Research Influence on Public Policy: A Case Study

Nepal struggles to enter the information age

Creating a national IT policy brings together government and private sector

The government of Nepal did just about everything right when it set out to develop a national policy that would begin the process of transforming the country into a "knowledge-based society." The widely approved policy was finalized in 2000, but circumstances and geography conspired to make implementing the policy recommendations a slow process.

Perched between Asia's two economic superpowers – China and India – the tiny landlocked country of Nepal is famous as the home of Mount Everest and seven more of the world's highest peaks. With a population of less than 30 million, Nepal was never likely to challenge either China or India, the latter having declared in 1998 its goal of becoming "an information technology superpower" within ten years.

Nevertheless, India's remarkable emergence as a leader in the world of information and technology (IT) did inspire the government of Nepal to begin to transform Nepal into a "knowledge-based society." The goal was not to attempt to compete with the Indian colossus but to use IT as a tool for social development. The government hoped that computers would help deliver services more efficiently in sectors such as health, education and agriculture, particularly in isolated mountain regions.

It was an ambitious goal given the realities of Nepal, one of the poorest and least developed countries in the world. Fewer than half the population can read and write. With an average life expectancy of just 60 years, 40 percent of the population is under the age of 15. While tourism has long been an important source of foreign exchange, agriculture remains the mainstay of the economy. Much of agriculture, however, is at a subsistence level. One-third of the population lives below the poverty line. Most rural areas have no electricity or phone service.

Expanding policy capacities

Until 1996 the country did not even have a government department responsible for science and technology. When the Ministry of Science and Technology (MoST) was created, however, it signaled a modest step into the technological age. "The goal of the Ministry is to create a conducive environment for the adequate development of science and technology and make necessary arrangements for its effective application in the task of national development," according to a MoST document.

Slightly more ambitious, the government's five-year plan for 1997-2002 promised an information technology policy that would "place Nepal on the global map of information technology within five years." And in 1997 the government began licensing Internet service providers (ISPs) – Nepal was officially on the Internet.

It was not until 1999, however, that a newly elected majority government established a National Information Technology Development Working Committee with a sub-committee tasked with developing Nepal's first IT policy. The chairman of that sub-committee, Dr Ramesh Ananda Vaidya of the National Planning Commission (NPC), turned to Canada's International Development Research Centre (IDRC) for assistance in developing both the policy and an implementation strategy. The Centre responded with a research and development grant through its Pan Asia Networking (PAN) program.

IT policy is a relatively new policy area, particularly in developing countries, where financial constraints make it difficult to keep pace with the rapid pace of technology development. The $60,000 grant was to cover research expenses, consultancies, a workshop and a final publication. The work was monitored by a former IDRC staffer, Shahid Akhtar, who was then working with the International Centre for Integrated Mountain Development (ICIMOD), which has its headquarters in Kathmandu, Nepal's capital.

Broadening policy horizons

"To ensure smooth implementation of policy, we adopted a participatory process in which the government, private sector and civil society share a common discussion forum during policy design," said Dr Vaidya. Such broad participation in making national policy was almost unheard of in Nepal, but Dr Vaidya was insistent. "We believed such a process based on the consensus of IT stakeholders would lead to 'goal congruence' among them and thus facilitate successful development of the IT sector," he says. As a result, Nepal's IT policy was developed almost entirely through the efforts of Nepali professionals, with foreign specialists involved only as peer reviewers of the research that served as the basis for designing the policy. The research itself was an indigenous effort.

The policy design process took a year. It involved consultations with members of Nepal's IT industry, the creation of an IT Strategy Formulation Steering Committee at the NPC and the preparation of six strategy papers by groups of Nepali academics, IT professionals and government officials. The Steering Committee included representatives of government, the private sector and academia, as well as two members from ICIMOD.

Affecting policy regimes

Sanjib Raj Bhandari, CEO of Mercantile Office Systems, Nepal's largest and oldest software house, played an active role in the preparation of the strategy paper on "Software production and applications." He was also one of three representatives of the private sector appointed to the National Information Technology Development Council. "At the top levels of government there was goodwill towards the participation of the private sector in the formulation of the IT policy," he recalls. Mr Bhandari believes the policy will help to prevent problems often faced by private sector companies when dealing with government officials who lack an understanding of the industry.

Shahid Akhtar, who was an active participant as one of the ICIMOD representatives on the Steering Committee, believes that the process adopted in Nepal permitted 'buy-in' to the resulting policy by literally hundreds of key individuals and groups from all walks of life, including the Nepal Internet Users Group and the Computer Association of Nepal. "This 'ownership' in turn helped to ensure follow-up and implementation of the policy," he says. "For instance, decisions taken on the establishment of a National Information Technology Council, the allocation of substantial financial resources for IT human resource development programs, and the establishment of an IT venture capital fund and an IT park."

Bhoop R. Pandey, Chairman of the Nepal Telecommunications Authority, played a key role in drafting the telecommunications policy which opened up the VSAT sector, thereby helping to spawn many new ISPs. (VSAT, or very small aperture satellite transmission, is a technology that provides greatly increased bandwidth at reduced cost). He is also the senior official responsible for regulating many facets of the new IT policy. He does not think that it will be difficult to regulate the IT sector according to the new policy: "If you design it yourself, you know what you want, it is easy to enforce," he says, adding "Our culture is very different. We have to develop our own system."

Nepal's IT policy was approved in 2000. It includes a set of 15 general strategies. For example, that "information technology shall be applied for rural development". It also includes 17 policies to guide implementation and sets out an action plan that covers everything from infrastructure and human resources development to the dissemination of IT and the promotion of e-commerce.

The policy calls for the creation of a number of institutions to oversee implementation, including:

❏ National IT Development Council, to be chaired by the Prime Minister

❏ National IT Council to review and revise the policy, track progress and resolve problems

❏ National IT Coordination Committee to promote R&D and capacity building

❏ National IT Centre to implement and monitor the policy, regulate private sector activities, and assist the government with computer services)

❏ An IT Park Development Committee to plan a central industrial location to encourage the growth of IT companies.

Finally there is a provision that the policy may be reviewed and amended every two years, or sooner if necessary.

Diverting resources

All of this was approved in 2000, and was hailed as "a significant milestone in the development of the IT sector in Nepal." That year also saw the beginning of political and social upheaval in Nepal that has seen the murder of members of the royal family and a worsening Maoist insurgency. As a result the government has been forced to divert a large portion of its resources to restoring law and order. Exports and the tourism sector have both suffered, further exacerbating the Government's precarious financial position. At the level of MoST, multiple changes in both political and bureaucratic staff have frustrated efforts by the private sector to build IT capacity within the Government.

With scarce resources tied up in security efforts, implementation of the IT policy slipped from the Government's priority list. The National IT Council (NITC) was set up two years after the policy was approved, but its resources are too limited to effectively oversee implementation. A further roadblock is the fact that the policy implicates several other government departments in its action plan – such as the education and telecommunications sectors – but fails to take into account other sector policies, and in some cases actually contradicts them. Progress is also curtailed by the fact that some of the necessary prerequisites, such as adequate communications infrastructure, are lacking in many parts of the country, and some of the existing infrastructure is being destroyed by the Maoist rebels.

In summary, comprehensive implementation has been slowed by the political and social upheavals, and by a lack of inter-departmental coordination to resolve contradictory policies and to plan realistically for basic requirements. MoST has also inadvertently slowed progress by not being clear about the division of responsibilities between itself and the private sector.

Pushing forward

Despite these barriers, the Government has shown its good intentions by pushing forward on several fronts:

❏ An IT Bill based on the policy has been drafted and is awaiting Parliamentary approval.

❏ MoST has a program to provide IT training to 50,000 unemployed university graduates across the country. So far 10,000 students have enrolled in the program, but there is concern that a government spending freeze may curtail the program.

❏ Three of Nepal's four universities offer computer science or computer engineering degrees at the undergraduate level, and the MoST expects roughly 5,000 graduates from these programs over the next few years. Also the Ministry is planning to establish an Institute of Information Technology in Kathmandu and an Institute of Technology in Western Nepal, focusing on biotechnology as well as IT research.

❏ Universal access is being pursued through a United Nations Development Programme (UNDP) project to set up 15 rural telecentres across the country. The project is an experiment to develop a sustainable telecentre model. Resources permitting, MoST plans to establish 10 more centres, and to set itself up as the central hub through which all information will be transmitted.

❏ An IT park is also planned, and to date land has been purchased and construction started on two buildings. The park will also house the proposed Institute of Information Technology.

Despite the many setbacks over the years since the process began, there is still considerable optimism among stakeholders, including the government. There is a sense of shared interest that has been fostered by the policy development process itself. In fact, the process may prove to be more important than the policy in the long run. Bhoop Pandey, of the Nepal Telecommunications Authority, notes that "Policy is not constant, we need to revise and update it from time to time." ICIMOD's Shahid Akhtar agrees: "The IT policy is good, but policies come and go," he says. "Circumstances change and policies need to be dynamic and adapt to changing needs. What is more important is how countries reach these policies."

Some lessons

❏ A participatory process that involves a range of stakeholders helps to bring "buy in" when it comes to policy implementation.

❏ It is important to ensure that any new policy is not in conflict with existing policies in other related fields.

❏ Any policy that involves government and the private sector working together should clearly indicate the division of responsibilities.

❏ Implementation of even the best designed policy can be derailed by social or political upheaval, or other unanticipated events.