NEPAL
INFORMATION COMMUNICATION AND TECHNOLOGY
JOINT ASSESSMENT BY
USAID AND THE
JAPANESE INTERNATIONAL COOPERATION AGENCY

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EXECUTIVE SUMMARY

A five-person team (two JICA and three USAID) of Information, Communication, Technology (ICT) specialists, accompanied by JICA/Nepal and USAID/Nepal representatives, conducted a baseline assessment of the availability and use of ICTs for development. The team met with almost fifty separate groups representing government, businesses, educators, NGOs and donors. The team employed the 4 "P's" ("Policy, Pipes, Private Sector and People") as the framework for its analysis.

In comparison to other developing countries, Nepal's forward-looking **Policies** properly look to a vital private sector to deliver the bulk of ICT services. The National Telecommunications Authority (NTA) is a quasi-independent regulator positioning itself to handle the demands of a rapidly growing, competitive marketplace. Competition is the norm for Internet access, training, and connection to the international Internet backbone via Very Small Aperture Terminals or VSATs and will soon arrive in the wireless and wireline sectors.

The **Private Sector** has responded to opportunities in building infrastructure, assembling hardware, writing software, training people, delivering domestic services and exporting software and services to the U.S., Europe and Japan. It has a 30% cost advantage over India and a keen awareness of the opportunity that ICTs represent. In the critical area of rural access, the government is facilitating a private sector joint venture that proposes to wire 500 Village Development Committees (VDCs) in the Eastern Region within the next two years. The National Telecommunications Corporation (NTC), previously the monopoly provider of telecommunication services is planning rural access programs in selected parts of the Central and Western Development Regions.

However, Nepal faces a number of challenges. In the **Policy** arena, further reforms are needed in providing the right package of incentives to promote private sector participation along with a clear set of guidelines to tax authorities to implement them. Furthermore, the current draft of the cyber law will need to be broadened to encompass cyber crime as well as the use of digital signatures.

In the **Pipes** arena, limited national trunk infrastructure is a significant bottleneck, as are the local calling networks in most cities. The fiber-optic line across the Terai has yet to be finalized (although it would be an ideal candidate for a private sector investment). Furthermore, cooperation between the Nepal Electricity Authority and the NTC is necessary to optimize resources as both government entities build out their trunk communications networks.

In the **People** sphere, the assessment team saw modern information and communication technology being applied broadly in the government and private sectors. They included the Value Added Tax (VAT) section of the Ministry of Finance, Income tax department, Army and Police logistics departments, and Immigration. These government units were using software programs coded by Nepali firms. Private sector banks were getting prepared for financial data networks, while the tourism and the carpet industries were seeing the advantages of e-commerce. In health, a private hospital in a valley just outside Kathmandu was exploring the technology to transmit digital images of Pap Smears for diagnosis in Germany. Universities and institutes are aware of the potential of ICT for distance education, and high quality technical training through the Cisco Networking Academies Program has been established. Informants in

most interviews showed a great deal of interest in using ICTs to enhance the skills of their workforce, whether within private business, Community Health Volunteers, or members of Women's Empowerment Groups.

Key Recommendations: USAID/Kathmandu's leadership in the application of ICTs for development would be well received in keeping with its historical role played in the development community. The assessment team identified several opportunities where modest investments would produce high impacts. Most donors in Nepal have activities that could benefit from advanced uses of ICTs, led by JICA and the World Bank, and several donors contacted expressed an eagerness to work together to bring more and better ICTs into the development arena of Nepal.

1. The most important contribution for USAID/Nepal would be to hire an ICT Coordinator to be housed at the mission. The ICT Coordinator would be responsible to help Mission staff incorporate ICTs into the existing portfolios, plan for future activities, work with the Government and private sector of Nepal, and work with the international donor community.

Interviews with mission staff revealed that many good, achievable, affordable activities that would accomplish results and could be integrated within the Mission's Strategic Plan including:

2. Specialized assistance to help the software industry meet worldwide accreditation standards;

3. Specialized assistance to help the National Electric Authority maximize the telecommunications value of its electricity distribution grid (perhaps via the USAID Utilities Partnership Program).

4. Workshops and awareness building on (a) distance education and global alliance strategies for universities; (b) telemedicine; (c) village level human resources development; and (d) opportunities in telecommunications and related services for Women's Empowerment and other village groups;

5. Monthly or quarterly seminars of donors and host-country stakeholders on the applications of ICTs for development.

USAID members of the assessment team are in the process of identifying resources and services potentially available from USAID/Washington, in the near term approximating $100,000.

INTRODUCTION

A team of three USAID funded officials and two consultants funded by the Japanese International Cooperation Agency (JICA) traveled to Nepal in April 2001 to conduct an assessment of Nepal's Information Communications and Technology sector. The assessment was part of the USAID's Asia Near East (ANE) Bureau's desire to embed Information and Communication Technologies (ICTs) throughout the ANE region. The ANE Bureau has taken the lead in working with key partners in this endeavor, including the World Bank and JICA. To this end, and as part of a series of

prior ICT assessments in the ANE region, USAID proposed a joint assessment of Nepal's ICT sector with JICA. It is the first joint USAID-JICA ICT assessment and the success of this initiative promises to have broader applications to other USAID bureaus.

Across Asia and the Near East region, ICTs are an emerging reality, but there are a number of key impediments to make ICTs everyday practices and tools for development. The US Government (USG) recognizes the critical need for its partner countries to be engaged in Internet and E-Commerce development; the ANE Bureau has adopted the 4 "P" approach to successful Internet development: Promoting (1) Policy, (2) Pipes, (3) Private Sector, and (4) People.

1.   "**Policy**" - Opening doors through policy reform to permit the introduction of ICT, reduce barriers to open connectivity, and ensure that global electronic commerce can take place in an open and transparent fashion.

2.   "**Pipes**" - Demonstrating the effectiveness of appropriate hardware and software by utilizing the latest in technology such as wireless, high-speed data transfer, secure transaction capability, extending the Internet to underserved areas, and working with private sector Internet Service Providers to offer a range of services to clients.

3.   "**Private Sector**" - Ensuring there are sufficient, well trained technicians to support the build-out of information and communication technology industries and that the private sector ICT firms (that are driving the economy) are allowed to excel unimpeded by unnecessary government restrictions.

4.   "**People**" - Implementing new approaches to sustainable social and economic development through ICT tools of the Global Information Infrastructure. It is critical that USAID's partners use the Internet as a tool for development.

NEPAL COUNTRY CONTEXT

Until the 1950s, Nepal had virtually no modern social services, infrastructure, or significant linkages to the rest of the world. Since then the country's progress has been dramatic. Roads, schools, electricity, a university system, and many of the basic elements of a modern government are now in place. Nonetheless, Nepal's needs are vast – over half of its population still lives on less than a dollar a day and many of its other social indicators are still the lowest in South Asia. Population growth, enormously rugged terrain, geographical location, and a fragile, fledgling democracy have held in check many of Nepal's attempts to become a modern nation. With the explosive growth of the ICT sector in the 1990s, another tool has become available to Nepal in its bid to alleviate poverty and perhaps enable it to leapfrog into a modern, prosperous developed society.

INFORMATION & COMMUNICATION TECHNOLOGY SECTOR OVERVIEW

POLICY PROCESS AND DISCUSSION

From what the assessment team learned, the policy making process led by the Government of Nepal (GON) was a participatory one, and key associations representing private sector groups provided inputs, although the Government of Nepal did not act on all their recommendations, particularly those involving tax relief. The policy is approximately six months old now, and the creation of implementing bodies under the Ministry of Science and Technology (MOST) is underway, although it is not publicly apparent what the timetable is. Furthermore the team heard that creation of the three main bodies—the National Information Technology Council, the National Information Technology Coordination Committee, and the National Information Technology Center—await the enactment of Nepali parliamentary legislation and a protracted schedule. In the interim, the private sector groups appear to be waiting for GON action which one high level official the team interviewed characterized as being "shy". The posture of the private sector from the team's perspective is mixed. Several groups preferred to wait and counsel the GON on the establishment of a marketing strategy for Nepal's IT sector or with the establishment of an authorized source to pronounce on the quality of IT products for export. One group was impatient but didn't really have a plan of action. Since the mechanisms for implementing IT policy were yet to be created, private sector groups lacked a forum for continued dialogue on the operational aspects of policy issues, and to some extent while most preferred to wait for the GON's next moves, they were growing impatient.

Guidelines, particularly as they pertain to the exemption from export taxes, are necessary. Their absence will prove to be an obstacle to any company choosing to export products via the Internet, as the team learned in talking to the representative of a joint venture firm conducting business using Geographic Information Systems (GIS). Local tax authorities need to be made aware of the special properties of software as export products and the concepts and use underlying the Internet. Otherwise, as in the case we heard, they will not be able to understand nor identify a product that is exported via the Internet, in sharp contrast to the traditional tangible export items (garments and rugs) and the accompanying documentation and processes they are accustomed to handling. In the case we learned, the foreign investor was ready to pull out, as the tax authorities planned to take the company to court for tax evasion, potentially leaving up to 200 Nepalese unemployed.

Telecom Policy 1999
The Telecommunications Policy of 1999 sets forth the objective of providing reliable telecommunications services to meet demand a reasonable price through the services of a competitive private sector. In order to do this the Policy:

• Brings the Nepal Telecommunications Corporation (NTC) under regulatory license (in effect empowering the Nepal Telecommunications Authority (NTA) to enforce performance, interconnection and other standards.

- Sustains the NTC monopoly in basic telephone service (domestic wireline, international telephone, telex and telegram) until 2004.

- Permits competition for fixed wireless local phones (from 2001), cellular or mobile phones, payphones, public call centers, satellite dishes, and a variety of value-added services (Internet, International data, paging, etc.).

- Permits calls to Internet Service Providers to be treated as local calls irrespective of the location, ensuring rural access once demand is created.

- Sets a universal service objective of at least two lines in each Village Development Committee (VDC) locally elected jurisdictions, through a Rural Telecommunications Development Fund. The Fund is capitalized through a levy of two per cent of gross revenues on all telecommunications service providers, and there is a requirement that each basic telephone service provider dedicate fifteen percent of all investments towards the universal service targets. The team notes that universal services strategies that fail are usually marked by a rigid, top – down, "one-size-fits-all" approach, frequently in concert with build-out requirements that are part of the national telephone service license.   Discussions with the NTC's General Manager suggested that NTC was leaning towards a more rigid solution when he discussed the organization's approaches to providing telecommunications to the VDCs in the Central and Western Development regions).

ICT Policy 2000
The information technology policy put forth in October 2000 has the following objectives:

- To make information technology accessible to the general public and increase employment

- To build a knowledge-based society

- To establish knowledge-based industries

The ICT policy outlines a fifteen-point strategy with seventeen intermediate policy steps to accomplish these aims. It also sets forth an ambitious Action Plan, focusing on private-sector leadership in infrastructure development (including Information Technology parks), research and development, technology transfer and human resources development.

Ministerial Responsibility
There are two ministries responsible for policy-making and development of the ICT sector in Nepal. They have critical complementary roles to play in developing the infrastructure and the information and communication technology that provide a platform for growth, income, and employment. One is the Ministry of Information and Communication (MOIC) that is responsible for telecommunications and its regulation, and the other is the Ministry of Science and Technology (MOST) that focuses on the promotion and development of the use of technology, including the Internet for economic and social development. Both ministries give importance to the role of

Nepal's private sector and foreign investment in developing the ICT sector, and both ministries stress the need for the sector to make communications technology and its applications accessible to the country's rural and remote areas.

A key objective of MOIC's policy issued in 1999 is to make telecommunications services universally accessible; it views this development as a prerequisite for national development. The MOIC oversees two other key organizations: the Nepal Telecommunications Authority (NTA) established under 1997 legislation as an autonomous, corporate body and the Nepal Telecommunications Corporation (NTC) that is the incumbent public telecommunications operator. Until recently, NTC held a monopoly over all aspects of telecommunications in Nepal.

The Ministry of Science and Technology (MOST) was established in May 1996, is responsible for establishing policy that affects the development of Information Technology in Nepal, and is particularly interested in Nepal's comparative advantage in developing the software industry for the domestic and export markets. Human capacity development, the availability of computers, research and development are also concerns. As a relatively new Ministry, it has promulgated Nepal's first policy for Information Technology with the active participation of private sector for-profit and non-profit groups and international think tanks based in Kathmandu.

MOST is comprised of three main elements. (1) The National Information Technology Council, an inter-ministerial body to be chaired by the Prime Minister, that reviews and revises policy. (2) The National Information Coordination Committee, to be chaired by the minister of MOST and will conduct research and ensure the development of sufficient human resources that meet the IT sector's needs while ensuring the creation of a core curriculum that addresses IT subject matter in the kingdom's educational institutions. (3) A National Information Technology Center will also be created to function as the secretariat for the Technology Council and the Coordination Committee, act as a data bank of information and assist in the computerization of government records.   It will also act as a regulator for the development of information technology.

Organization	Core Functions
Ministry of Information and Communications:	- Makes policy on communications. - Oversees the National Telecommunications Authority - Oversees the National Telecommunications Corporation
Ministry of Science and Technology: • National Information Technology Council • National Information	- Makes and revises policy on Information Technology - Conducts research, ensures human capacity development, ensures core curriculum for educational

Technology Coordination Committee	institutions
• National Information Technology Center	• Acts as data bank and as Secretariat to the Technology Council and Coordinating Committee, assists in computerization of GON records

PIPES

Nepal faces a number of other challenges in the Pipes arena. National trunk infrastructure remains a significant bottleneck, as does the local calling networks in most cities. The fiber-optic line across the Terai (the low flat lands bordering India) is still in the discussion stage after four years of assessments. The Nepal Electricity Authority and the NTC (the national phone monopoly) do not collaborate, even though both entities are building out their trunk communications networks. Long waiting lists exist for standard wireline phone service. NTC seems unable to respond to the growing challenges and opportunities that the new technologies represent (e.g. voice traffic over the Internet has siphoned away up to one-third of its international revenue in the last 18 months, although this is partially offset by much higher local calling revenue).

Backbone
Nepal has a relatively new digital network. The backbone of the network is a digital microwave link that runs from East to West and offers 20,000 voice channels. In addition, there are spurs that link the major cities and districts. Several areas of the country are served by short-wave radio or by Very Small Aperture Terminals (VSATs) for which there are no import restrictions. The main international links are via a fiber optic cable to India via INTELSAT. Plans exist to create a fiber ring around Kathmandu and an east-west fiber link running alongside the main highway. There is also a digital microwave link to Bangladesh.

Growth
Major growth has occurred since 1995 when the number of telephone main lines in use grew to 234,668, up 22 per cent from the previous year with the assistance of a World Bank loan. An important milestone was crossed in 1999 when teledensity reached one line per 100 inhabitants and yet this is far below the regional average. However, there are still more than 260,000 applicants on the waiting list and an average waiting time of more than six years. Kathmandu has a teledensity of 18.2 lines per 100 inhabitants compared with 1.07 for the country as a whole and .06 for rural areas, low densities by any standard.

Wireless
Wireless technologies offer the greatest hope for a rapid build-out of robust yet affordable ICTs. Nepal's private sector has shown itself to be quite capable of identifying and deploying the most recent technologies (e.g. Internet connectivity now stretches from Pokhara to the popular and lucrative trekking village of Ghandruk via

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line-of-sight wireless). As many of the new wireless technologies come into service the demands on the available radio frequencies grow. However, existing frequencies need to be managed more efficiently and new frequency bands need to be deployed. Nepal licenses frequencies (e.g. 2.4 GHz) that are often unlicensed elsewhere. Nepal currently refuses to allow deployment into higher frequencies (e.g. 5.9 GHz) that are needed to begin taking advantage of emerging technology and services. Currently, the Frequency Management Department (FMD) of the Ministry of Information and Communication (MOIC) is charged with this critical function. Both fixed wireless and cellular or mobile phone and data services are scheduled to arrive on the scene in Nepal in the next twenty-four months.

Spectrum Management
It is clear that the FMD will need both equipment (e.g. spectrum monitoring, topographical and tower mapping software, license tracking software, etc), training and organizational assistance and capacity building in order facilitate an orderly deployment of these new services. The GON and the World Bank are in the final stages of negotiating an IDA loan to address many of these issues.

Internet Exchange Points and Points of Presence
The private sector Internet Service providers in Nepal have taken the lead in setting up a Kathmandu Internet "Peering" network. This network links ISPs together and allows them to exchange domestic Internet traffic without sending it out of the country on expensive International satellite circuits. The ISPs estimate that ninety percent of all domestic traffic benefits from this network. They have also taken the lead in establishing points of presence (POPs) outside the capital. One leading company has set up nine POPs with another fifteen being planned. This company is also aggressively using wireless technology to bring access into the POPs from the surrounding countryside.

PRIVATE SECTOR

Internet Service Providers
In 1994, dial-up e-mail service first appeared offered by Mercantile Office Systems; in mid-July 1995 they established an online international link via NTC to Singapore Telecom. WorldLink and Computerland followed a year later. The legal status of these pioneering ISPs was vague until 1997 when the new Telecommunications Act formalized a licensing procedure through the National Telecommunications Authority (NTA). The joint JICA/USAID team heard that there are 12-14 ISPs, and there are seven pending licenses according to NTA sources. Besides providing service to residential and business users, these ISPs resell service to specialized providers such as HealthNet that subscribes to Mercantile's ISP services and in turn provides a discounted ISP service to the health community.

A major development for the ISPs was the 1999 government decision to allow them to have their own international connectivity using VSAT technology. This increased international Internet band with from 320kb in May 1999 to over 5MB by the end of 1999. This step toward market liberalization has transformed the market.

Users

The estimated number of Internet subscribers is 25,000. Total Internet users are estimated at 100,000 (generally the ratio is one subscriber per every four users, not including tourists). The team heard that a majority of users in Nepal are primarily utilizing e-mail rather than full-blown Internet services because of speed, access and cost issues.

Tariffs

The liberalization of the VSAT market and the entry of new ISPs have reduced substantially the prices for dial-up access to the Internet. According to the International Telecommunications Union (ITU) November 2000 report titled "The Internet from the top of the world: Nepal Case Study", Nepal had the lowest dial-up Internet tariffs (at roughly $15 per month for unlimited access and $.50 per hour for local calling charges) in the South Asia region based on 15 hours of monthly use, the most common entry level plan in the region.

With respect to Internet usage, while the Telecom Policy of 1999 states that all calls to Internet Service Providers are to be treated as a local call irrespective of the distance called inside Nepal, this is yet to be implemented.

Cybercafés

Cybercafés are an efficient way to provide affordable access to poor and middle class neighborhoods. They are quite prevalent in most high traffic areas such as the main tourist zones but also increasingly in neighborhoods. A typical Cybercafé will have from two to ten networked computers, with Internet access via dial in telephone lines. The NTC appears willing to provide lines as needed to support these entities. Consumer prices range up to $3 per hour in the Kathmandu and Pokhara areas.

Investment Climate

The overall policy climate for domestic or foreign private sector investors is a mixed bag of incentives and disincentives. For foreign investors in the IT sector, the GON has established a one-window policy through the establishment of a Foreign Investment Board, an interdisciplinary group comprised of the main operational ministries. With the creation of a single organizational entity bureaucratic hurdles to obtaining necessary licenses for foreign investment in Nepal, including in the IT sector, are reduced.

Foreign investors also are eligible for accelerated depreciation of their assets and are able to repatriate earnings. Apart from these policies, the Ministry of Science and Technology (MOST) also believes the creation of an IT park will serve as a major inducement to both foreign and domestic investors in the IT sector. Proponents of this concept argue that an IT park would have a dedicated power supply, access to high-speed connectivity, and broad bandwidths. GON officials note that India adopted a similar concept that it is believed to have led to the phenomenal success of the IT industry there. However, the Nepali private sector reaction to the idea is less than enthusiastic and is somewhat cautious, as they do not see the added benefit of the concept. They acknowledge that the GON will proceed in implementing the concept, as much time and resources have been invested in the purchase of land and the formulation of a feasibility study.

Tax incentives for Nepali firms apply primarily to computer training institutes that have a five-year tax holiday, an incentive that does not exist for software developers and ISPs. It is not surprising therefore that one of the training institutes the assessment team visited is experiencing exponential growth. Established in 1997, with twelve students and five borrowed computers, a year later it grew five times, and today, it has nine training centers in other parts of the country. The assessment team learned that there are several hundred computer training institutes now operating in Nepal.

Whether the company trains in the use of computers, develops software, or is an ISP, representatives acknowledge the benefit of the accelerated depreciation of assets at a rate of 50% per year. There are also no limits on exports, and the export tax is only .5% of export earnings which are to be used in support of the IT Board which the assessment team assumes is the National Information Technology Council.

In contrast to the owners of training institutes, software developers and ISPs are disappointed that the new ICT policy put out by MOST lacks tax holiday provisions that apparently GON participants in the policy deliberation process had promised. Adding insult to injury, ISPs and software developers are subject to a 6% tax on gross revenues, on top of a VAT of 10%. The software and ISP private sector groups see no rationale to the gross revenue tax with perhaps the exception of 2% that supports the Rural Telecommunication Development Fund. However, how this fund will be managed and who benefits is not clear. They say that if the 2% were used to support the industries in much the same manner as other sectors that bring in foreign currency, such as the Tourism Development Board, they are supportive of such a tax.

Marketing of Services

Other policy constraints include the absence of a GON ICT software certification and national marketing strategy. The establishment of a certifying authority to attest to the quality of software developed in Nepal and the establishment of a venture capital fund would help to get software developers started. Nepali private sector enthusiasm for its potential to find a market niche in the IT sector was tempered by its recognition that the quality of its products for export would be an overriding factor in establishing a solid reputation for the industry. No public or private certifying body exists to provide this assurance to foreign (or even domestic) markets. As to the availability of capital, the team heard on several occasions that Nepali banks do not understand the IT sector, are unaware of the sector's potential for economic growth, and are therefore extremely risk averse in lending to the sector. Unless GON bank policies change towards software groups or venture capital funds are available, the rapid growth of the IT sector as envisioned will be hampered.

Human Capacity Development

There are four universities with annual intake of more than 1,200 students in IT alone. At the high school level there are 8,000 students who appear for the School Leaving Certificate examination in computer science. Additionally, there are 200 schools that offer computer courses mostly largely in the basic application of Word Processing. The revised high school curriculum that now includes an additional two years beyond grade 10, known as 10+2, has provisions for optional computer

science courses. Lastly there are an estimated 1,000 computer training institutes, some which are affiliated with India, Singapore, and the UK.

Tribhuvan University is the largest higher education institution in Nepal and has an extensive national system with 61 constituent and 157 private affiliated campuses around the country. Approximately 150,000 students are enrolled. Only three of its nine institutes offer an IT education program equivalent to a two-year associate degree in the US. Each graduates 20-50 students per year. In particular, the Institute of Engineering has established a Center for Information Technology at its Patan campus with World Bank assistance. This is perhaps the most technically advanced computer network facility in Nepal and is the locus for Cisco's academy. It has a VSAT running with a 64KB uplink and 128KB downlink to ThaiCom. Faculty at all three institutes are limited in number.

Based on information provided to the team, Kathmandu University graduated 48 students in computer engineering and 24 in computer science in 2000. There is no permanent staff yet to teach information science in the coming year, but university officials are confident that faculty from Norway, the US, and India can fill a gap until they acquire their own permanent staff. As a private institution of higher learning, Kathmandu University enjoys an excellent reputation among the donor community and among the Nepalese who believe this institution has the potential to become Nepal's equivalent of an MIT.

The assessment team heard from government policy makers, higher education officials, and private sectors representatives that Nepal's intellectual capital in the IT sector is "voting with its feet" and exporting its talent to software companies in India, Europe, or the US. Trained engineers or talented and experienced software developers see little opportunity for high value employment in Nepal and inevitably seek external markets for their services. The problem of enticing non-resident Nepalis (NRNs) to return home is a significant planning challenge for the country. Nepal also faces a challenge in developing an estimate of how many NRNs with IT talent exist and where. Later in the report in the section on recommendations, the team recommends limited funding be provided to conduct a survey that examines the universe of Nepali IT talent. Computer training institutes, software companies, and university professors are acutely aware of the positive role that women can play in the development of IT talent; and in the case of Kathmandu University, one-fourth to one-third of the 1,500 student body on the Dhulikhel campus are women. Software companies and computer training houses value the women professionals because of the continuity they provide. They are more likely to remain in Nepal than their male counterparts.

Human capacity planning for the sector recognizes the enormous challenge for Nepal to produce trained human resources for growth of the IT sector at a point when the assessment team believes the country has entered the IT market somewhat late. Manpower needs are not known, but the GON's vision is ambitious in aspiring for computer education to all by 2010. Specifically computer education in secondary schools will become compulsory over time in phases. Concrete planning is imperative if Nepal is to find a niche in the IT sector that maximizes its comparative advantage.

PEOPLE

Public and Private Sectors

Of a list of thirty government and semi-government organizations use of ICT results varied and seemed to focus on personnel, billing and accounting, inventory control, and management information systems. While this information suggests an awareness and application of computer technology, use of the Internet was limited. Of note is the administration of the VAT system is being implemented in 17 districts and is electronically linked to the National Treasury. Income tax is next on the government agenda. Army and Police logistics and Immigration are being computerized. (In all of these cases, Nepali firms coded the software programs).

Within the GON, there appears to be a split with respect to the capability of the Nepali private sector and the value of outsourcing IT related projects. As noted earlier, the Assessment Team identified several noteworthy examples of outsourcing. On the other hand, the Nepal Rastriya Bank (NRB), the central bank, plans to recruit a staff of new hires for its IT section to automate the bank's operations. In the opinion of the NRB official, the Nepali private sector was not capable of meeting the needs of the bank and that outsourcing was not a viable option.   Similarly, the Central Bureau of Statistics (CBS) also believed that statistical software it needs requires highly specialized software development for which there are no trained programmers in Nepal. The CBS does use the US Bureau of Census Integrated Micro processing System for agricultural statistics, and accesses its on-line technical assistance support services. Networking with other ministries that depend on statistical data for planning was only just beginning.

Although several government interviewees were aware of the Internet and its information potential, there wasn't widespread use of this tool for conducting business. E-mail was the use of choice where networks existed, but in most cases that was lacking. However, the IT policy calls for widespread use of computers within government offices over the next three years, and furthermore websites for all ministries, departments and district offices (75 districts) will be created within a year. This is a very ambitious schedule for the fledgling Ministry of Science and Technology that was encountering difficulties in launching its own website at the time of the team's visit.

In the private sector, Lumbini Bank Limited, is setting up a secure financial data network linking all of its branches and some of its major industrial customers, and the tourism and carpet sectors are exploring e-commerce solutions. In health, the privately owned Dhulikhel Hospital is transmitting digital images of Pap Smears for diagnosis in Germany (albeit for a research project only). In education, several universities and institutes showed substantial awareness of the value and leverage of technology for distance education, and Cisco Systems recently established academy will train several hundred computer networking specialists a year.   Private sector training firms are booming, although all of the employers report a substantial problem of "braindrain" to the west and to India as mentioned above.   Informants in most interviews showed a great deal of interest in using ICTs to enhance the skills of their workforce, whether within private business, the Community Health Volunteers, members of the Women's Empowerment Groups, or any other sector.

USAID Partners

The proposed program level for USAID/Nepal for US fiscal year (FY) 2001 is $20 million plus with 80% to be allocated for earmarks in family planning, maternal child health (MCH), HIV/AIDS, and infectious diseases. The remainder or 20% of the portfolio is proposed for private sector hydropower development and democracy and governance. The USAID mission implements its programs through a variety of US PVOs Nepali NGOs, and for-profit US organizations. Discussions with USAID staff demonstrated widespread use by mission partners ICT tools—networking, Internet, management information systems. This was true among Nepali organizations as well but less so. CARE, Chemonics, Save the Children, Pact, John Snow Inc., World Education and New Era (a local non-profit), International Resources Group (IRG), Center for Development and Population Activities (CEDPA) are among the partners actively using ICT tools for effective implementation. The rugged mountain terrain and the difficult access posed to most rural areas make it imperative for Kathmandu based offices of USAID's partners to communicate with its staff in remote areas. CARE in particular faces one of the more difficult challenges in communicating with its professionals in the far western districts of Bajura and Bajang, using e-mail correspondence and financial reporting. CARE professionals in these offices are quite resourceful and have taken advantage of Internet to enroll in distance learning courses with the American Management Association increasing their skill level to further advance the implementation of CARE programs.

RECOMMENDATIONS

POLICY
1. Rural Access/Universal Service Obligation assistance
2. Reform tax structure for ICT services, e.g., 4% royalties, custom declaration
3. Additional Round of Cyberlaws, e.g., cybercrime, digital signature
4. Spectrum Management Assistance
5. Support for the Independent Regulatory Agency NTA
6. Send Public and Private Sector to ANE Asia Policy Workshop
7. TDY to Tunisia to learn about Telecom pricing reform
PIPES
1. Share case-studies on hi-technology parks
2. NEA + NTC Cooperation
PRIVATE SECTOR
1. Establish International quality software export standards
2. HCD Survey to measure ICT sector, determine trends, and improve
3. Sector Services Survey
4. Establish incubator/NRN links
5. E-Gov procurement pilot for private sector tender
6. GTN (and similar) intl. programs/ Establish domestic marketing association
7. Capacity building marketing e-services and project management
PEOPLE
1. Increase Gov and private sector awareness on digital divide issues
2. Host donor coordination conference focusing on applications
3. SO partner Internet readiness assessment and TOT
4. ICT for community groups (i.e., replicate micro-credit success)
5. H-MIS and L-MIS ICT feasibility study and strategy

6. Broker link between environmental journalism NGO @ WorldSpace
7. Host workshop on distance education strategies in higher education
8. Host workshop on University to University partnerships
9. K10+2 pilot focus with Dept. of Education
10. Establish "Open University" capacity for K10+2 with Dept. of Education
11. Judicial and Parliamentary strengthening
12. Disaster management assistance
MANAGEMENT AND COORDINATION
1. Hire an ICT Coordinator and create Mission "I-Team"
2. Send USAID/Kathmandu ICT Coordinator to ANE Coordinator workshop
3. Create a Donor "I-Team"

POLICY RECOMMENDATIONS

1. Rural Access/Universal Service Obligation Assistance

The USAID team recommends technical assistance with Fund Management and "Bottoms-Up" Community Telecom Mobilization. The National Telephone Cooperative Association (a U.S non-profit owned by the 535 locally owned small telephone systems in the U.S.) (www.ntca.org) has a considerable amount of international experience in this area and in strategies for managing universal services funds and could provide the requisite Technical Assistance for modest sums.   Potential donor cooperators include JICA or the World Bank and USAID, as the latter two have a similar cooperation underway in Nigeria.

Universal services approaches that succeed are usually helped by a "Bottoms – Up" strategy that offers a flexible menu of capital, technological, managerial, ownership and governance options based on the needs and capacities of communities.   A private sector firm that recently won a government tender to provide rural access to 500 VDC's in eastern Nepal has expressed an interest in learning more about these approaches.

2. Reform Tax Structure for ICT Services

The team recommends technical assistance focused on the effect (i.e., incentives or disincentives) of taxes imposed, given the "youthful" nature of the Nepali IT industry and the cutthroat nature of competition, both among service providers and software and other exporters. A clear analysis, coupled with a review of the best practices elsewhere, would provide all of the stakeholders with accurate information and assist them to formulate and implement policies appropriate for the information age.

The Nepal government assesses a two per cent tax on all telecommunication services in order to capitalize the Rural Telecommunications Development Fund. It also imposes an additional four-percent "royalty" on Internet access services, along with the ten-percent VAT that supports the general treasury or the operating costs of the NTA. Technical assistance provided would help Nepal devise the most appropriate tax structure that meets policy objectives, Nepal government revenues, and growth of the ICT sector.

3. Additional Round of Cyberlaws

The team recommends that modest amounts of technical assistance be provided to assist in drafting amendments to the current cyber-law that is currently awaiting enactment. The law is limited to the payment process and little more. It authorizes a payment gateway, an authentification gateway and the ability to run ATM networks. It does not cover other critical cyber/commerce issues such as cyber crime, digital signature and myriad other elements that will enable a secure and robust e-commerce to develop.

4. Spectrum Management Assistance

Wireless radio spectrum is a critical national asset. To optimize the use of this resource, the Frequency Management Department of the MOIC will require both enhanced analytical and policy making capacity as well as increased technical capacity. Given Nepal's terrain, accurate mapping data and sophisticated software will be required to appropriately manage this resource. Fortunately, the World Bank and the GON are in

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the final stages of negotiating an IDA loan focused on building the capacities of the FMD in all of the above-cited areas.

5. Support for the Independent Regulatory Agency NTA

The Federal Communications Commission describes the three challenges of the regulatory mission: (1) Promoting fair competition; (2) Managing scarce resources efficiently; and, (3) Promoting the public interest where the market may not. The FCC goes on to identify six "core competencies" that characterize an effective regulator: (1) Licensing; (2) Rulemaking; (3) Enforcement and Adjudication; (4) Management of Scarce Resources; (5) Approval of Equipment; and (6) Establishment of Standards.

The NTA is quite aware of its mission and the core competencies that it needs to develop. It is in the process of negotiating an IDA credit to obtain technical assistance. It could also benefit from participation in USAID sponsored regulatory capacity building activities that are taking place. (For example, see recommendation six below or the joint program between the Africa Bureau and G/HCD that is developing model regulatory codes, tariff structures and course modules on a variety of the core competencies discussed above.) It is recommended that the Mission ICT coordinator be charged with making these resources available to the NTA and other stakeholders on a regular basis.

6. Participation in ANE Asia Telecom Policy Workshop

The assessment team strongly recommends that three to five Nepalese attend USAID/Asia Near East's conference on telecom policy scheduled for June 18-21, 2001.The telecommunications policy and infrastructure environment in Nepal has evolved rapidly over the past two years, due in part to the willingness of Nepali officials to draw examples and lessons learned from around the world. The USAID Asia/Near East Regional ICT program and the Global Bureau will be sponsoring a major conference designed to foster cross-border sharing of successes and lessons learned with respect to ICTs and their contribution to development.   An additional benefit of such a conference is the support it lends to the harmonization of telecommunications policy approaches across the region, making for a more predictable and investor friendly environment. The World Bank has offered to finance the participation of key Nepalese stakeholders at this and future conferences.

7. Study Tour to Tunisia to learn about Telecom pricing reform

The assessment team recommends a study tour to Tunisia by leading Nepali stakeholders from Government, private sector and the telephone company to learn about alternative Internet pricing strategies. The World Bank has signaled its willingness to finance such a study tour if USAID will arrange it.

Nepal's Internet access market is highly competitive and has resulted in some of the lowest Internet subscription rates in the region. Local calling charges are also relatively low, but taken together the cost of Internet access is still high. The ISPs rightly feel that they are generating a substantial amount of revenue for the NTC (estimated to be as much as NR100 plus million per year). The Government of Tunisia, as part of its commitment to bringing the Internet to its people, has devised an innovative revenue sharing strategy that serves as an incentive for ISPs to lower their prices in order to enroll additional subscribers. The local phone monopoly returns ten per cent of the local calling revenue to the ISPs whose customers

generate it, and the ISPs have responded by steadily lowering their monthly subscription rates.

PIPES RECOMMENDATIONS

1. Share Case-Studies on Hi-Technology Parks
The team recommends that case studies of the experience of hi-technology parks in other countries be shared with officials in MOST whose plans are in motion for the establishment of an IT park in Banepa. The Indian and Tunisian governments have had considerable success in supporting such parks. Visits to successful parks should highlight the factors that have led to success and offer insights into the potential causes of failure. ANE's SOW for a hi-technology park review in Tunisia as well as the Gaza/West Bank hi-tech park design has been shared with the Mission.

2. NEA + NTC Cooperation
The USAID team recommends that technical assistance be explored from the USAID Utilities Partnership Program which has the capability to assist the NEA and its potential collaborators identify ways that the NEA's fiber optic cable can be maximized to a variety of users.

Worldwide, utilities are beginning to converge in their ability to provide information and communications services. Electricity, gas and oil pipelines and railroads require sophisticated information and communication networks to properly manage their far-flung networks. In deregulated markets they are rapidly using this capacity to offer ICT to a broad range of customers. In Ghana the Volta River Authority is using it's the optical fiber network running along its transmission lines to form a high capacity national fiber backbone. In Bangladesh, the telephone company uses railway right-of-way to build out its fiber backbone to support the highly successful Grameen cellular phone program. In Nepal, the National Electricity Authority (NEA) is running fiber optic cable along its distribution grid, but there is much room for increased collaboration between its efforts and those of the NTC and the Nepalese private sector.

PRIVATE SECTOR RECOMMENDATIONS

1. Establish International Quality Software Export Standards
The USAID team recommends a modest amount for technical assistance to one or two private sector associations to establish a program of quality assurance that will serve to certify the quality of Nepal software products. Similar to the "Good Housekeeping Seal", these provide an assurance to potential customers that software produced in Nepal meets international quality standards. Alternative programs include the ISO 9000 series or the Capability Maturity Model (CMM) available through the Carnegie Mellon Software Engineering Institute. Savvy private entrepreneurs recognize that if Nepal doesn't establish its reputation quickly for providing quality knowledge products, it will loose its opportunity to establish its niche in the software market.

2. Human Capacity Development Survey

The team recommends that USAID and JICA fund a survey that identifies the numbers of Non-Resident Nepalis (NRN) their location, the factors that have led to their departure, and the incentives that would motivate their return or investment in Nepal's hi-tech sector. This information would provide a credible set of numbers, inform GON policy on retention strategies, and identify potential sources of investment capital.

3. Sector Services Survey

For Nepal to be competitive, there needs to be a regular review of the IT products being developed and sold internationally. To date, no entity in Nepal has been able to perform this for the IT industry, although it is the norm in the carpet industry or in ICT industries elsewhere such as in India. (See India's NASSCOM sector assessment at www.nasscom.org).

4. Establish incubator/NRN links

Even though LOTUS HOLDINGS is in the process of establishing an incubator in Nepal which would greatly assist small Nepali companies, the team recommends that additional information be gathered concerning the availability of incubators based in San Jose, California (or other locations) to support the nascent software industry in Nepal. There is an Austin, Texas based company named IC Squared that has worked with USAID in Armenia and according to their website have worked/developed incubators in forty or more countries. Contact information is Bob Ronstad, Telephone 512-475-8927 and email is <rr@icc.utexas.edu>.

5. E-Gov procurement pilot for private sector tender

The assessment team recommends explore workshop opportunities with the U.S. General Services Administration (GSA). E-Government consists of a variety of government services and functions, from voter registration to tax administration to procurement. The GSA is a leader in the establishment of electronic acquisition and reporting systems. For a modest cost, the GSA would probably be able to deliver a very effective series of workshops on this topic for the ICT and e-government stakeholders in Nepal. The Program Executive for Electronic Commerce at the GSA is Mary Mitchell <mary.mitchell@gsa.gov> (www.ec.fed.gov).

6. Establish domestic marketing association

The team recommends that USAID/Kathmandu contact the Global Bureau if interested in bringing the Global Technology Network (GTN) to Nepal. GTN is a USAID program aimed at matching the technological needs of companies in developing countries with solutions from small- and medium-size U.S. companies. GTN uses the Internet and a network of in-country coordinators to facilitate the transfer of technology and services from the U.S. to countries worldwide through the dissemination of trade leads via e-mail. U.S. companies may register with GTN to receive trade leads for free. GTN focuses primarily on four industry sectors: Agricultural Technology, Communications & Information Technology, Environment & Energy Technology, and Health Technology. This service could be very effective at introducing Nepal firms to potential customers in the United States.

7. Marketing Nepal's E-services

The team recommends technical assistance from USAID or JICA to assist the GON and local industry groups – Computer Association of Nepal (CAN), the Internet

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Technology Professional Forum (ITPF), the Internet Service Providers Association of Nepal (ISPAN) – to develop a marketing strategy to attract foreign investment. The strategy would emphasize Nepal's comparative advantages in trained software developers, highly competitive labor rates, a facility with English, and a difference in time zones that allows work to be conducted and delivered while the west is asleep. Nepal has had a successful marketing program that promotes the country's carpets and tourism, models that might be applicable to the IT sector under the guidance of an experienced consultant with a wide network of US contacts.

PEOPLE RECOMMENDATIONS

1. Increase Gov and private sector awareness on digital divide issues

Leaders in the ICT sector, both public and private get high marks for their awareness of and enthusiasm for ICTs. But, they universally characterized their institutions and colleagues as generally unaware of the power and capabilities of the currently available ICTs.   They recommended that some form of on-going awareness building program be established and supported, through the Public Affairs Office of the U.S. Embassy and in coordination with other stakeholders in the sector.

2. Host Donor Coordination Conference on ICT Applications

The team recommends that USAID take the leadership in hosting a donor conference that emphasizes the application of ICT tools for development purposes. The team met with a limited number of donor representatives who included JICA, WB, GTZ, Australian aid, and UNDP officials. Each group recognizes the power of ICT and the Internet as a tool for development, but the team's sense was that individual donor successes weren't being widely shared such as CARE's experience with its staff in using the Internet for distance learning on managerial topics. A related recommendation is that the donor group co-chaired by the World Bank and the UNDP establish a sub-group, team, or committee that has as its principal agenda the coordination of IT programs and the sharing of experiences.

3. Internet readiness assessment and Training of Trainers

The USAID team recommends that USAID conduct an assessment of the degree of Internet readiness among the indigenous partners with whom USAID's own partners work with to implement programs. The USAID team heard from several USAID US partners on their use of ICT tools for communication by e-mail and for required reporting, attesting to the tool's communication and efficiency potential. Each partner indicated that in specialized circumstances, passing on ICT tools to their counterparts represents the next generation in ICT application but lack information on how and when to do this. An assessment of the readiness of indigenous partners would provide useful information on related infrastructure, training, and access issues which could be factored into future program design of mission programs where ICT components are packaged as a critical set up of inputs. USAID's Leland Initiative and the Academy pioneered this activity for Educational Development. Please visit www.usaid.gov/leland/manual.htm

4. ICT for community groups (i.e., replicate micro-credit success)

The team recommends that the mission sponsor (in concert with other donors, if possible) a workshop or series of workshops to review and diffuse the best practices with respect to the value and use of ICTs at the community level.

Information and communications technologies have the potential to facilitate development at the community level. They permit much better flows of information among the parties to all development activities, whether social, political or economic in nature. Telecommunications and related services themselves are an important economic activity.

5. H-MIS and L-MIS ICT feasibility study and strategy
Both the Health Management Information Systems and the Logistics Management Information Systems are obvious targets of choice for applying the new ICTs in development. USAID has a considerable amount of experience in these areas, and it is recommended that the mission implement a feasibility study on this topic. The ANE ICT Coordinator and the AFR Leland Coordinators may be able to identify model scopes of work and related information to assist with this process.

6. Broker link between environmental journalism NGO and WorldSpace
The assessment team recommends that USAID provide a no-cost introduction to WorldSpace. WorldSpace is an U.S. corporation broadcasting digital audio programs directly from a satellite over Asia. Due to its location, the CD- quality satellite radio programming can be received virtually anywhere within Asia by special receivers. Since the signal is digital, multi-media programming or Internet data can also be transmitted via this satellite, downloaded from the radio into a computer and then used for its intended purposes. Thus, lesson plans, training materials, and other digital programming can be cheaply and efficiently distributed to the remotest corners of the country. It is also an effective way to distribute content for rural FM radio programming such as by broadcast by the environmental journalists.

7. Host workshop on distance education strategies in higher education; and,
8. Host workshop on University-to-University partnership strategies.
As in most sectors and endeavors, education is globalizing. Alliances among universities across continents and oceans are forming regularly for the purposes of better teaching, service and research. Developing country universities, with their well-trained staff and lower cost base, represent a potential comparative advantage in the global education trade. For example, with the appropriate institutional arrangements and currently available technology a Sanskrit professor located in Nepal could effectively deliver a course to U.S. university students at roughly one-tenth the cost of a U.S. based professor. Similarly, a course on financial management can cheaply and efficiently be delivered to the employees of NGOs, as is the case with two CARE employees based in Bajhang, west Nepal, who are taking a distance education course from the American Management Association. In the technology sector, a consortium of firms has established a catalog of 700 courses that can be accessed on-line, and Cisco Systems is sponsoring its Cisco Networking Academies Program to train computer networking specialists.

However, the effective use of distance education requires the development of a concerted strategy, one that takes into account the comparative strengths and weaknesses of the institution, its strategic framework and the available technologies. U.S. organizations, and particularly the community colleges, have been particularly aggressive in pursuing distance education strategies, and in building alliances overseas. It is likely that experts from U.S. community colleges would contribute their labor and deliver a workshop and further training on distance education strategies for only the costs involved, pursuing opportunities for alliances.

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In addition, University semester abroad programs are occurring, bringing a revenue stream and intellectual enrichment to institutions on both sides of the partnership. For example, the Institute of Forestry in Pokhara hosts a semester abroad program that generates approximately $75,000 in revenue each year for the Institute and its surrounding community.

9. K10+2 pilot focus with Dept. of Education; and,
10. Establish "Open University" capacity for K10+2 with Dept. of Education
Given the rapid pace of technological development and the limited enrollment capacity of the formal education system, most education experts emphasize the need for life-long learning and relatively easy access to instruction and courses. The key to this is a shift from formal enrollment for prescribed courses of study to an "open university" approach wherein students can access courses and/or training as they need and can afford it. This type of service can most easily be accomplished by offering both on-site enrollment and distance education options.

Over the medium term, the Department of Education sees its mission evolving to offer such types of services. It also sees its mission evolving from purely radio education teacher training to other types of services and functions. The Department sees itself as an institution that could serve to develop and pilot such approaches, for later incorporation by other education institutions. This capacity could be developed through "partnerships" with U.S. community colleges and schools of education.

11. Judicial and Parliamentary Strengthening
The USAID team recommends that the mission consider along with JICA joint support, administrative strengthening of Nepal's Supreme Court. The Supreme Court and its countrywide jurisdictions reviewed 142,000 cases according to the 1999-2000 annual report, and key IT interlocutors told the team that the court has a disposal rate of less than 50%. A large backlog is conducive to corruption and undermines judicial integrity. The Supreme Court system lacks the hardware, software programs, and trained staff to overhaul dramatically the administration of justice, promote transparency in government, and further democratic objectives.

12. Disaster management assistance
The use of ICTs in Disaster Preparedness, Mitigation and Recovery is an area wherein USAID has a comparative advantage. Nepal based Bill Berger has already written a proposal for USAID-GOJapan cooperation with Disaster Management. The Mission recommends this proposal for support.

MANAGEMENT AND COORDINATION RECOMMENDATIONS

1. ICT Coordinator and Mission "I-Team"
The assessment team recommends the identification of an ICT Coordinator, to be housed at the mission. This would be a local hire senior FSN level staff member who would work with a mission I-Team (Information Team) to identify next steps for the mission's strategic objectives, work with the balance of the U.S. Country Team and ANE to harvest resources and services, and most important, serve as an informal donor ICT coordinator within the Kathmandu Valley. Interviews with mission staff revealed many good, achievable, affordable activities that would accomplish results within the Mission's

strategy. An I-Team comprised of volunteer representatives from each Strategic Objective team and the other operating elements of the mission (EXO,CONT, Director's Office, Program) would meet on a regular basis to develop mission strategies, identify training needs and opportunities, prepare pilot projects to test new approaches with ICTs and the like. The USAID members of the assessment team are in the process of exploring a number of resources and services that might be available from USAID/Washington, which in the near term approximates $100,000, to fund potential activities.

Finally, a Mission I-team could be an effective and visible vehicle for designing and implementing activities under USAID's new Global Development Alliance (GDA). ICTs have shown themselves to be a very fertile arena for attracting non-traditional partners and levering additional resources, hallmarks of the emerging GDA.

2. USAID/Kathmandu ICT Coordinator Attends ANE Coordinator workshop

USAID has been working in the field of Information and Communication Technologies (ICTs) since 1995. Over this time period, it has developed several strategies to incorporate ICTs into Mission development portfolios and has created a variety of programs that use ICTs as critical tools for development. Across the years and regions, Missions have responded with a variety of programs. With the belief that Missions, both those with and those without ICT programs, can benefit from directly learning from those individuals who have led efforts to incorporate ICTs for development, the ANE Bureau proposed to gather its ICT coordinators in Jordan in October to discuss ICT strategies. The presenters will chiefly come from USAID ANE Missions with select presenters coming from Washington, Amman and elsewhere throughout the region. The goal of the workshop is that the ICT Mission managers can go back and incorporate one, or more, of the case studies discussed at the workshop into their development portfolios. The ANE Bureau will cover the cost of the conference; each Mission is requested to cover the cost of the travel.

3. Create a Donor "I-Team"

Most donors in Nepal have activities that could benefit from advanced uses of ICTs, foremost among them being JICA and the World Bank. Almost all donors expressed an eagerness to work together to bring more and better ICTs into the development arena of Nepal. Most donors recognized that USAID was often in the forefront of these types of activities and it was clear during the meetings that USAID leadership in this area would be well received.

In the case of the GOJ and the WB, both donors, while "cash-rich," do not have local ICT coordinators. The World Bank is implementing a $29 Million telecom policy program and the GOJ, through JICA and the Japanese Ministry of Foreign Affairs have analyzed Nepal (in independent surveys) and are looking to commence ICT activities. If USAID/Kathmandu provided an ICT coordinator, they would be able to not only partner more effectively with the GOJ team and the World Bank, the USAID funded ICT coordinator could assist in the implementation of Donor based ICT interventions consistent with the goals of the USG effectively leveraging Millions of dollars in ICT support!

CONCLUSIONS

The ICT needs in Nepal are large, identifiable, and achievable with modest sums. However, the team recognizes the mission's constraints by which financial resources are difficult to obtain with most of the limited mission OYB funding for Nepal earmarked from the health accounts. In light of these constraints, several activities are possible.

1. The ANE Bureau is in the process of exploring using $25,000 from its core ICT budget (of $200,000) if USAID/Kathmandu agrees to allocate additional resources (such as hiring a local I-Team Coordinator).

2. Donor to Donor collaboration is imperative. Not only are the large (and small) donors interested in achieving similar results (e.g., telecom policy reform, people based ICT solutions, etc.), but also collaboration produces greater results with fewer resources.

3. USAID/W and Kathmandu has to look for targets of opportunity. The Global Bureau indicated willingness to provide resources to promote rural access (see 1st Policy Recommendation). In areas where USAID/Kathmandu has resources, (i.e., the Health Program), activities could be sponsored to promote the use of ICTs and development (the 5th People Recommendation focusing on H-MIS and L-MIS).

4. Some of the recommendations for USAID/Kathmandu are achievable. For example: (a) An ICT Coordinator can advance ICT activities and USG interests for a modest investment (around $15,000); (b) Software industry accreditation can help impact Economic Growth in a fertile sector (around $25,000); (c) Assistance to NEA to maximize the telecommunications value of its electricity distribution grid can widen the use of the Internet particularly in the rural parts ($50,000); (d) Workshops and awareness building on a variety of topics can advance USAIDs broader goals of improved health, education, opportunities in rural areas, and women's empowerment ($25,000 per workshop); and (e) Donor coordination can leverage support from those who have significantly greater financial resources than USAID, but don't have the fifty year solid relationship that the USG enjoys with the Government and people of Nepal.

The team wishes to thank the entire Mission staff for their support while the ICT assessment team was in Nepal, allowing for the first USG-GOJ joint ICT assessment to take place. The team hopes this visit will pave the way to support the new Information and Communication Technologies as tools for Nepal's continued development.

ANNEX A: LESSONS LEARNED FROM THE JOINT USAID-JICA ICT ASSESSMENT

This joint assessment was precedent setting. In the field, planning was highly collaborative between JICA and USAID and represented a convergence of interests in the ICT sector. Furthermore, there was a positive dynamic between the USAID funded and the JICA funded teams that functioned as one assessment unit. Some of the key lessons learned are:

1. A minimum of two months advance planning is necessary for overall preparation, background reading, and contract preparation.

2. Local USAID and JICA representatives must meet as many times as their schedule allows (minimum twice) to plan an itinerary and schedule for a successful assessment.

3. It is helpful to have Tokyo and Washington based USG and GOJ actors interacting to obtain a common understanding of the objectives of a joint assessment.

4. Both teams must start on the same date, as was the case with this assessment. The slippage of a day might be justified, but more than a day puts the late starting team at a disadvantage. It would have been extraordinarily difficult to integrate the JICA team had it arrived a week later as had been originally planned.

5. One professional from each local office (i.e., USAID/Kathmandu and JICA/Kathmandu) to accompany the team to most meetings is a good idea to build field mission ownership and provide continuity.

6. Two weeks is the minimum for a joint assessment, and in places where logistics are difficult such as in Nepal, three weeks is ideal. (It is noted that the GOJ teams generally stay out seven to ten days).

7. It is useful to have resumes, CVs, bio-data of the assessment team members in advance.

8. As much as possible background project reports, policy papers, studies should be exchanged and shared in advance of arrival.   This practice puts the team members on the same footing and gives them a leg up before arrival in country.

9. When scheduling meetings, it is optimal to leave the last few days (of a two week assessment) free for follow-up meetings.

10. During schedule preparation, one-hour meetings are the minimum necessary, 1.5 hours is optimal.

11. A systematic approach to asking questions (e.g., each person gets 15 minutes) is useful, as the team discovered. This allows each team member to

raise questions germane to the scope of work in general or their portion of it. Learning is maximized among team participants when a "democratic" approach is adopted.

12. It is important that the assessment team visit at least one secondary city to understand the role and constraints to ICT development and application outside the capital.

13. Time must be built-in the assessment process for visits to respective local NGO partners (e.g., USAID to visit USAID funded NGOs, JICA to visit JICA funded NGOs),

14. It is recommended for the team of two people per organization to break-up and do specialized visits (i.e., one JICA rep. to go with one USAID rep to a meeting while the other JICA and USAID rep go to another meeting),

15. Final products (i.e., a report) should be written separately; however, recommendations should be discussed (and possibly prepared) together. Unless ample time is built into the schedule, preparing an agreed upon joint report is very difficult within tight time constraints.

16. Areas outside of the Asia and Near East region are ripe for collaboration (e.g., Africa).

ANNEX B: CONTACT INFORMATION

See attached MS-Excel Document

ANNEX C: SOW FOR A LOCAL ICT COORDINATOR

I.   INTRODUCTION AND BACKGROUND

The USAID Asia and Near East Bureau believes that new Information and Communication Technologies (ICTs) such as email, the world wide web, electronic commerce, etc., provide the essential building blocks of the second industrial revolution. Countries that embrace the use of ICTs have shown dramatic growth in the 1990s; for developing countries, ICTs offer the opportunity to leapfrog development. For ICTs to be effective, USAID/ANE has found that the four "Ps" must be present – Policy, Pipes, Private Sector, and People.

1.   "Policy" - Opening doors through policy reform to permit the introduction of information and communication technologies, reduce barriers to open connectivity, and ensure that global electronic commerce can take place in an open and transparent fashion;

2.   "Pipes" - Demonstrating the effectiveness of appropriate hardware and software by utilizing the latest in technology such as wireless, high-speed data transfer, secure transaction capability, extending the Internet to underserved areas, and working with private sector Internet Service Providers to offer a range of services to clients;

3.   "Private Sector" - Ensuring the private sector "can do what it needs to do to be successful." This entails combining "Policy" reform and "Pipes" improvement with ensuring there are sufficient, well trained technicians to support the build-out of ICT industries.

4.   "People" - Implementing new approaches to sustainable social and economic development through ICT tools. It is critical to the success of the program that USAIDs partners use the Internet and other ICT technologies as tools for development.

The objective of this Scope of Work is to provide programmatic assistance to USAID/Kathmandu for management and implementation of the Mission's ICT objectives. The ICT Coordinator for Nepal will be the primary point of contact for design, management and implementation of assistance for ICT activities. Activities to be performed are outlined in the Scope of Work below.

II.   ACTIVITIES

The contractor will perform the following tasks:

A. Assist in the preparation of an Information and Communication Technology Action Plan for the Mission's Strategic Objective Teams in the use of the Internet as a tool for development.

B. Promote wide user awareness of, and access to, the Internet. This assistance may include developing promotional and training materials, conducting and implementing Internet demonstrations including sessions promoting E-Commerce. This will require close coordination with each Mission SO team to facilitate the incorporation of ICTs within their portfolio.

C. Work on, and assist in, the coordination of other Internet focused programs coordinated by the USG, e.g., activities raised by USAID's ANE Internet Development Advisor.

D. Facilitate the growth of the Internet by working with ICT organizations such as the Internet Service Provider industry to identify constraints to the sectors growth and determine if USAID can play a role in the resolution of the problems.

E. Work with the government, ranging from the Ministry of Telecommunications to the Ministry of Industry and Trade to ensure the marketplace is open to competition as well as being free and fair. Such work might include facilitating TDYs to the States to meet with ICT companies and leaders or TDYs by subject matter experts to Nepal.

F. Determine quality of education supporting the ICT industry ranging from advanced degrees to basic K-12 learning (e.g., working with the Schools 2000). If appropriate, work with other USG programs to enhance curriculum and teaching capabilities

G. Investigate the level of E-Commerce awareness and penetration in Nepal. Identify constraints to E-Commerce growth, and if appropriate, outline a/o facilitate the resolution of the constraints.

H. Engage other donors in coordinated ICT activities furthering the goals of USAID and USAIDs key counterparts. As the goals and objectives of the World Bank's $30 Million program on Telecommunications reform are similar to the goals and objectives of the USAID program, work with the World Bank to assist in the implementation of activities. Such project assistance to the World Bank will leave to an improved policy environment, consistent with the objectives of USAID. In addition to the World Bank, the Japanese International Cooperation Agency (JICA) partnered with USAID on the ICT assessment. The JICA office (both in Kathmandu and in Tokyo) believe there are synergies to a cooperative approach. Working with the JICA office to implement "people" oriented objectives, when they are consistent with the goals of USAID/Kathmandu, makes sense programmatically.

I. Prepare and deliver briefings, as required, for the USAID and its host country partners.

J. Support other activities enabling the overall goals of the USAID

III.   DELIVERABLES

As tasked, the contractor will prepare:

A. A Plan of Action within one month of starting position.

B. Monthly progress reports detailing work performed.

C. Final report with recommendations section for follow-on activities.

IV.   SKILL SET

The consultant should have the following set of skills and experience:

A. Advanced technical training and a minimum of two years experience with computer networking as a means of sharing development information.

B. Ability to work with a variety of development, government, donors, and private sector partners to support utilization of information in a computerized environment.

C. Conversant with, and a regular user of, Internet resources.

D. Demonstrated ability to manage complex initiatives with multiple stakeholders and experience in offering advice and leadership in the development of information systems.

E. Be a self-starter and able to work with minimum supervision in achieving the objectives of the USG.

F. Coordinator should have excellent written and oral communication skills. Experience with training is highly desired. Coordinator should be able to work in a team environment and a cross-cultural setting.