonstrated great enthusiasm for education; unfortunately, because of limited resources, no promising steps had been taken in this sector in the past. There were two universities operating in the country 30 years ago, one in Kabul and the other in Jalalabad. After the Soviet invasion, many Afghans were forced to leave for neighbouring countries, where they had very limited opportunities for education. The average number of schools per province in Afghanistan was 50. Only a very small number of students from the various provinces could enrol with the universities because of limited resources and stiff competition for places.

There are now eight universities in the country located in Kabul, Jalalabad, Herat, Mazar-e-Sharif, Khost, Kandahar, Badakhshan and Takhar. The courses conducted by the educational institutions are out of date as their curriculums have not been updated for the past 15 years.

Two of the universities have a department of computer science. They are Kabul University, which started its department in 1995, and the Islamic University for Science and Technology (IUST) located in Jalalabad, which has just opened its department. Both universities offer bachelor degree courses. The curriculum in Kabul University was last updated in 1992, while that of IUST was updated recently. The government has prepared plans to update the curriculums of all the universities.

The civil war in the country forced the universities to remain closed for much of the duration of the conflict. This seriously affected the continuity of studies and the progress of students.

Some of the Afghans living abroad received training in computing at different levels. There is now a very small number of bachelor and master degree holders. A larger number of Afghans have completed short computer training courses. The challenge now is to encourage them to return home and take part in the rebuilding of the country. The Ministry of Communication has taken up this challenge.

The Telecommunication Training Centre, which used to be a very effective centre for training technicians and for undertaking research, has been renovated and is now functional. The first training programme conducted at the centre was basic computer training provided to employees of the Ministry of Communication and government officials from other ministries.

Afghanistan facts

Total population: 22.5 million (2001 estimated)[a]
Rural population as a percentage of total population: 78% (2001 estimated)[b]
Key economic sectors: Agriculture, export of fruits, nuts and carpets[c]
Literacy in national language(s): 36% (2000)[d]
Computer ownership per 100 inhabitants: 0.13[e]
Telephone lines per 100 inhabitants: 0.19[f]
Internet cafés/ telecentres per 10,000 inhabitants: Only 2 Internet cafés in the country[e]
Internet users per 100 inhabitants: 0.05[e]
Cell phone subscribers per 100 inhabitants: 0.00002[f]
Number of websites in the national language(s): 10 (estimated)[e]
Number of websites in English and other languages: 500 (estimated)[e]

Sources:

(a) Population Division and Statistics Division of the United Nations Secretariat. *Indicators on Population* <http://www.un.org/Depts/unsd/social/population.htm.>Other estimates range as high as 25.5 million.
(b) Population Division of the United Nations Secretariat, <http://www.un.org/Depts/unsd/social/hum-set.htm>
(c) WFP (2000) WFP Launches Emergency Appeal for Afghanistan. News Release, 6 September.
(d) UNESCO. *World Culture Report 2000*, Table 19, p. 364, <http://www.unesco.org/culture/worldreport/html_eng/stat2/table19.pdf >.
(e) ACSA, (2000). IT in Afghanistan Survey Report. *The Computer Science*.
(f) Ministry of Communication <http://www.af-com ministry.com>.

Human resources

Human resources in the field of IT are very scarce. The IT capacity of government employees is very poor as the government is new, as such it needs a strong steering force to develop strategies and policies for building the infrastructure in the various departments. The strategies should aim at equipping the workforce with knowledge on computing and IT. Universities play a very important role in human resource development, but only 19 students have graduated from the Department of Computer Science at Kabul University since 1995.

Telecommunications

The telecommunications industry in Afghanistan is undeveloped. In the past, there were a limited number of land lines and the technology was analogue. The country's analogue network operated 42,000 land lines averaging US$12 per line per year in revenue and 3,000–6,000 more land lines with higher rates of domestic long-distance activity, yielding an average of US$40 per year in revenue.

Approximately 1,750 new lines were added per year over the past three years, each yielding a US$40 set-up fee. These revenues, coupled with revenues from public telephony, totalled approximately US$1.2–$1.5 million in 2001 for the Afghan government's state operator and slightly less in 2002.[3]

Afghanistan has a barely functioning and very limited telecommunications sector. Over and above the use of satellite phones, the infrastructure is provided by the following organisations.

Ministry of Communications (MoC): MoC operates a digital service mainly in Kabul, Herat and Mazar-e-Sharif, where national and international satellite links have recently been established. Kabul has recently installed a 12,000 fixed-line digital switch with 7,000 active lines. Herat has a 7,500 fixed-line digital system, with most of the lines active. Mazar-e-Sharif has a capacity of 4,000 lines, most of which are also active. MoC also operates an analogue network mainly in Kabul, with an estimated 8,000 active lines, although the switch has a capacity of 15,000 lines. Instanet was completing the installation of five VSAT links in the five main cities of Afghanistan on behalf of MoC at the time of publication. These will provide MoC with the backbone to connect its digital lines. MoC, with the assistance of UNDP, has reclaimed the country top level domain ".af". The servers for the domain are now located in MoC, which is the entity responsible for its operation.

Afghan Wireless Communications Company (**AWCC**): a joint venture with MoC, AWCC currently operates a digital wired service in Kabul connecting some of the ministries and a score of public telephone booths to its international satellite switch, with a total 250 active lines. There are similar operations in Herat and Mazar-e-Sharif with fewer active lines, while Kandahar is estimated to have 750 of such active lines. AWCC launched a GSM service in Kabul initially and has now extended the network to Herat and Mazar-e-Sharif. In the near future it plans to launch the service in Jalalabad and Kandahar.

Aga Khan Foundation for Economic Development (**AKFED**): On 5 October 2002, MoC announced a second GSM licence for AKFED. This new GSM operator is expected to roll out a network capable of covering at least 50 percent of the population of Kabul within six months of the award of the licence, and at least 80 percent of the population of Kabul and the five main cities within six months of commercial launch.

The license was signed on 10 January 2003. AKFED paid the one-time entry fee of US$5 million at the signing ceremony. The fee is a much-needed contribution towards the reconstruction of Afghanistan. AKFED is the leader of the consortium holding the license, the others include Monaco Telecom International, MCT Development Corporation and Alcatel. The business plan for the consortium calls for capital expenditure of US$120 million over a ten-year period.

Print and electronic media

The mass media suffered greatly in the past two decades. Radio and television remain under government control. There are at present a number of publications in circulation: *The Kabul Times*, a daily published in English; *Anis* published in Pashto; *Kabul Weekly* published in Pashto, Dari and English; *Arman-e-mili* published in Pashto and Dari; *Hewad* published in Pashto and Dari. *The Computer Science Bimonthly* is the first IT magazine in Pashto and Dari languages. A number of privately owned media have been granted permission to operate in Afghanistan.

ICTs

ICT was first introduced in the country 30 years ago but never had the opportunities to grow and get established. Very few people know about ICTs in the country at present. The computer is used only for word processing. Its other capabilities are very rarely tapped or known.

The donor community and UN organisations, such as UNDP, UNESCO and USAID, are providing PCs to government offices and arranging hands-on training for the employees. The new government is very supportive of these efforts to build ICT skills among its staff.

The Afghan Assistance Coordination Authority (AACA), a government organisation, started a special project to upgrade the work-related skills of government employees, one of which is the usage of computers.

Another very important project on ICTs was launched as a collaboration between MoC and UNDP. The project has three components:

• Establishment of ICT centres across the country. The first of these centres opened in November 2002 and is located in MoC. Its main role is to train government employees.

• The CISCO Academy in Kabul University, which started classes on 1 September 2002.

• Drafting of the national IT policy. This is the most important part of the project. A workshop to initiate drafting of the policy was held in Kuala Lumpur, Malaysia, in October

2002. It was organised and hosted by UNDP's Asia-Pacific Development Information Programme. A delegation of high officials from the government and ICT professionals took part in the workshop.

The private sector is also playing a vital role in building IT capability. There are now computer training centres in the main cities of the country: Jalalabad, Kabul, Mazar-e-Sharif, Herat and Kandahar. The main problem with these centres is the lack of a standardised curriculum. The present curriculum covers office automation and basic software. There are no centres which provide training on software development.

Internet facilities

The UN offices, embassies and certain NGOs were the first to link up to the Internet using satellite connections with 1.2- and 1.8-metre dish antennae operating on the KU band. Some of the offices were also using satellite telephones.

There are five ISPs in the country at the time of writing – CeReTechs (Center for Research and Technical Assistance), NEDA, AWCC (Afghan Wireless Communications Company), INSTANET and a joint-venture company involving Sarfaz Bhadur and Trasil Telecom. NEDA and AWCC are providing leased-line, point-to-point wireless and dial-up services to users in Kabul. CeReTechs is licensed to provide only point-to-point wireless connectivity to NGOs and embassies. INSTANET plans to first launch its services in Kabul before expanding to cover Herath, Jalalabad, Mazur and Khandahar in the future. It will be providing both dialup and wireless services. The Sarfaz Bhadur/Transit Telecom joint-venture has lauched its wireless services in Herat.

These ISPs operate their own international connectivity by means of VSATs. The government is planning, at the time of publication, for the Ministry of Communications to establish an Internet exchange. This will help to conserve international bandwidth and enable smaller ISPs to economise on their connectivity costs in the future.

Only one out of 44,000 people in the country now have access to the Internet. Most of them are in Kabul. There are only two Internet cafés in the country at the time of writing. Both are located in Kabul.

UN organisations and the World Bank have a number of Internet projects. UNDP has provided a KU band satellite connection to an ICT centre in MoC. It has also helped connect a computer training centre in the Ministry of Women Affairs to the Internet facility in the UNDP main office through an E1 microwave link. UNESCO has installed KU band satellite connections in a number of locations: the Main Library and the Faculty of Journalism of Kabul University, Ministry of Culture and Information, ARMAN News, Karwan Democracy office, and AINA Media Centre. The Ministry of Education will be connected to the Ministry of Culture and Information through a microwave link.

The World Bank, in partnership with MoC, has installed a large system which provides Internet connectivity to a number of ministries and an inter-ministerial intranet, which will facilitate these ministries and government organisations in sharing documents and exchanging mail. The following are the ministries and government organisations covered by this project:

- Ministry of Finance
- Ministry of Foreign Affairs
- Ministry of Reconstruction
- Ministry of Communication
- Da Afghanistan Bank
- Kabul University
- Presidential palace
- AACA

There are two distance learning centres (DLC) located at the AACA office, which are already operational. Kabul University will also be provided with DLCs in the future. The DLCs provide videoconferencing facilities to government officials and university teachers and students to support their research, online classes and virtual meetings. The project has also provided telephone facilities, through PABX technology, which hook up the various ministries providing them with international telephone connections. The technology used is a VSAT link with C band at the central hub which is connected to other sites via E1 microwave technology. This project is funded by the World Bank and facilitated by UNDP and AACA. It forms part of the Global Distance Learning Network.

Computer hardware

There is a small, fledgling computer hardware market in Afghanistan at present. This comprises a few computer shops in Kabul, Herat, Kandahar and Mazar-e-Sharif. The total turnover is estimated at US$800,000. The hardware sold include desktop computers, printers, scanners, uninterrupted power supply units, and networking equipment (hubs and switches).

Computer software

An immediate challenge is the lack of national language fonts. All official documentation is done in the two languages of Pashto and Dari. There is currently only Farsi language support in the Windows operating system which fulfils the requirements of the Dari language. However, as about 60 percent of the population are native Pashto speakers, it does not support and meet all the requirements.

MoC is now working with UNDP to register the Pashto and Dari codes with ISO. Standardisation of the codes will hopefully boost the local content development market. It will also enable government offices to exchange information in the local languages.

Content

The country is totally dependent on foreign content. There are hundreds of websites designed and run by Afghans living in different parts of the world, a few of which are mentioned here.

Afghanan.net <http://www.afghanan.net>
A website managed by an individual. It offers information about the country and the culture of the people. Besides managing the website, this individual has also developed Pashto language support for Windows XP/2000. He has developed a method to use a Pashto font on the Web. This enables users to view and copy text in an editable format rather than depend upon an operating system with Pashto and Dari language support.

Sabawoon <http://www.sabawoon.com>
This is the most famous and the most visited Afghan news website. It is unbiased, full of the latest information, news, articles and history. The website is updated daily and operates of the USA. Besides news, there are Afghan greeting cards, photographs, a live discussion forum, and articles contributed by famous Afghan writers. This website is in English only.

Hewad Afghanistan <http://www.hewad.com>
This is run by an Afghan in Sweden and is a very popular and content rich Afghan website, which is getting more and more hits every day. Hewad.com offers poetry books, poems and audio poetry. It has a big collection of Afghan music in audio and video formats. The content of this website is presented mostly in Pashto with some available in English.

Watan Afghanistan <http://www.afghanan.net>
Run by an Afghan living in Pakistan, this started as a personal homepage and has grown to be one of the most important and accurate sources of Afghan information. The homepage is designed in English and Pashto, but most of the content is in English. A variety of content is available at this website including the history of Afghanistan, biographies of famous Afghans, religious information on Afghanistan, Pashto poetry, Pashto landay and over 1,000 photographs of Afghanistan. Afghan music on Watan Afghanistan is unique since most of the songs are not available at any other Afghan sites. This site has a guide for making Pashto websites using different techniques.

Afghana <http://www.afghana.com>
This is a popular Afghan search engine built using a Yahoo template. This site has links to new Afghan websites. This site is in English and is based in the USA.

Institute for Afghan Studies
<http://www.institute-for-afghan-studies.org>
This site contains a comprehensive compilation of historical information, analyses and bibliographies. It was built by a non-profit, non-political and independent organisation, founded and run by young Afghan scholars from around the globe. This site is well designed and easy to use.

Afghanistan News <http://afghanistannews.net>
This offers updated headlines and news from a variety of print media and wire sources in English, as well as links to other news sources and archives. There is also the Afghan News Network <http://www.myafghan.com>.

Lemar-Aftab <http://www.afghanmagazine.com>
This is a very pretty e-zine focusing on Afghan politics, films, music, art, literature and the life of the Afghan people.

Afghan Network <http://www.afghan-network.net>
This site contains extensive information about Afghan literature, people and culture, as well as links to NGOs operating in Afghanistan.

Hazara community <http://www.hazara.net>
This contains news, links and information about the Hazaras in Afghanistan.

Hindu community <http://Afghanhindu.freeservers.com>
This offers historical and religious information about the Hindus in Afghanistan.

Afghanistan studies
<http://www.academicinfo.net/afghan.html>
This contains a good list of sites, ranging from NGOs and media organisations to political parties, and information on the Taliban, Osama bin Laden and al-Qaeda.

Service providers

A number of organisations and companies provide software development, networking, website development and other services:

Afghan Computer Science Association (ACSA)
<http://www.acsaonline.com> This organisation was started in 1999 by a group of Afghan computer science students at the International Islamic University, Islamabad. ACSA is a non-profit and non-governmental trust which aims

to motivate people in the country to explore IT. It has six departments: AfghanSoft, AfghaNet, Hardware, Education, Relations, and Finance.

AfghanSoft develops software for the business and administration sectors of the country. It also develops educational and entertainment software for youths and children. In addition, the department develops software for universities, schools, hospitals, government offices, and businesses in the country. The software includes student enrolment systems, library systems, accounting systems, patient record databases, management information systems for hospitals, and systems for ministries, embassies and research centres.

AfghaNet will provide the Afghan community with access to the Internet through the establishment of ISPs, cyber cafés and cyber schools. This department plans to develop Afghan websites and webpages to support the development processes of the country. Recent projects include the websites for the following:

- MoC <http://www.af-com-ministry.org>, which is used by the ministry for processing tenders
- Da Afghanistan Bank <http://www.daafghanistanbank.org>
- Ministry of Mines and Industries <http://www.af-mai-ministry.org>
- Official site of the government <http://www.af-government.org>

The department is working on a project, to build websites for all the ministries.

As there is no standardised computer science curriculum in the country, the association is collaborating with the staff of Kabul University to develop a curriculum for its Department of Computer Science to be implemented in 2003. The Education Department of the association is publishing *The Computer Science Bimonthly*, which is the first computer magazine ever published in Pashto and Dari.

One of the priorities of the association is to promote professional networking among computer scientists of the country. The Relations Department is helping to establish good relationships among the various government and non-government organisations and associations working in the field of computing and IT. It also aims to motivate them to collaborate on efforts to build the IT sector.

Afghan Information Technology and Telecom (AfghanITT) <http://www.afghanitt.com>

This company is a joint venture between a group of Afghan individuals, the Australian Cable and Telephony Pty. Ltd. and Ambidji Pty. Ltd, an Australian telecommunications, aviation and broadcasting specialist entity.

AfghanITT intends to serve the information technology and telecommunications needs of local businesses, NGOs, development agencies and foreign missions. AfghanITT also aims to provide computer training to Afghans with the necessary formal education qualifications or those with basic IT skills. Ambidji Pty. Ltd. will also provide computer and telecommunications-related training to AfghanITT staff.

The company operates the following services: computer sales and support; network design, installation and support; data entry, software and database development , a complete suite of Web services, software sales, IT consulting; and telecommunications for the aviation and broadcasting sectors

Asia Soft <http://www.liwal.com>

This was the first Afghan IT company, founded in 1992 with the main focus on developing fonts for the Pashto, Dari and Urdu languages to be used on Windows 98, XP and 2000 operating systems. It was also the first to try providing Internet connectivity to the country in 1998, but governmental constraints at that time forced the project to be abandoned. The company has recently started working on the localisation of Windows XP/2000 and is also developing a curriculum to teach computer users how to make appropriate use of software and how to use it for a specific task. It has recently opened its office in Kabul.

Centre for Research and Technical Support (CeReTechs) <http://www.CeReTechs.com>

CeReTechs was created in 1994 to provide a full suite of IT products and services, technical support, and IT consulting and implementation to international and local aid agencies working throughout Afghanistan and Pakistan including, ACTED, AREA, AWN, CHA, DHSA, Islamic Relief (UK), and Swiss Peace.

CeReTechs, in collaboration with MoC and with partial funding from the Department for International Development of the UK, has established an ISP to offer high-speed, low-cost wireless Internet access in Kabul. Its services will be expanded to cover Herat and Kandahar.

This service will allow organisations to access the Internet with data transfer speeds ranging from 56 Kbps to 11 Mbps, well beyond the speeds of other systems now used in Afghanistan. The service will provide unlimited data transfer at no additional costs, potentially offering organisations significant savings. It will also accommodate intranet connections and communication between bases in the surrounding areas.

In relation to software development, CeReTechs has developed a number of systems for accounting and financial information management, employee record management, inventory management, and programme management information, which are very practical and popular among CeReTechs partners.

Making computers <http://www.makingcomputers.com>

This is a website maintained by an Afghan, where one can buy computers or computer products, register domain names, or host a website at an affordable price.

MicroTech Group <http://www.microtechgroup.com>
A Toronto-based Afghan runs this site, which offers computer and Web-based solutions with a complete line of computer systems, parts and accessories. It also deals with office networking solutions, Web design and technical support.

Future trends

ICTs are new to the majority of people in Afghanistan. The main obstacles to the wide adoption of the new technologies are the educational level and financial status of the people and the economy of the country. The donor community will play a vital role in promoting ICTs by assisting the government in training the people and introducing the technologies to workplaces.

Computerisation has begun and will advance quickly in the Treasury Department and the Ministry of Finance, which are building a government employees database. Da Afghanistan Bank, the central bank, will also make quick progress in computerisation. SWIFT (Society for Worldwide Interbank Financial Telecommunications) facilities have already been installed in the bank. The government will focus on providing basic training in the use of desktop computers to its employees.

The first and most important step to be taken is to create awareness among the people regarding ICTs. This can be achieved by deploying IT promoters to different parts of the country to conduct ICT awareness programmes.

The second step is giving basic training to those who are directly involved in infrastructure design and the reconstruction of the country. This effort should be made in tandem with computer science curriculum design and the establishment of computer science departments in more universities in the country.

Afghans living abroad should be encouraged and helped to return to Afghanistan to take part in the promotion of ICTs and in local content development.

The ICT policy announced by the government at the time of writing clearly defines its vision of enabling Afghanistan's use of the new technologies to expeditiously improve government and social services, foster the rebuilding process, increase employment, and create a vibrant private sector. The policy further aims at making the country a part of the global information society within the next five to seven years.

Notes

1. Population Division and Statistics Division of the United Nations Secretariat. *Indicators on Population* <http://www.un.org/Depts/unsd/social/ population.htm>.
2. National Department of Statistics.
3. These estimates were contributed by Joseph Braude, Senior Analyst <jbraude@pyr.com> Guy Zibi, Manager <gzibi@pyr.com>, of Perspective, Africa/ Middle East, 7 November, 2001.