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Afghanistan

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Afghanistan is returning to normalcy, and 2003 stood out as its most successful year in the past decade. During that year, the government was able to study the condition of the country to determine weaknesses, appreciate strengths and plan strategies for implementing action plans and projects for the reconstruction and development of the various sectors.

The ICT sector in the country is very new and weak, and thus it is receiving special attention from the government. After transportation, this is the next most important sector that directly affects the economy and the quality of life in the country. The Ministry of Communications (MoC), as the core body handling ICT issues, has achieved a number of milestones that will change the telecommunications and ICT sectors in 2004–2006.

Enabling policies

ICT offers an enormous range of practical benefits that will support the reconstruction of Afghanistan in all areas. Telecommunications links, for example, will allow families who have been separated to reconnect. Telecommunications facilities will provide vital support to reconstruction efforts, particularly outside of Kabul, both in the early phase during policy implementation and in the longer term when the private sector begins to develop and expand. ICT is also critical to the development and enhancement of national security by creating capacity for greater linkage among the Afghan people as well as between them and the outside world. New telecommunications and ICT policies have been formulated to support the growth and development of the ICT sector in order to meet these needs in the short and long term. MoC has established, or is planning to establish, authorities that will implement action plans and strategies specified in policy documents.

Telecommunications and Internet policy

MoC's new Telecommunications and Internet Policy outlines an overall framework that is intended to get investments flowing. It encourages private investment through the introduction of measured competition, establishes Afghan Telecom as a state-owned corporation with the authority to accept private investments, and supports rapid expansion of telecommunications and Internet services at the local level. The policy encompasses four broad goals:

- To facilitate social and political integration nationwide.
- To enhance national and civil security.
- To provide macroeconomic stimulation.
- To adopt international best practices.

Following the recommendations of the policy, the functions of the Telecommunications Department of MoC will be transferred to Afghan Telecom. At the time of establishment, Afghan Telecom will be a public corporation owned by the government and administered by MoC. However, it is encouraged to engage operation and investment partners to become a market-oriented commercial enterprise.

ICT policy

MoC recognises the critical importance of ICT and has formulated a policy to pave the way for the rapid development of ICT, which in turn will act as a key driver of the socioeconomic development of the nation. The following three objectives are central to the vision of the national ICT policy:

- Universal access to networks
- Universal access to information and knowledge
- Government use of ICT

Regulatory environment

A new comprehensive Telecom Law has been passed following a consultation process, and a Telecom Regulatory Board has been established for the regulation of the sector in accordance with the provisions of the Telecom Law.

The Telecommunications and Internet Policy includes plans to establish an independent Telecommunications Regulatory Authority of Afghanistan (TRAA) by the end of 2005 to ensure regulatory transparency and fairness for all market participants. TRAA is expected to evolve out of the existing Telecom Regulatory Board. Reporting to MoC, TRAA's responsibilities will include implementation of a national policy of competition and market liberalisation and issuance of licences for the provision of mobile, fixed-line, Internet and other network services.

With the help of ITU, MoC has established and equipped a frequency management unit within the ministry and also prepared a table of frequency allocations. The unit will update the national spectrum regulation, assess present and future spectrum requirements, work out a countrywide coverage map for radio and television broadcasting, prepare a guide for spectrum monitoring and station inspection, and establish a computerised frequency management system. No entity will be permitted to utilise the licensed radio spectrum without first obtaining a spectrum licence from the Spectrum Management Office.

In addition, a decree has been drafted for consideration by the new Cabinet for the establishment of the National Information and Communications Technology Council of Afghanistan. The council is expected to be formally established by mid-2005 with the mandate to provide advisory services to the government in all matters related to ICT and to act as a coordinating focal point. It will be an independent body reporting directly to the President. MoC will act as its secretariat. The first task of the council will be to formulate a national ICT agenda to chart the path for the development of the ICT sector.

Key national initiatives

Telecommunications sector

The ability to provide comprehensive connectivity and universal access to internal and external information and communication networks is enhanced by the availability of a variety of technologies. Apart from the options provided by the traditional telephone network, there are also those offered by wireless technology (mobile cellular, fixed wireless, satellite), fibre optic networks, and enhanced services over copper cable (e.g. DSL and ISDN). MoC has selected technologies that are relevant, advanced, sustainable, cost-effective and quick to deploy to meet the requirements of the people and the market.

MoC contracted out in August 2003 the installation of 87,000 new digital telephone lines in Kabul and 11 other cities: Mazar-e-Sharif, Kandahar, Jalalabad, Khost, Kunduz, Pulekhomri, Sheberghan, Ghazni, Faizabad, Lashkergha and Taloqan. The subscriber terminals for these new lines will meet the CDMA 2000 standard. The project was completed at the end of 2004. An additional 30,000 new lines for another 11 provincial capitals are being built at about the same time. With the implementation of these projects, the telephone penetration rate has increased to 0.5 percent. It has been forecasted that by the end of the decade 4 out of 100 Afghans will have a telephone.

In addition, MoC contracted with Globecomm Systems Inc., USA, to install a complete nationwide satellite network interconnecting 32 ministries, 32 provincial capitals and all 355 district capitals. The network will provide voice, data and videoconferencing services. All the provincial capitals and 20 percent of the district capitals will be connected by mid-2005.

MoC completed in December 2003 a study, funded by the US Trade and Development Agency, on a proposed 3,300-km telecommunications fibre backbone to assess the technical and financial feasibility of the project and recommend options for its implementation. MoC is expected to invite bidding for the project in 2005. The proposed fibre optic network will trace the country's ring road network and connect to the Trans-Asia-Europe fibre optic network in the north and the submarine cable in the south. It will be installed along major national highways. Other international links, to be negotiated as bilateral agreements with Afghanistan's neighbouring countries, are planned. The network will provide alternative routing as traffic increases in the future. It will also reduce the demand for satellite communications.

A network of Codan radio systems was installed in early 2003 covering 36 locations throughout the country, including the 32 provincial capitals. The high-frequency system is capable of sending and receiving voice and data.

MoC has issued two nationwide cellular telephony licences and several Internet licences. The two GSM licensees have so far invested more than US$90 million in Afghanistan to provide mobile phone services to six major cities in the country. They plan to invest another US$100 million to expand services to at least 20 more cities during 2004. The two operators had a total of 120,000 subscribers in the first half of 2004.

The demand for telecommunications services is very high and is not being met by the current service providers. This justifies the issuance of new licences to increase competition. However, the two cellular operators were given the commitment that no additional GSM licences would be issued until 10 January 2006. With this time limit in mind, invitation for bids for a new GSM 900 licence was started in the first quarter of 2005 to ensure that the successful bidder will be ready to launch its services by 10 January 2006.

In order to increase the penetration rate of telephones, MoC will also issue two new national licences for fixed

service providers through a competitive selection procedure. These providers will be free to carry their own long-distance traffic.

However, as most parts of Afghanistan currently do not have access to telecommunications services, it will take a long time for national service providers to extend their services to rural areas. At present, rural residents are using Thuraya satellite mobile phones, which are very costly. To serve the needs of all local communities in the near term, MoC is considering licensing local operations for small cities, towns and rural communities. The private sector will be encouraged to invest in the building of cooperative communications infrastructure to meet local market needs. Operators will be issued fixed service provider licences for local operations that must comply with national technology, spectrum and competition requirements. The licences will be granted for several locations at the same time so that services are rolled out to rural areas rapidly.

To raise efficiency, the US Agency for International Development provided MoC with a computerised accounting and billing system for digital phones along with computer equipment and training for the people operating the system. MoC has contracted out the implementation of the system in all provinces to the Operational Research Group from India. The system is expected to be fully implemented by mid-2005.

ICT sector

The ICT policy has been finalised and approved by the Cabinet; it is now awaiting implementation. Another development was the establishment on 17 March 2003 of the Afghanistan Network Information Centre (AFGNIC), which operates and administers the ".af" domains.

Internet penetration in the country is growing. In 2003, there were only two ISPs in Kabul; a year later, there were six operating throughout the country and covering all the major cities. The number of Internet cafés in the country also jumped from 2 to 150. The demand for Internet-related services continues to grow. To help the development while coping with the growth of the ICT sector, a number of development and training projects have been planned or implemented.

MoC in collaboration with UNDP has established in Kabul nine telekiosks offering Internet access to the public. It is planning to expand the project to other cities.

A project to set up ICT and Cisco training centres was started in 2002 to provide basic computer training to government employees and the public. There are now ten training centres in five provinces, and more are planned. A second Cisco training centre has been established at the ITU-funded Telecommunications Training Centre. In the meantime, MoC is reestablishing the Telecommunications Training Centre as the ICT Institute. The institute will offer bachelor degrees in telecommunications engineering and computer sciences, with the aim of meeting the lack of human resources in both fields.

In preparation for e-government, analysis of the day-to-day work processes of government organisations is underway. Besides implementing e-government and setting up a government portal, e-commerce legislation and a Digital Signature Act are being studied. In addition, the Civil Service Commission will be implementing the e-administration system in government offices and civil servants will be trained to use it. The system will eventually be expanded to the district level.

A national data and IT centre will be established to house the government's critical equipment and applications, such as national databases. The centre will also serve the IT needs of government offices. In addition, a software house will be set up to address all software-related issues of government organisations. These issues include the development of databases, software applications, security software and web applications.

An IT park will be built that will not only be a centre for supplying hardware and software products and after-sales service, but it will also provide a suitable environment for developing and manufacturing these products.

All these projects will help MoC move towards its ten-year target for achieving the following goals:

- To extend Internet access until the village level for communities with a population of more than 2,000 people.
- To establish at least one ICT training centre, which will provide both hardware and software training, and at least one community technology centre with Internet access facilities for each of these villages.
- To establish at least two software development centres at each provincial capital and one per district with the objective of developing software exports worth US$5 million from government-owned software houses and US$20 million from private sector software houses.
- To establish at least four hardware maintenance centres for each provincial capital and two for each district.
- To establish at least one manufacturing facility for computer devices and components in each provincial capital with the objective of generating hardware exports worth US$3 million from government-owned facilities and US$12 million from private sector facilities.
- To proliferate the utilisation of appropriate software to eventually create almost paperless government offices up to the district level, as well as to develop management and financial management information systems for all government offices throughout Afghanistan.
- To host online facilities for e-education, e-health, e-commerce and other e-services.
- To develop the necessary human resources for the ICT hardware and software industries in the country.

To prepare the ground for the creation of local content, MoC, together with UNDP, is developing fonts for the Pashto and Dari languages. It is also collaborating with the Afghan Computer Science Association (ACSA), a group of linguists and Microsoft on the language interface pack for Microsoft Windows and Office. The team will then work on computing and ICT terminology as part of IDRC's PAN Localization project to facilitate the development of local content.

ACSA has embarked on a nationwide ICT awareness and acceptance campaign in the first quarter of 2005. During the first phase of the project, which will last for two years, teams will be dispatched to different areas of the country to conduct e-readiness assessment. After completing the study, ACSA, in partnership with MoC, will take the next step of establishing training centres and conducting awareness seminars and workshops in rural areas. The aim is not only to raise ICT awareness but also to help people understand the importance of adopting the new technologies and how ICT will contribute to the development of the country.

ACSA is collaborating with Internews Europe on another key project, Promoting Internet Policy and Regulatory Reform in Afghanistan, which will address policy and regulatory issues in the ICT sector.

Industries

Media

Cable television arrived in Afghanistan in 2003. As of June 2004, there were about 7,000 cable subscribers in Kabul, mainly from the middle class. Cable companies are required to obtain approval from the Ministry of Information and Culture, which is responsible for regulating the provision of media services, the channels to be used and the content to be distributed. Additionally, any cable company seeking to provide two-way or interactive telecommunications or Internet services must apply for the appropriate licences from TRAA.

The Ministry of Information and Culture has issued three private television licences to Aiena, Afghan Television and Tolo Television to broadcast in three provinces in the north and in the capital city.

Various schemes are underway to modernise the media industry. One of them is by Internews Afghanistan, which operates a computer training centre in Kabul to provide journalists with basic training in Microsoft Windows and Office.

UNESCO will help to computerise the operations of the Afghan Bakhtar Information Agency in Kabul, provide it with Internet access and train its staff in the use of the new equipment. It will also help to modernise the agency's news archive by providing equipment and training in digitising its collection of newspapers going back to the 1950s.

The AÏNA Media and Culture Centre, which houses an informal meeting place, a library, an Internet space, a computer room and administrative offices, has been equipped by UNESCO with ten computers connected to the Internet via satellite. The centre is open to both Afghan and foreign journalists as well as organisations which the centre has decided to host.

ICT

Only a small computer hardware market was present in Afghanistan back in 2002. It comprised a few computer shops in Kabul, Herat, Kandahar and Mazar-e-Sharif. Since then, the IT market has grown and a number of local IT companies have started business. The following are some of them.

Afghan Tech specialises in Pashto keyboard support and Pashto fonts. It also provides web design and development services for English, Pashto and Dari websites. Enabling Technologies, which came into existence in June 2003, specialises in data networks as well as Internet and software solutions. Bittss (Bakhtar IT and Technical Services and Solutions), which was established in May 2003 in Kabul, offers services in webpage design, domain name registration and web hosting as well as database and software design and development. Khpala Pashto develops software in the Pashto language. It also offers web design services. Mashriqsoft is another company which localises software in the Pashto language. Sepia Solutions is a new Afghan company providing web hosting and web development services.

Looking ahead

The momentum generated in returning the country to normalcy is expected to be maintained following the successful conclusion of the national elections in 2004. The continuation of this trend is important to Afghanistan on all fronts. The achievements of recent years are encouraging signs that painstaking efforts to rebuild the country are working. The digital divide separating the country from the other economies in the region will hopefully begin to close soon. Although the future looks hopeful, much hard work remains to be done to build the information society in Afghanistan.