Asian Forum on Information and Communication Technology Policies and e-Strategies

(www.apdip.net/asian-forum/)

Nepal – Country Report

20-22 October 2003
Kuala Lumpur, Malaysia

The Asian Forum on ICT Policies and e-Strategies is organized by UNDP's Asia-Pacific Development Information Programme under the auspices of the United Nations ICT Task Force, with support from the Ministry of Energy, Communications and Multimedia, Malaysia, and the Government of Japan.

INTRODUCTION

Nepal is a landlocked, mostly mountainous country situated between the Tibetan Autonomous region of China in the north and India in the south, east and west with altitudes ranging from less than 100 m in the Terai to 8,848 m in the Himalayas and the population roughly 23 million. Its difficult mountainous terrain has been the main hindrance for its development over the past years.

In today's times, the IT sector provides Nepal a potentiality to conquer its geographical and economical disabilities. Country like Nepal, which has missed the agriculture and industrial revolution, can re-cover the lost time and opportunities with IT revolution.
This fact has been realized by the government, which has led to the formulation of the IT Policy 2000 by Ministry of Science and Technology (MoST) and National ICT strategy paper formulated by National Planning Commission (NPC). MoST recently completed the draft of the Electronic Transaction and Digital signature Act (ETADSA) 2057, commonly known as IT bill in other countries. Despite this Nepal is having a hard time catching up with the rapidly growing IT sector.
Towards the highest level commitment from the government for overall ICT development, High Level Commission for Information Technology (HLCIT) has been formed under the chairmanship of the Prime Minister. A full time State Minister level vice chairman has been provisioned as chief executive officer. The National Information Technology Center (NITC) established as per the IT Policy 2000 will act as secretariat of this commission.

ICT DEVELOPMENT IN THE COUNTRY

Nepal's journey into the world of information and communication technology began three decades ago, with IBM 1410 for the population census of 1971. Institutional initiative to promote computer awareness and provide computer literacy began with the government's establishment of the Electronic Data Processing Center in 1974, which was later, named as National Computer Center (NCC). NCC purchased the fourth generation computers in 1981. The computer training in Nepal started from 1971, when American experts provided training

in AutoCoder programming to operate the IBM 1401 computer. The promotion of computer education in the national education system started only in the early 1990s. The centre for curriculum Development, under the Ministry of Education, designed computer science courses for the 9th to 10th grades in secondary schools. In 1992, eight private schools offered computer science as an optional subject for S.L.C. examinations. Kathmandu University started offering one course in computer science for I.Sc. before offering admission for B.E. in computer science.

Internet in Nepal started with the e-mail services provided by Royal Nepal Academy for Science and Technology (RONSAT). Mercantile office system started e-mail services for commercial purposes in June 1994. And after a year, on 15th July 1995 it started to provide full online access to Internet services and a presence for Nepal on the Internet by providing a home page. In 1995, there were about 150 email addresses in Nepal, which has gone up to 15000 in the year 2002, exhibiting a growth of 150- 160% per annum. There are 16 ISPs in operation, 6 VSAT service providers, 16 VSAT service users, 8 radio paging network, 1 video conferencing and 6 fax mail services.

Telephony: Nepal Telecommunications Corporation (NTC) had been the sole provider of basic telephony services in Nepal. Telecommunication plays important role in Nepal, as most of the land is covered with high mountains and transport facilities are inadequate. Though telecommunication services are not universally available but tele-density has grown to more than 1.5 per hundred people compared to 1.2 in the year 2001. As of mid-February 2002, 1761 VDCs among 3914 VDCs in the kingdom were facilitated by telephone service. Total circuit capacity has reached to 1084, enabling direct international access to 131 countries. Alternate high capacity backbone route based on optical fiber cables will be established connecting the eastern and western part of the country with Kathmandu. This high capacity route will provide main infrastructure for the future information need of the country.

In 1999, NTC introduced cellular mobile telephony based on the GSM standards. By mid of 2003, there were more than 70,000 mobile subscribers in 25 districts of Nepal. This has been possible with the introduction of pre-paid mobile along with relatively expensive post-paid mobile. Cellular telephony has been slow to pick up in Nepal because the high initial

investment (US $ around 666.5). The per minute charge for outgoing calls was US $0.08 and US $0.04 for incoming. It is picking up due to increase in line capacity as well as decrease of charges.

Recently the NTC monopoly over the telecom services had been broken. A company by the name United Telecom Limited (A JV of MTNL, TCIL, VSNL from India and NVPL from Nepal) have entered the telecom services market with its Wireless Local Loop (WLL) based telephone services inside Kathmandu Valley.

Internet Availability: Growth of Internet in Nepal is one of the most significant public-private partnerships. Internet growth is possible in Nepal by the support of the government and initiation of the private sector. It is estimated that there are more than 150,000 Internet users (in a population of 23 million) with all the 16 ISPs. There are more than 25 Point of Presence (POPs) in urban areas of Nepal. All the regional headquarters have a dial-up access to local POPs through local PSTN exchanges unlike one year back when remote users have to use STD lines to get Internet connection. The combined bandwidth with all the ISPs is around 25 Mbps. Some of them are using their own VSAT.

It may be noted that commercial institutions account for 30% of the Internet users followed by home users (25%), international organizations (20%), government sector (15%), and education (10%). It was also observed that large organizations and enterprises deploy leased lines/wireless links for Internet access with some banks acquiring their own VSATs. There are more than 1000 cyber cafes all over Nepal, with 50% located in Kathmandu valley. It was observed that cyber cafes have sprung up in remote villages as well (even in Everest base camps). With opening up of Internet services market, prices have fallen down. The regular Internet usage charge is US$ 0.01 per minute. These days cyber cafes are offering the service for less than half a dollar per hour.

Hardware and Software: A strong base of IT software and services companies is emerging. They are able to meet national software development requirement. A number of joint ventures have come out with US, Japan and India. Computer hardware are available from variety of vendors, such as, Compaq, Dell, IBM, Fujitsu, HP, Cannon, NEC, Acer, Epson, Toshiba etc. A number of local vendors are also assembling computers. In fact the locally

assembled computers constitute large portion of the total PC sales. An estimate of over 500 companies provide IT solutions, software services, training and local content creation.

ICT Workforce: Fours universities, namely, Tribhuvan University, Kathmandu University, Pokhara University and Purvanchal University and their affiliated colleges are offering IT related academic courses with annual intake of around 4,000 students.
It was observed that the number of colleges offering IT courses and their capacity is growing every year. A number of colleges are being opened with affiliation from foreign universities, offering IT courses. Private training institutes are now offering long-term professional training courses. Several training institutes in Nepal have been franchised to institutions from India, Singapore, UK and US.

A large pool of technical manpower is being developed but at present there is a shortage of experienced professional managers and technical experts to develop the IT industry. Most of the IT graduates are migrating to the US and other developed countries for better opportunities.

ICTs in the Workplace: Email and web site addresses are getting common in the business cards. Cyber cafes are getting popular even in remote parts of Nepal where telephone service are available. Private banks and financial institutions are the leader in implementing ICT in their works. They are the largest consumer of Nepalese ICT products like software and services. Local software companies are developing software for finance companies, banks & co-operatives. Almost 75 percent of such companies have already used finance software in their organizations. Computerization in manufacturing and other sectors ranged from 100% in MNCs to 10% in SMEs.

In conclusion, we can say that at present average score of Nepal's e-readiness is 1.73 (in 1-9 scale), with reference to the International Trade Centre (ITC) e-readiness study.

ICT POLICY DEVELOPMENT

There are three significant policies to be mentioned in this regard. They are IT Policy 2000, Telecom Policy 1999 and national ICT strategy paper of NPC.

IT Policy 2000: Leading IT personalities from the private sector, leaders in the field of education and telecommunications, leader in the civil society were invited to share their vision and strategies for national development at the IT Policy Sub-committee meetings. The discussion led to a conclusion among the stakeholders that visions and strategies shared by all should be documented prior to the formulation of an IT Policy. Six consultative groups were formed to prepare strategy papers on universal access to information, information and communication infrastructure, human resource development, software and services, on electronic commerce and electronic governance. After completion of these papers, a draft IT Policy was prepared.

The strategy papers and the draft IT Policy were then discussed at public consultation meetings attended by IT stakeholders. The final draft of the IT Policy was then prepared. Subsequently, His Majesty's Government of Nepal approved the Information Technology Policy 2000 in October that year.

Information Technology Policy 2000 has a vision *"to place Nepal on the global map of Information Technology within the next five years."* The objectives (point 3, 3.1, 3.2 & 3.3) of the IT Policy 2000 are as follows:

- To make information technology accessible to the general public and increase employment through this means.
- To build a knowledge-based society, and
- To establish knowledge-based industries.

IT Policy 2000 adopts 15 strategies to accomplish the above-mentioned objectives through rapid development and extension of information technology in a fair and competitive manner. The strategies cover wide spectrum of information technology including E-Commerce. Similarly, action plan has been drawn to implement the national IT Policy and fulfil its objectives.

Telecommunications Policy 1999: In the context that various important infra-structures for economic and social development have been set up and implemented after the restoration of democracy in the country, the need of an appropriate and qualitative (standard) telecommunications services have been felt. National Communications Policy 1992 has already been implemented to adopt the policy of liberalization in telecommunications sector for the fulfillment of this need and to develop the telecommunications service as a pre-requisite for development by having the private sector participated in the business of development and expansion of this sector. The Telecommunications Act 1997 has already been enforced for the purpose of having the service operated in a fair competitive atmosphere by the telecommunications service operators and service providers in order to speed up the process of development of telecommunications services in Nepal in line with the said Policy.

The main objective of Telecommunications Policy 1999 is to make the various types of high standard and reliable telecommunications services easily available to all areas of the Kingdom at a reasonable service charge. This is to be achieved in a fair competitive atmosphere with the participation of private sector by implementing the policy liberalization in the telecommunications sector. The policy also has the objective to develop telecommunications as a main pre-requisite for national development.

Currently Telecom Policy is being revised and new policy would be adopted in 2003 to suit expansion of of ICT application and industries.

National Strategy Paper on ICT: The Tenth Plan of the government emphasizes the development of the ICT sector to achieve overall development targets (HMG/NPC). Following are the initiatives taken by the Tenth Plan in the development of information and communication technology sector:

- Encouraging private sectors for development and promotion of information technology sector in order to eradicate poverty.
- Developing sustainable and competitive information technology by using modern technologies in the rural areas.
- Introducing new development programmes in information technology for socio-economic development

Major goals of the 10th Plan:

- Providing 40 telephone service facilities to every thousand people
- Providing telephone services in every Village Development Committee
- Developing sustainable and competitive information technology by using modern technology in the rural areas.
- Introducing new development programmes in information technology for socio-economic development
- To encourage private sectors to be involved in providing services related to Information and Communication.

WTO AND GLOBALIZATION:

Globalization has become a fact of modern life for people and nations. Globalization is no longer an option, it is a fact. Developing countries like Nepal have either to learn to manage it far more skillfully, or simply drown in the global cross currents.

Status of the process of the WTO accession negotiations:

By acceding to the WTO Nepal has become a part of the multilateral trading system. The membership will permit her to benefit and secure the markets of WTO members without discrimination for her exports. Being a landlocked country, squeezed between two big countries, both Members of the WTO, Nepal will benefit from the trading environment based on rules. As each member has equal rights irrespective of the size of the country or its economy, Nepal will not be marginalized. Necessary reforms to make her legislation compatible with the WTO agreements and strengthening her domestic institutions will lead to more predictable trading and investment environment, which can be beneficial for her economic development.

Nepal started her accession negotiations after submitting her Memorandum on Foreign Trade in July 1998. Since then Nepal answered a number of questions raised by the Members during the two Working Party meetings. She also held two rounds of bilateral

negotiations where the terms of tariff bindings in each product, commitments in services and commitments on policy, institutional and procedural compatibility were discussed. The third round of the informal consultations took place in the second half of May. To this end, Nepal submitted a new revised Schedule on Tariff Concessions on Goods, a new revised Schedule on Commitments in Services, a Revised Legislative Action Plan and Action Plans on the Implementation of the Agreements on Customs Valuation, Sanitary and Phytosanitary Measures, Technical Barriers to Trade, and Trade-Related Aspects of Intellectual Property Rights.

The objective of the Government of Nepal to accede to the WTO, at the Fifth Ministerial Meeting of the WTO, which took place in the middle of September in Cancun in Mexico was a success. The WTO Members looked very positively at the Nepal's accession, as, together with Cambodia, they are the first LDCs acceding to the WTO since its establishment.

REGULATORY FRAMEWORK

Telecommunications Regulations: The Act of 1997 established a telecom regulator Nepal Telecommunication Authority (NTA) to manage and regularize the Telecommunications Service and making it reliable and easily available to the public. All communications made using ICTs come under the purview of the Telecommunication Act 1997. Tele-density is expected to grow from 1.4 in 2003 to 3% in 2007 and 15% by 2017. Emphasis was laid on Build-Operate-Transfer mode for the new operators; FDI was allowed up to 80% of the total investment. With these, market was expected to liberalize by 2004.

An Electronic Transaction and Digital Signature Act (draft) has been prepared and waiting for approval to be promulgated. However this has been delayed as there is no sitting parliament at the moment. Significant provisions for the proliferation of e-transaction in this bill are:

- It validates & gives legal recognition to electronic documents, electronic signature and electronic transactions
- In case of dispute, it facilitates the admission of electronic documents, electronic transactions & electronic signatures as evidence

- Penalization of unauthorized access to information (computer crime)

The copyright Act 2059 has been revised to include computer software as an object of creation, which can be copyrighted. Nepal is signatory to international treaties governing the use of copyrights and patents, which include software and related services.

CONTENT AND APPLICATION

The creation, valuation, distribution and deployment of local content is all clearly central to the contributions of information and communications technologies in achieving the IT Policy 2000 Goals. At the same time, however, significant barriers continue to impede the provision of local content – in all forms -- to local as well as national, regional, and global audiences. For the most part, key barriers are due to a combination of technological, institutional, cultural, financial, and related factors.

Locally Relevant Content both in Nepali and English are available in Internet. Also Internet magazine has been started to promote the entertainment culture and provide information about Nepali film industry. The Web has given all the possible space for different languages of Nepal. Radio Nepal on the Internet can be tuned on to listen to the news on other languages as well.

Content Service Providers have emerged on the web to provide information in the shape of brochureware. Mercantile Office Systems' *www.south-asia.com* and *NepalNews.com* are very popular Internet destination serving sectors like GOs, INGOs, NGOs, news papers, Embassies, hotels, schools etc. Similarly almost all the major media houses in Nepal have web presence with contents both in Nepali and English

E-Governance: His Majesty's Government of Nepal considered deployment of e-governance applications to bring about a paradigm shift to improve interface with citizens, business and institutions. A comprehensive plan has been formulated, which would be implemented through National Information Technology Centre (NITC).

Presently, it was observed that most of the government department have been provided with computers but they are not networked with other departments making them work as stand alone systems. The newly formed HLCIT is in the process of addressing these shortcomings like networking, interoperability and portability of data to name a few. However, a number of government ministries and institutions have developed their web sites. Policy papers, Acts, regulations and government related documents are accessible from these web sites. Telephone subscribers bills, driving license and similar other service related forms could be downloaded on-line. Custom clearance procedures have been automated. Bill of loading could be found on-line through designated terminals within the customhouses.

Local software companies are developing software for finance companies, banks & co-operatives. The widely used application of computer is in accounting, payroll and communication. A few companies used IT for helping pre-manufacturing and post manufacturing process. A greater number of carpet and ready-made garment factories are using inventory and order tracking system that is custom made by different software developers. Tourism industry is ahead in the use of computers. Almost all the airlines are equipped with locally developed Airlines MIS. Hotels, travel & trekking agents are using locally developed software for their front office, back office, accounting and trekking management works. Major departmental stores are computerized while small and medium sized shops still use manual means. ISPs and computer vendors use custom software for accounting purposes but surprisingly training institutions are not making much use of it.

PUBLIC PRIVATE PARTNERSHIPS

HMG is committed to bring about the Private Public Partnership policy implementation. IT Policy 2000 is the product of Private Public Partnership. BOOT act (build, own, operate, transfer) is in place. Rural Telecenters have been proposed in 1500 Village Development Committees (VDC) through out Nepal, which will be established in Private Public Partnership model.

CONCLUSION

Over the years, there has been a significant achievement in the awareness of ICT in Nepal. ICT is regarded a tool for the social and economic transformation. Nepal now needs the contribution from ICT for Poverty alleviation and economic development of the country replication of ICT success stories from the region and sharing experiences as in such form will help for co-operation in ICT field.