

Nepal

Basanta Shrestha and Sushil Pandey



Overview

Nepal is located in South Asia, on the southern slopes of the Himalayan mountain range. It is an east-west elongated, rectangular-shaped country, with an area of approximately 147,181 square kilometres and a population of 23.15 million growing at 2.24 percent according to the 2001 census. Geopolitically, the nation lies between India and China and is landlocked. Administratively, Nepal is divided into 5 development regions, 14 zones and 75 districts. The lowest administrative division is the village development committee (VDC), of which there are close to 4,000.

Agriculture is the mainstay of the economy, providing a livelihood for over 80 percent of the population and accounting for 41 percent of GDP. Nepal is facing the problems of poverty, unemployment and underdevelopment. The government has been struggling hard to tackle these social, economic and environmental challenges. The concept paper for the tenth development plan which is being finalised by the National Planning Commission, states that 38 percent of Nepalese are living below the poverty line. The government aims to reduce its number to 30 percent in the next five-year-plan period, starting 2003. It has also emphasized in the plan the need to capture the opportunities offered by ICTs for poverty eradication.

In view of the growing importance of ICTs, Nepal has lately accorded due priority to the development of the ICT sector. It endorsed the IT policy in October 2000. The government has spelled out the strategy and action plans based on this policy. The action plan deals with private sector participation, infrastructure development, human resource development, IT diffusion, promotion of e-business and related facilities. However, it is important that these plans be effectively implemented now so as to bear the desired results.

IT industry

The current contribution of the IT industry to Nepal's GDP is insignificant. There is negligible hardware production in the country. However, even limited assembly as well as some niche production would be beneficial. According to the January 2002 statistics released by the Computer Association of Nepal (CAN), the number of computers in use in Nepal

is close to 200,000. The PC penetration rate continues to rise and is presently estimated at 0.86 per 100 inhabitants.

Though IT Policy 2000 aims to export software and related services worth NRs 10 billion by 2005, there is little hope of achieving this ambitious target, given the present scenario of software production. The total software developed and sold at the local and international markets is meagre. There are 15 software-developing companies, of which 5 or 6 are export-oriented, while the rest cater to the limited demand of the local market.

A limited number of IT companies currently operate in the country providing medical transcription and call centre services. These companies are helping to build a pool of skilled workers. They also contribute by earning foreign exchange for Nepal, as well as providing employment opportunities to the youth.

Telecommunications and Internet development

Nepal's telecommunications sector has grown as fast as, if not faster, than the other countries in South Asia during the second half of the 1990s. The country has a reasonably good urban telecommunications infrastructure. One advantage of Nepal's relatively young telecom-munications network is that it is mostly digital with much of the equipment installed during the last few years. An important milestone was reached in 1999 when teledensity reached one telephone line per 100 inhabitants. According to the Nepal Telecommunications Corporation, teledensity reached 1.42 in August 2002. Cell phone service was launched in 1999. The number of cell phone subscribers per 100 inhabitants is 0.09 or a total of 23,082 subscribers as of August 2002. The government has adopted the policy of encouraging the private sector to invest in the telecommunications field, including wireless local loop (WLL) telephony, which could further develop the required telecommunications infrastructure. As a result, private sector participation in these areas has increased.

The private sector made the first connection to the Internet for Nepal in 1995. Since then, 12 ISPs have begun operations in the country. Of this total, 5 are connected via

VSATs. ISPs are allowed to set up their own international gateways using VSAT technology. The government liberalised its policy on the use of VSAT to allow more private companies to launch ISP operations. The major ISPs have also leased spare capacity in their connections to downstream ISPs.

About 85 percent of users use dial-up connections over standard modems. Corporate users have leased wired, wireless-over-radio modems, or VSAT connections. The average connection speeds available to individuals and businesses are 33.6 Kbps and 56 Kbps. The current international downlink bandwidth for the country is close to 18 Mbps, with Mercantile Communications alone having a 10 Mbps downlink and 2 Mbps uplink capacity. It is the only ISP providing international roaming service for Nepal. High-speed Internet connections through DSL and ADSL facility are not yet available to the public.

Data from principal ISPs show that there are an estimated 100,000 users of their services. ITU estimated that there were 35,000 users in 2000 and 50,000 in 2001. Estimating the number of Internet users in the country is difficult as no surveys have been carried out within the sector by the Central Bureau of Statistics, market research groups, the ISP Association of Nepal (ISPAN) or CAN. There is a big difference between subscriber number and user number. For example, HealthNet is one subscriber, but 400 users share its one subscriber account. Likewise, corporate subscribers have a large number of users accessing their accounts.

ICT affordability and connectivity

Only a small section of the urban population can afford access to ICTs. Although 12 municipalities in Nepal are served by ISPs, most of the subscribers and users are concentrated in Kathmandu. Likewise, the August 2002 teledensity data for rural areas is 0.127, while it is 14.74 in urban areas only. 1,761 out of 4,000 VDCs have access to telephones as of August 2002. The 2001 national census shows that 85.8 percent of the total population resides in rural areas. The major factors hindering access to ICT services in rural areas, apart from inadequate rural telecommunications and electricity infrastructure, are widespread illiteracy (40 percent) and the large below-poverty-line population (38 percent), which raises the question of the people's ability to pay for computers, software and ISP subscriptions. The *ITU Survey Report 2000* estimates that international organisations based in Nepal are one of the major consumers of Internet services (20 percent), while home users account for 20 percent, government 5 percent, NGOs 15 percent, educational institutions 10 percent and business organizations 30 percent.

Nepal facts

Total population: 23.15 million^a

Rural population as a percentage of total population: 85.5%^a

Key economic sectors: Tourism and agriculture

Literacy in the national language(s): 60%^a

Literacy in English: 3%^e

Computer ownership per 100 inhabitants: 0.86^b

Telephone lines per 100 inhabitants: 1.42^c

Internet hosts per 10,000 inhabitants: 0.67^f

Internet users per 100 inhabitants: 0.43^d

Cell phone subscribers per 100 inhabitants: 0.09^c

National bandwidth within the country:

Less than 2 Mbps^d

National bandwidth to and from the country:

18 Mbps downlink and 8 Mbps uplink^d

Sources:

- (a) Central Bureau of Statistics. National Population Census 2001.
- (b) Computer Association of Nepal, January 2002.
- (c) Nepal Telecommunications Corporation, August 2002.
- (d) ISPs and ISP Association, August 2002.
- (e) Estimates in news articles. The National Population Census did not gather data on literacy according to the various languages used in the country.
- (f) ITU (2002). *Asia-Pacific Telecommunication Indicators 2002*. Geneva.

Standardisation of indigenous font

The standardisation of the Nepali font is a very important and urgent need. Several initiatives are already underway. A standardised digital font would be a big help to individuals and organisations setting out to provide local language content and services. Work on this has reached the prototype stage based on Unicode standards.

ICT associations

CAN <<http://www.caninfo.org>> was established with an objective to create a conducive atmosphere for the promotion of the IT sector in Nepal and to bring together all stakeholders, from within and outside the country, of the IT community. It was formed in late 1992 with members comprising vendors, software developers and other professionals involved in Nepal's IT sector. It educates the general public about the latest trends in ICTs via its annual exhibition, CAN-Info Tech, which has included participants from overseas since 1995. ISPs in Nepal have formed the

ISPAN. The IT Professional Forum, formed in 1998, is a team of well-established IT professionals in Nepal working in various subsectors of IT who have come together to make a collective effort to promote and build the IT sector.

Content

English is the main language used in publishing the bulk of online content. Much of the information posted on the Web relate to tours, hotels, airlines, travel guides, tourist destinations, news and media, culture, arts, entertainment, business, government, NGOs, banks and finance, health, education and IT. The main categories of content are discussed in the following:

Tourism

The tourism industry has the strongest web presence. It is a major economic sector in the Nepalese economy. All the larger hotels, guesthouses, travel agencies, trekking agencies and airlines have websites introducing their services. Many of them provide semi-automated online facilities for booking and planning visits to Nepal. Such sites also provide information about tourist attractions. They tend to be lavishly illustrated with beautiful photographs of destinations, very much in the style of tourist brochures. The information provided at these sites deal with topics such as culture, adventure destinations and activities, entertainment and the weather.

Public sector

Many ministries and government departments have set up their own websites. Details about official policies, speeches, laws, regulations, circulars, manuals, forms and other information regarding these agencies may be found at these sites. The majority of these sites are published in English. Some of the agencies have also posted the official Nepali versions of the texts of statutes, rules and circulars on their websites. These may be downloaded and read using fonts specified at the sites. The government, as a whole, lacks a portal site providing links to and URLs of all the ministries, departments and agencies.

NGOs

Many NGOs have established a presence online by either setting up their own websites or by posting documentation of their work on websites maintained by other organisations. Researchers and consumers are deriving much benefit from such content. Many of these sites also serve an advocacy function.

News and current affairs

Most of the English newspapers in Nepal publish their own websites. Radio Nepal and Nepal Television broadcast their news programmes over the Internet. Such current affairs material is accessed by the foreign community, particularly Nepalese overseas.

However, locally based Nepalese such as farmers do not benefit from such online content. More can be done to generate benefits for such potential users of online content. The Internet offers the potential of helping farmers to find the best prices for their produce. For example, prices at the markets may be provided online. Online marketing services for agricultural products is another possibility. Such content and services should be provided in the national and local languages.

Important national sources of content

News and current affairs <<http://www.nepalnews.com>>

This site publishes news on Nepal as it happens. It is dedicated to news, events, polls and discussions about Nepal. Many online newspapers may also be accessed through this popular site. It hosts a variety of publications and newspapers in Nepali and English, which are published either daily, weekly, fortnightly, monthly or bimonthly.

Nepal Tourism Board <<http://www.welcomenepal.com>>

The Nepal Tourism Board is a partnership between the government and the private sector. It is currently responsible for all the marketing activities aimed at promoting Nepal as a tourist destination. The website has comprehensive information on travel and tourism services in Nepal. Some of the attractive content includes a photo gallery, a virtual tour, screen savers and presentation material. The site is published in English, French and German.

Yellow Pages <<http://www.nepalyellowpage.net>>

The Yellow Pages website is an online directory of Nepali businesses. It allows users to search for a wide range of consumer and business products. Searches are available for specific categories of products and services, such as computers, science and consultancy. It also allows searches to be made on the business and government telephone directory listings.

Federation of Nepalese Chambers of Commerce and Industry <<http://www.fncci.org>>

This is an umbrella organisation of the Nepalese private sector. It plays a key role in promoting business and industry in the country. It provides information, advice, consultation, promotional and representative services to businesses and the government. It also organises training, workshops and seminars on a regular basis. This website covers important

business information such as government policies and legislation, the tax structure, economic indicators and business news.

NepalNet Page <<http://www.nepalnet.org.np>>

NepalNet is an electronic network involving over 30 governmental, non-governmental, academic and research institutions in Nepal. It is a collaborative activity between these agencies focused on sharing information about socioeconomic development in Nepal. The purpose of this website is to provide a forum for presenting development concerns in the areas of agriculture, ecology and biodiversity, education, economics, forestry, sociology and demography, policy and law, technology and infrastructure, and water, earth and the atmosphere. It also introduces the organisations that are part of the network. The site is managed by the Nepal Internet Users' Group.

Nepal Homepage

<<http://www.nepalhomepage.com/firstpage>>

This is a good and informative one-stop website about Nepal. It offers general information about the country and the people, advice for travellers, pictures, entertainment, and information on the government, politics, art, culture, society, academia, business and the economy. A lot of useful utilities, such as a calendar, telephone directory and tools for e-community, are also found at this site.

Thamel DotCom <<http://www.thamel.com>>

This is a good example of an e-community website. Thamel is a tourist and business area located in Kathmandu city. This website aims to provide detailed information about Thamel to the outside world. It plays a pivotal role in networking registered members. Members pay a nominal fee to be affiliated with Thamel DotCom. Any business organisations may apply for membership.

Ministry of Science and Technology

<<http://www.most.gov.np>>

There is no website or portal with links to all government ministries, departments, agencies and constitutional bodies. This website of the Ministry of Science and Technology provides visitors with some links to key government agencies and constitutional bodies.

Online services

Online solutions such as e-governance, e-commerce, e-learning and telemedicine offer much promise to Nepal. They may help the country overcome many of the challenges associated with its landlocked position and mountainous terrain.

E-commerce

There are a few local websites that allow consumers to order products and supplies over the Internet. One such website is <<http://www.munchahouse.com>>, which belongs to one of the oldest retail shops in Kathmandu.

There are no policies and laws governing e-commerce in the country. The Ministry of Science and Technology is making preparations to present the *Electronic Transactions Act 2001* for enactment. It has also organised a public consultation meeting on the draft legislation to gather feedback from stakeholders.

E-learning

There is no true e-learning system in the country. However, this is one online solution which offers a great potential for extending the reach of educational opportunities throughout the country. E-learning programmes can increase people's equitable access to quality education, particularly in rural areas.

E-governance

The IT policy does spell out clearly the application of ICTs in governance. There is an action plan to build websites for all ministries and line-agencies within a year. As a result, many government agencies have established their presence on the Internet. Government sites such as those of the Municipality Association <<http://www.muannepal.org>>, Nepal Tourism Board, Department of Tax <<http://www.dot.gov.np>> offer some really useful webpages.

The Bharatpur District Development Committee (DDC) has launched a pilot project linking its VDCs to DDCs to ensure efficient delivery of services to the people via the Internet. Kathmandu Municipality <<http://www.kathmandu.gov.np>> has an informative website about their current and past activities. This site offers visitors the option of viewing the site in either Nepali or Newari, apart from English. Lately, the results of certain national-level examinations have also been posted online.

The government websites, however, should not be confined to disseminating information like laws and legislation, names of officials, contact addresses, e-mail addresses, and fax numbers, but they should also render services such as online job applications, business tenders, payment of bills, and conducting public debates and polls on issues of broad concern. The new technologies may also be useful instruments for enhancing functions such as revenue collection, filing of taxes, governmental procurement, payment transfers, land information system, and policy advocacy.

E-community

Examples of e-community in the form of discussion forums and chat groups are numerous. Cyber cafés and communication centres, which can be found in every street corner in the capital and in Pokhara and Chitwan, offer convenient access points, especially for tourists. One good initiative that gives a flavour of e-community in education is the Nepal education portal <<http://www.nepalschools.org>>.

E-conferences

E-conferences using e-mail are conducted frequently. The number of such conferences is increasing. However, most of these events are organised by NGOs, particularly international NGOs. Webcasting of events and conferences is offered as a service by the main ISPs. Advanced e-conferencing with locations outside the country, using videoconferencing systems, has been conducted only on a few occasions. A couple of international organisations are equipped with videoconferencing facilities, which they use for supporting their own activities. The Nepal Telecommunication Corporation has plans to make videoconferencing available in a few major cities in the country using ISDN lines. The service was demonstrated during the last CAN-Info Tech 2002.

ICT industries and services

Hardware manufacturing and assembly

Mercantile Office Systems, a privately owned company, has recently launched its Mercantile personal computer. It is the first branded computer to be made in Nepal. The model is in fact manufactured outside the country, but the company claims it is rigorously tested and certified in Nepal. Computer vendors representing almost all the global brands (IBM, Compaq, Dell, Hewlett-Packard, Canon, NEC, Toshiba, Acer, Epson, Sun, Agfa, Fujitsu, etc.) have a presence in Nepal through distributorship arrangements. A good number of small local companies that assemble PCs from imported computer parts are also emerging. It is estimated that over 2,000 units of branded PCs and around 8,000 units of locally assembled PCs are sold in Nepal each year. Sales are growing by an estimated 20 percent annually.

Software origination and export

Software developers and producers face an unfavourable environment because of a lack of relevant laws and skilled manpower and a dearth of publicity that Nepal can produce software. Some Nepalese companies are exporting software to Japan, Germany, the UK, USA, Canada and other countries. Nepali software companies, though few in number,

have been able to develop complex and successful software for banking and airline systems. Reputed companies like Toshiba have hired the development services of Nepali software companies.

IT training and education

The total number of private firms engaged in the IT-sector exceeds 1,000. The majority are concentrated in Kathmandu Valley. More than half of these companies provide various levels of training in ICTs. Five Nepalese universities are offering IT-related academic courses. The number of colleges offering IT courses is growing each year. Master's programmes in IT have been initiated by a few universities. Private training institutes, which used to run short application-specific courses, are also offering long-term professional training courses. Such institutes have been franchised by reputed organisations from India, Singapore, the UK and USA, such as ApTech, NIIT, SSI, PentaSoft and New Horizon.

IT-enabled services

Unlimited Numedia has been providing medical transcription services for about two years. The company has signed an agreement with the Employment Promotion Commission (EPC), a state-funded agency, to provide jobs for 1,500 youths.

Himalayan Telecommerce, the only call centre in Nepal, has been providing information on a wide range of subjects in the country through its Ask Me scheme.

Meiken Digital Technology and Geo-spatial are two local companies providing geographical information system (GIS) data processing services for companies in Japan.

Besides these companies, there are other smaller companies providing backroom data entry and webpage formatting services to clients overseas.

Examples of innovative and key initiatives

One of the important initiatives undertaken by the Ministry of Science and Technology has been on human resource development (HRD). The ministry aims to have at least 10,000 people trained in IT during 2003 at the semi-skilled, skilled and advanced levels. The selection process to appoint principal training institutes for this massive undertaking has begun. It is learnt that the target for the next three years is to provide intermediate and advanced IT training to 50,000 youths. The other significant development in HRD during 2002 was the study loans provided to IT students by the Employees' Provident Fund and Everest Bank. The Ministry of Science and Technology and EPC have approved a training-cum-employment programme in medical transcription in association with Unlimited Numedia (see above).

The state-owned Nepal Telecommunications Corporation is setting up 1,000 VSAT connections for rural telephony with the aim of providing at least two telephones to each VDC by 2004.

The Committee for the Promotion of Public Awareness and Development Studies (COPPADES) is an NGO involved in various social development activities, such as poverty reduction and community education. It has partnered with World Computer Exchange to bring ICTs to schools, currently without access to these technologies, in an effort to bridge the digital divide. More information is available at <http://www.worldcomputerexchange.orgpartner_plans/Nepal-COPPADES-PLAN-2002.doc>.

Bharatpur Municipality is introducing urban e-governance to all 14 wards of the municipality. These wards will be equipped with computers and trained staff. Computerised services are provided for taxation, employment exchange, building permits, property valuation and other transactions. Services which used to be available only at the main municipal office will now be delegated to the ward level. Request for information can be made via e-mail. The website <<http://www.bharatpurmun.org.np>> of the municipality provides information on the city profile, land use, the *Local Governance Act*, regulations, important decisions of the municipality, population, land records, tourist information, registration of complaints, etc. The municipality will orient its efforts towards e-governance as the first step. The second step will be to promote the use of computers and to expand computerised services. The third step will be to utilise electronic means for governance to the full extent. The vision of e-governance in Bharatpur Municipality may be a catalyst to initiate e-governance in Nepal at the local levels.

The International Centre for Integrated Mountain Development <<http://www.icimod.org>> has developed a framework for sharing and exchange of geographic information over the Internet. It is aimed at increasing the availability and accessibility of geographic information for decision-making. A number of GIS layers of Nepal integrated with socioeconomic data have been prepared so far.

Enabling policies

Nepal formulated a policy for developing ICTs effective from 23 October 2000. The policy offers a vision of putting Nepal onto the global IT map within the next five years. It aims to make IT accessible to the general public, thereby generating employment, creating a knowledge-based society and establishing knowledge-based industries.

There has been some follow-up to the IT policy by the Ministry of Science and Technology, especially in the drafting of the *Electronic Transactions Act* or cyber laws. But this has been long pending, and the delay in its enactment has significantly curbed the potentials of e-commerce.

The policy spells out strategies for limiting the role of the government as a promoter, facilitator and regulator of ICTs. It encourages public-private partnerships. A Venture Capital Fund to be set up jointly by the public and the private sectors is another strategy. The policy also calls for the construction of a National Information Super Highway and North-South Information Highway. It aims to motivate computer usage in businesses by providing various fiscal incentives, such as accelerated depreciation of hardware and a nominal 1 percent customs duty on imported hardware, software and spare parts. It also sets out to safeguard intellectual property rights by formulating the necessary laws.

The following action plans have been formulated by the government to implement the IT policy:

Development of infrastructure

The following projects and incentives have been planned:

- Building of a National Information Super Highway
- Establishing an IT Park
- Promotion of foreign investment in the IT Park, R&D, technology transfer and HRD.
- Companies located in the IT Park to pay only 1 percent duty on imported IT equipment for five years
- Establishment of Internet nodes in all regions of the country by the end of 2002 and in all districts by 2004
- Telecommunications services and electricity to be provided to IT entrepreneurs

Human resource development

A long-term programme with the slogan “Computer education to all by AD 2010” has been formulated. It will offer computer education in schools and computer science and engineering in universities. The private sector is also encouraged to help prepare workers for IT.

Policy-making and implementation

The following have been established:

- The National Information Technology Development Council, consisting of different ministers under the chairmanship of the Prime Minister, is to review and revise the IT policy and appraise annual progress.
- The National Information Technology Coordination Committee, under the chairmanship of the Minister of Science and Technology and consisting of other relevant ministers, IT sector representatives, university vice chancellors, and technologists, is to initiate and manage R&D on IT, make plans for the development of human resources, develop IT curricula, and ascertain the norms and monitor them.
- The National Information Technology Centre, set up under the Ministry of Science and Technology, is to act as a facilitator and regulator for the healthy development of IT.

- The IT Park Development Committee is a separate body under the Ministry of Science and Technology and manages the parks to be built in various places in the country.

Prior to the government's formulation of the IT policy, the first exercise in making an IT policy was carried out through the National Planning Commission, along with various government and private sector bodies, experts and international NGOs. Six strategy papers on E-Commerce, E-Governance, Software Production, Human Resource Development, Universal Access to Information, Information and Communication Infrastructure were completed. They were studied and discussed at public consultation meetings attended by IT stakeholders from the government, academia, private sector, and the civil society. This exercise contributed towards the drafting of the IT policy which was taking place at about the same time.

The concept paper for the tenth national development plan has also set the objective to educate rural residents about various economic opportunities afforded by ICTs.

Regulatory environment

Regulatory bodies

Government ministries with a direct role in ICTs include the Ministry of Science and Technology and Ministry of Information and Communication. The former is the coordinating agency for IT in the country, while the latter is entrusted with the oversight of the telecommunications, postal, mass media and broadcasting sectors. The Nepal Telecommunications Authority (NTA) is the telecommunications regulator.

ISP regulation

ISPs must obtain a licence to provide Internet services, which is issued by the Nepal Telecommunication Authority (NTA). There are currently 12 ISPs operating in Nepal. The deregulation of VSAT service by NTA has improved Internet connectivity significantly. At present, five ISPs have their own VSAT connections. Subscribers have in turn benefited from the growing number of ISPs and the rapidly decreasing cost of Internet access.

Draft *Electronic Transactions Act*

The Ministry of Science and Technology has prepared a draft *Electronic Transactions Act 2001*. This draft document exists only in the Nepali language. There are 12 chapters in the draft: Introduction and Naming; Electronic Documents and Digital Signature, Transactions and Acceptance of Electronic Documents; Provision for Controller and Certification Institution; Provision for Certification; Rights; Responsibilities and Duty of the Customer; Electronic

Document and Digital Signature in Government Offices; Provision for Internet Service Providers; Provision of Electronic Transaction Court; Provision for Electronic Transaction Appeal Court; Provision about Computer Crimes; Miscellaneous.

Telecommunications regulations

NTA the telecommunications regulatory body, is an autonomous body established in February 1998 in accordance to the *Telecommunications Act 1997* and *Telecommunications Regulation 1997*. Its objective is to create a favourable and competitive environment for the development, expansion and operation of telecommunications services in Nepal.

Local domain name registry and dispute resolution

Mercantile Communications, the country's first ISP, is the administrator of the Nepal country code top-level domain, ".np". Registration or modification of the domain name of a host using ".np" is free. If a party claims that a domain name already registered violates their registered trade name or is an obvious derivation of their registered company name, Mercantile reserves the right to transfer the domain to the claiming party, provided that they have registered the trade name, trademark or company name at least one year before the registration date of the domain name in question.

Open source movement

Linux is used by a few ISPs and academic institutions in Nepal. The local training institutes are offering Linux courses, and there is likely to be a gradual increase of its usage.

Many groups have been working on developing a digital font for the Nepali language. However, these efforts have not been productive as there has been no standardisation, leading to numerous unique fonts being created which cannot be used across platforms. A group, involving the Ministry of Science and Technology, Royal Nepal Academy of Science and Technology, CAN and a few IT professionals, has begun work recently on implementing Unicode standards for Nepali. Their work has produced a prototype which runs on Windows. The group is now working on the Linux version.

The young, enthusiastic and creative Linux software developers in Nepal have built a website <<http://Linuxnepal.com.np>> for facilitating networking among themselves.

Research in ICTs

There is limited R&D work on ICTs in the country. Some recent initiatives are listed below:

IT Park: The construction of the first IT Park, which will carry out R&D on ICTs, has begun at Banepa in Kavrepalanchok district located about 26 kilometres east of Kathmandu.

Internet exchange point for Nepal: Packet Clearing House, a non-profit research institute from the USA is collaborating with local ISPs in studying the establishment of an Internet exchange in the country.

IT proficiency test: The IT Professional Forum is designing a quality certification test for computer professionals. The IT Proficiency Test aims to establish a common evaluation standard for the wide range of IT professionals seeking jobs at IT organisations operating in different sectors.

Rural access: UNDP and the government have recently signed an agreement to run a US\$625,000 two-year pilot project on ICTs. The project will be managed by the Ministry of Science and Technology under the guidance of a steering committee to be chaired by a member of the National Planning Commission. It will study ways of providing rural communities with ICTs. Fifteen pilot telecentres will be established in nine districts to give communities shared access to the technology. Measures to strengthen and sustain the capacity of the government to review IT policy, strategy, legislation and guidelines will also be implemented. Support in the formulation of legal and regulatory instruments which contribute to the development of e-commerce and e-governance will also be provided through this project.

Future trends

Nepal, landlocked and largely mountainous, making accessibility to goods and services difficult, is perhaps a blessing in disguise for ICTs. The new technologies offer the potential of strengthening good governance and empowering the civil society by providing people with access to information.

The implementation of the IT policy in the near future should lead to the following:

- Building of human resources for the IT industry and allowing people to make full use of ICTs
- Promotion of Nepal overseas as a country which provides IT services and which welcomes foreign investment in this sector.
- Establishment of more telecentres in rural areas to provide isolated communities with shared access to the Internet
- Increasing use of the local language as Nepali fonts are standardised via Unicode

Nepal will learn from its neighbouring countries, especially from India's success with the industry. It is hoped that regional cooperation will take off and contribute towards Nepal's advancement in this sector.

ICT resources

IT Professional Forum (ITPF)

<<http://www.itpfnepal.org>>

Formed in 1998, it comprises IT professionals in the country. Its website provides news and information on IT events. Details about the IT proficiency test may also be obtained here.

Computer Association of Nepal (CAN)

<<http://www.can.org.np>>

This site offers plenty of information on IT activities in Nepal, both past and upcoming.

Internet Service Provider Association of Nepal (ISPAN)

<<http://www.ispan.net.np>>

This site offers links to the websites of all the ISPs in the country.

Ministry of Science and Technology

<http://www.most.gov.np/most_final/index2.htm>

This is the key ministry for ICT-related matters.

Ministry of Information and Communication

<<http://www.moic.gov.np>>

This ministry has oversight of the telecommunications, postal, mass media and broadcasting sectors.

Nepal Telecommunications Authority (NTA)

<<http://www.nta.gov.np>>

This is the telecommunications regulatory body of Nepal.

National Planning Commission (NPC)

<<http://www.npc.gov.np>>

The government's plans and policy documents, including the IT policy and IT bill, may be downloaded from this website.

Nepal Telecommunications Corporation (NTC)

<<http://www.ntc.net.np>>

This company is wholly owned by the government. It has been the only telecommunications service provider in Nepal for the past 50 years.

Nepal IT.Com <<http://www.nepalit.com>>

This website offers information on the Nepali IT sector.

Nepal Internet Users' Group (NIUG)

<<http://www.nepaliug.org.np>>

This is the first ICT-oriented NGO operating in Nepal. It also coordinates and facilitates NepalNet <<http://www.nepalnet.org.np>>, a development-oriented network of organisations and institutions working in Nepal.

Friedrich-Ebert-Stiftung in Nepal

This German foundation initiated the Conference on Information Technology, Communications and Development (ITCD) in 2001 <<http://www.itcd.net>>, which was held in Kathmandu. The success of the first conference led to the second conference in 2002.

PC World Nepal Magazine

This is an IT magazine published by MD Publishing, one of Nepal's leading publishing houses, under licence from International Data Group (IDG) Inc., Boston, USA.

CoreExpress Magazine

This is a bimonthly publication from the CORE group, whose <<http://www.coremag.net>> is another informative site on IT. The magazine is the first and only local magazine dealing with IT.

References

International Telecommunications Union. *Nepal Internet Case Study 2000*. Geneva.

IT Professional Forum (2001). *A Report on Computerization Status in Nepal*. Kathmandu.

Ministry of Science and Technology. *IT Policy 2000*. Kathmandu.

Ministry of Science and Technology. Draft of *Electronic Transactions Act 2001* (in Nepali). Kathmandu.

National Planning Commission. *Information Technology for Development: IT Policy and Strategy Papers for Nepal, 2000*. Kathmandu.

National Planning Commission, (2000). *Proceedings of the National Stakeholders Workshop on Strategies. Papers Prepared for Nepal on IT*. Kathmandu.

National Planning Commission (2000). *Concept Paper on the Tenth Plan*. Kathmandu.

National Planning Secretariat, Central Bureau of Statistics. *National Population Census 2001: Nepal* (CD-ROM). Kathmandu.

Nepal Telecommunications Corporation (2002). *Management Information System Report*. 17 July–16 August. Kathmandu.

UNDP Asia Pacific Development Information Programme (1998). *IT Strategy for Nepal: Preliminary Assessment and Recommendations*. Kathmandu.