International Development Research Centre

The Development of Nepal's IT Policy:

A Case Study

FINAL REPORT

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April, 2003

Executive Summary

This study is an evaluation of Nepal's Information Technology Policy in 2000 – how it was developed and its relative significance within the policy process. The evaluation is part of a set of case studies commissioned by IDRC's Evaluation Unit as part of a larger study which looks at the influence of IDRC-supported research on public policy, in the countries where it works.

IDRC supported this activity through its PAN Asia R&D Grants Program, which helped to fund research, consultancies, a workshop, and the eventual publication of the workshop proceedings and resultant policy. The policy was developed in a participatory fashion, involving a large number of actors from the IT sector in Nepal, including the Government, private sector, and civil society.

Policy development is visible evidence of influence, however it is not the ultimate goal, nor does it signal the "end" of the policy process. The Government must possess the political will, and sufficient resources to enact the policy, to ensure that it is effectively used. The mere existence of policy does not guarantee such a scenario, and it is therefore important when pushing for policy change/development to consider the necessary prerequisites for implementation, which are particular to a case.

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1. Introduction

1.1 General

One of IDRC's strategic goals as outlined in the current Corporate Strategy and Program Framework (2000-05) states that: "IDRC will foster and support the production, dissemination, and application of research results leading to policies and technologies to enhance the lives of people in developing countries" (CSPF, p.vi).

In 2001 the Evaluation Unit initiated a strategic evaluation of the influence of IDRC-supported research on public policy in the countries where it works. A series of case studies across regions and program areas were planned, to help build a corporate picture of the Centre's experience in this field. The case studies are intended to answer questions such as what constitutes public policy influence in IDRC's experience, how has IDRC-supported research influenced public policy, and what factors have either contributed to, or inhibited, the process.

The evaluation is a learning exercise for IDRC and its partners, and is intended to inform planning and performance assessment at the project, program, and corporate levels of the organization.

1.2 The Case

This case study is an analysis of Nepal's Information Technology (IT) Policy – how it was developed, and what policy influence resulted from the process. IDRC supported this activity through its PAN Asia Research and Development (R&D) Grants Program; the Program provides small grants to institutions in nine Asian countries, for information and communication technology (ICT) interventions which contribute to development.

This particular case was supported by a single grant in 1999. In many ways it was an obvious success – the work was completed as planned and the key project objective was achieved. However the case raises important questions beyond the issue of policy development, about what constitutes policy influence and about the different elements of the policy process, including the importance of policy implementation. Some consideration of these issues will be given in later sections of the paper.

1.3 Methodology

The method of analysis for this case followed closely the terms of reference provided for the studies (see Annex Five). The consultant reviewed IDRC project documents (including an overview publication of the IDRC PAN Asia R&D Grants Program), as well as the key output document from the process, *Information Technology for Development – IT Policy and Strategy Papers for Nepal*. In addition, the consultant collected several relevant contextual documents during the study. *The Internet from the top of the world: Nepal Case Study* was one particularly useful paper, and provided much of the background information for this case.

The consultant visited Kathmandu in November-December 2002, and conducted roughly two dozen interviews with people in the IT sector there (government, NGO, private sector, academic, civil society). The consultant made an effort to meet not only with project implementors, but also with a range of participants from the process (including policy makers), and IDRC staff associated with the project. A list of people interviewed is provided in Annex Four. The

evaluation has been written up as a case study, to provide readers with a rich array of information, as well as personal accounts of events as they happened.

2. IDRC's Involvement

In 1997 IDRC's Pan Asia Networking (PAN) program initiated a Research and Development (R&D) Grants Program, with a view to fulfilling one of the objectives outlined in its 1997-2000 prospectus: *collaborative research on ICTs and policies.* The conceptual framework of the Grants Program was based on four objectives: to focus on applied research, discover new institutional partners, facilitate participation of experts from the Asia Pacific, and discern patterns and trends in the ICT needs of the region (Saik Yoon, 2001).

The R&D Grants Program provided (and still provides) small grants to institutions across nine countries in the Asia Pacific region, to encourage "…research into original and innovative networking solutions for defined and specific development problems" (IDRC, 2001, p.1). An independent selection committee was set up to approve grants based on proposals submitted in twice-yearly competitions. Two IDRC representatives sat on the committee.

> The expectations at the inception of the Programme were that these mechanisms would extend the normal reach and selection of PAN, by providing an alternative [project support] route to the Centre's regular one of project identification and development by individual PAN program officers. Applications received from the region would give a good indication of the priorities that are perceived by Asian developing country researchers and practitioners. They would indicate trends and patterns of ICT interests in the region which would be useful for indicating programmatic directions to PAN program officers (IDRC, 2001, p.2).

The Nepal IT Policy proposal was submitted to the committee by Dr. Ramesh Ananda Vaidya of the National Planning Commission (NPC) in 1999. The general objective of the proposal was to assist the NPC in developing a national IT policy and strategy, through a participatory process (Vaidya, 1999). The committee approved a grant of CAD$ 60,671 to cover research expenses, consultancies, a workshop, and final publication. As with all small grants recipients, IDRC monitored the progress of the activity. This was facilitated by the fact that Shahid Akthar – a long-time IDRC employee who by then had begun working with the International Centre for Integrated Mountain Development (ICIMOD) – was directly involved in the process.

In 2001 the committee and IDRC commissioned two studies of the Grants Program: (1) a soft systems study of the Program itself – its purposes, processes, and results, whether it should continue and in what form; and (2) a tracer study of completed and ongoing projects, to assess results and innovative elements and to package and disseminate this information to target audiences. One product of the tracer study was a publication entitled *PAN Asia ICT R&D*, which details six projects funded through the Program. The Nepal IT Policy process is included in this publication.

3. Context

3.1 Information Technology Optimism

The 1990s was a revolutionary period for global information technology. The cumulative innovations in the latter half of the 20th century led to dramatic changes in the way goods and

services were produced and distributed, and an enormous (and more rapid) ability to capture, analyze, and disseminate information (Greenspan, 2000). Business could be done faster, more efficiently, and on an international scale. Tax cuts and the deregulation of key industries (e.g. telecommunications) in the United States; the end of the Cold War; lowered trade barriers; and increased consumer spending fostered global economic growth, and despite economic setbacks like the Asian crisis, key economies were projected to continue to grow at a healthy rate.

For developing countries, the IT revolution permitted unprecedented access to international capital markets, and offered new opportunities for economic growth.

> ICT is a general–purpose technology and thus has wide applicability in various manufacturing and services sectors. It has strong spread effects and extensive linkages with the rest of the economy. Its potential forward linkages extend to custom–made configuration while its backward linkages extend to material sciences. It thus has the potential to affect virtually all sectors of the economy by imbuing greater information and development content in products and processes. More importantly, it has spawned new products and made existing products more versatile (Prakash, 2001, p.4).

Having witnessed the spectacular results of the ICT entrepreneurial spirit in Southeast Asia (Japan, South Korea, Singapore, Hong Kong), countries in South Asia began to capitalize on their own comparative advantages, to supply global markets. India, for example, emerged as a key software producer for overseas firms.

Domestically, IT was quickly recognized by developing countries as a potentially useful tool for social improvement as well – for example, computers could broaden the reach and improve the efficiency of government service in sectors such as health, education, and agriculture. In Nepal, information and communication technologies offered an opportunity to extend services to, and communicate much more effectively with, the chronically poor and isolated mountain regions.

3.2 New Ministry

In 1996 the Nepalese Government created a Ministry of Science and Technology (MoST), which took on the role of promoting, facilitating, and regulating science and technology (particularly in the IT sector) in the country.

> The basic 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. Accordingly, the policies of the Ministry seek to mobilize, coordinate and integrate the development of science and technology to attain a definite goal reflecting national aspiration (MoST, 2002, para.2).

In its 9th five year plan (1997-2002) the Government expressed its desire to mold Nepal into a knowledge-based society. The plan proposed "…a sea [of] change in this regard in terms of government policies, organizational improvement, adaptation and use of new services" (National Planning Commission hereafter known as NPC, 1997, p.7).

The implication for the newly-created Ministry was that it had to establish a clear mandate, and a set of appropriate policies for this emerging policy area, on which to base future action.

3.3 Regional Influence

Nepal is situated between two Asian superpowers, India and China, and as a much smaller economy is often influenced by their actions. Nepal has a particularly close relationship with India, which includes several bilateral economic arrangements.

Since the 1950s, India has built up a highly-skilled scientific and technical workforce, and on this basis a globally competitive software industry. The value of the country's software exports now exceeds USD$4 billion per year (Prakash, n.d., p.99). In 1998 the Prime Minister of India formed a national taskforce to develop a national IT policy for the country, "to enable India to emerge as an Information Technology superpower within the next ten years" (Government of India, 1998, *Tasks*).

The National Planning Commission of Nepal realized that "many countries in the region have recognized the importance of the production and use of ICT for competitiveness and growth…China…Malaysia …Singapore…incorporate national information infrastructure initiatives to sustain or expand their economies" (Vaidya, 1999, p.4). Nepal had witnessed India's ability to carve out a niche market in the IT sector, and was hoping to find its own place in sectoral markets.

4. Development of Nepal's IT Policy

4.1 The Process

The Nepali Congress Party (NCP) formed a majority government in 1999 after eight years of being in and out of power. Among its objectives for the country was its desire to develop Nepal as a knowledge-based society. The broad objective of the Ninth Plan (1997-2002) for the information technology (IT) sector was to promote information technology as a tool for social and economic development; social development by levering IT to improve agricultural, health, education, and other services and sectors, and economic development by (among other things) establishing an IT park to produce and export low-cost software. Specific objectives were to:

- involve the private sector in the development of the information and communication sector;
- extend communication services to rural areas by adopting modern technology;
- develop the information and communication sector as a tool for socio-economic development;
- prioritize skilled manpower, popular participation, and cost recovery (NPC, 1997).

That year the new Minister of Science and Technology (who shared the Government's vision for Nepal) set up a National Information Technology Development Working Committee, out of which came an IT Policy sub-committee tasked with developing Nepal's first IT policy.[1] Dr. Ramesh Ananda Vaidya of the National Planning Commission chaired the sub-committee, which was comprised mainly of government officials.

[1] One major impetus for adopting an IT policy was to attract foreign investment and to create a foundation for greater involvement in the global economy (though e-commerce and promotion of the private sector, among other things).

Prior to the MoST, the Computer Association of Nepal (CAN) had promoted IT in the country much as the Ministry of Science and Technology has done since 1996. With the creation of the Ministry, CAN took on the role of educating its officials about IT issues. Early on in this process the Association shared India's IT Policy with the Ministry, as a document to reference while working on its own policy.

The Government recognized the need to involve IT experts in the policy development process (given its own limited understanding of the issues), and invited leading personalities from the private sector (most prominently CAN), civil society, and academia to join the process. This expanded the group to about sixty individuals (almost entirely Nepali professionals). The policy sub-committee decided to form six consultative groups to produce background papers on what were identified as the key issues to be addressed by the IT policy:

1) universal access to information
2) information and communication technology infrastructure
3) human resource development
4) software production and application
5) electronic commerce (e-commerce)
6) electronic governance (e-governance)

At this stage (and because of limited government funds available for the process) Dr. Vaidya applied for and received a PAN Asia grant, to cover the costs of the research, some short-term consultancies, a workshop and publication. The International Centre for Integrated Mountain Development (ICIMOD) was selected as the recipient organization because of its relationship with the NPC and also because ICIMOD had a foreign exchange account which allowed it to send money in and out of Nepal. Several members of ICIMOD were involved throughout the process, and provided considerable technical support to the six groups.

Each consultative group was chaired by a leader in the relevant field and each selected one or two members to draft its background paper. The groups were given two months to complete their papers – only one conducted field research (the universal access group gathered data from four districts).

The draft papers were posted on the web and around 120 people from the IT sector were invited to review these over a two-week period. At the same time the NPC and Ministry of Science and Technology (MoST) used the six papers to draft an IT policy (with help from an Indian policy expert contracted for the purpose). The papers and the draft policy were vetted through at least two separate workshops, and comments were incorporated into the final versions of both. The final draft of the IT Policy was submitted to the National IT Development Working Committee for approval, and upon its recommendation was submitted to the Government by the MoST, which approved the IT Policy in October 2000. Since then the six background papers and the Policy have been published as a book.

4.2 The Policy

Nepal's IT Policy (Annex One) is a negotiated document, and although it draws heavily on the material of the six background papers, it is not all things to all people. Despite criticism on this front, the policy has been widely heralded as a critical foundation piece for development of the country's IT sector. The IT Policy starts with a vision "to place Nepal on the global map of information technology within the next five years" (NPC, 2000, p.175).

> The policy is a road map (Sharma, personal communication, December 3, 2002).
>
> The introduction of the IT policy is a significant milestone in the development of the IT sector in Nepal. This is a comprehensive policy with explicit provisions for development of the sector (Bhattarai, personal communication, December 3, 2002).

Its objectives are to improve the accessibility of IT, to create a knowledge-based society, and to establish knowledge-based industries (NPC, 2000). The Policy delineates a set of fifteen general strategies (e.g. information technology shall be applied for rural development), and a series of seventeen policies to guide implementation (e.g. to enact necessary laws for providing legal sanctions to the use of information technology). It then sets out an action plan under the following headings:

- Participation of the private sectors in infrastructure development
- Infrastructure development
- Human resource development
- Dissemination of information technology
- Promotion of e-commerce, etc.
- Facilities (e.g. venture capital fund)

The Policy also contains a list of new institutional provisions to oversee implementation:

- National IT Development Council (umbrella body, chaired by the Prime Minister)
- National IT Council (reviews/revises the Policy, tracks annual progress, resolves problems)
- National IT Co-ordination Committee (IT research and development, promote capacity building)
- National IT Centre (as Secretariat of the NITDC and NITCC implement and monitor the policy, regulate private sector activities, assist the Government with computer services, etc.)
- IT Park Development Committee (manage and co-ordinate parks).

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

4.3 Policy Implementation

The *political and social instability* that has plagued Nepal for many decades has worsened considerably since 2000, the year the IT Policy was approved. The Government has been overwhelmed by political discord, a royal massacre in 2001, and a worsening Maoist insurgency. It has been forced to divert a large portion of its resources to restoring law and order in the country. Exports and the tourism sector have both taken major hits, further exacerbating the Government's precarious financial position. At the Ministry level, 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 has slipped from the Government's priority list. Although the institutional provisions have been put in place, the key implementing body (the NITC, set up in 2002, two years after the Policy was approved) is too under-resourced to effectively oversee implementation.

In addition to escalating instability within the country, the Policy was *written during a more optimistic time* - an era of global IT optimism which bottomed out in 2001.

> The policy is ambitious, given the country context. …The policy was written during the ICT boom; some of those expectations will not be realized, at least not as rapidly as hoped (Harris, personal communication, December 2, 2002).

Implementation is exacerbated by the fact that the Policy implicates several other Ministries and sectors in its action plan (e.g. establishing an info super-highway (Telecommunications sector), using IT to improve education (Education sector)) yet fails to take into account other sector policies, and in some cases *contradicts these policies* (e.g. the Telecommunications Policy). Until these contradictions can be resolved and coordination with other Ministries achieved, progress cannot be made on these fronts. Forward motion 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 what there is is being destroyed by Maoist rebels.

> Nepal's ICT policy is the ideal; it ignores many of the realities in the country. The people involved in writing the policy are committed to the ideal, however they need to consider the political (and other) realities of Nepal. For example less than ten percent of rural areas are electrified (Rana, personal communication, November 29, 2002).

> Infrastructure is another issue (low penetration rate of telephones, etc.). Technological advancement is so rapid that it makes it very challenging for Nepal to keep pace. The country needs a policy environment which is responsive to change, in order to facilitate ICT development (Bhattarai, p.c., December 3, 2002).

Lastly, the Ministry has been ambiguous about the separation of roles (between itself and the private sector) in terms of implementation. Although the Government clearly envisions that the private sector will play a key role in carrying out the goals and activities of the Policy, the Ministry of Science and Technology has not been explicit about when it will take a leading role, and when the leading role ought to be taken by the private sector. As one person from the Ministry noted:

> The basic objective of the Ministry is to facilitate, promote, and regulate ICTs, but not to implement. The Ministry relies on the private sector for this (M. Shrestha, personal communication, December 5, 2002).

In summary, comprehensive implementation has been slowed by the political and social volatility of the nation, and by a lack of inter-Ministerial coordination to resolve contradictory policies and to plan realistically for basic requirements. The Ministry of Science and Technology has also inadvertently slowed progress by not being clear about the division of responsibilities between itself and the private sector. Despite these barriers, the Government has shown its good intentions by pushing forward (albeit with some mixed results) on a couple of fronts.

> The Government wanted to develop the IT sector in Nepal and also wanted to be more responsive to communities. It has also started thinking about integrating ICTs with poverty-focused development work (Sharma, personal communication, December 3, 2002).

An *IT Bill* outlining action plans for the sector (and based on the IT Policy) has been drafted and is awaiting Parliamentary approval.

The Ministry of Science and Technology launched a subsidized program to provide *IT training* (programming, semi-skilled, trainers, etc.) to 50,000 unemployed university graduates across the country. Private institutes bid for contracts and prospective students submitted applications (which included information on their home region to ensure a fair distribution of students from across the country). So far 10,000 students have enrolled in the program. The selection criteria and quality of the training have been criticized, although these were not assessed in the case study and so comments cannot be verified for accuracy. A further concern has been that a freeze on the Government's financial commitments will prevent the remaining 40,000 students from receiving training.

At least three of Nepal's four universities have computer science or computer engineering degrees at the Bachelor level[2], and the MoST expects roughly 5000 graduates from these programs over the next few years. The Ministry is planning to establish two new institutes: the Institute of Information Technology (in the IT park in Kathmandu) and the Institute of Technology (in Western Nepal, focusing on biotechnology and IT research).

Universal access is being pursued through a United Nations Development Program (UNDP) project to set up fifteen rural telecentres across the country. The project, entitled *ICTs for Development*, is an experiment to develop a sustainable telecentre model. The Ministry of Science and Technology plans to establish ten more centres, and to set itself up as the central hub through which all information will be transmitted. Others in the Government want to adopt a wait and see approach – if a sustainable model is developed, then the Government will put more resources into rural connectivity. Given current resource constraints this latter approach seems likely.

An *IT park* has also been planned, and to date land has been purchased and construction started on two buildings. The private sector is lobbying for a "virtual park" so that any VSAT licensee or company with the facilities to operate a software industry is considered an IT park, and provided the same benefits as companies physically located inside the IT park (Amatya, personal communication, December 2, 2002).

5. Public Policy Influence

5.1 Research and Public Policy in Nepal

During the partyless Panchayat regime (1960-1990), the government created several policy institutions, including the National Development Council (NDC), National Planning Commission (NPC), and Centre for Economic Development and Administration (CEDA). Because the political system did not tolerate opposing views, their role was limited to undertaking "tailor-made" analysis to legitimize the decisions of the government (H. Ghimire, 2002, p.11).

The *Centre for Economic Development and Administration* was Nepal's first policy research centre, established in 1969 by the Government, in collaboration with Tribhuvan University and the Ford Foundation. The mandate of the Centre was to:

- provide information and policy recommendations to the government;
- foster informed discussions on issues and problems;

[2] One interviewee said that the Government had given the universities Rs.10 million for computer education.

- help various agencies of Tribhuvan University in their efforts to enhance their role in national development; and
- engage in international collaboration in the study and pursuit of development changes (Tribhuvan University, n.d., para.1).

CEDA has since become an institute of Tribhuvan University and many government officials and other national institutional leaders (e.g. university presidents) have worked there over the years.

Although there was no possibility of public participation in policymaking, an extra-constitutional agency called the *Jaanch Bujh Kendra* (centre for investigation) was the most influential think tank under the Panchayat rule. It was allowed to exercise power over government agencies without having to be accountable to the public (H. Ghimire, 2002, p.11).

The *National Planning Commission* had its own policy research section from the mid-1970s until 1991. Despite the lack of a dedicated research wing since then, the NPC still conducts ad hoc research on issues such as the impact of national poverty programs. It has also produced a number of working papers (e.g. on indigenous people, private sector development, and the status of women). These (many of which have had a research component) help the government to develop strategies leading to action plans (Sharma, p.c., December 3, 2002).

In 1982 the Government also founded the *Royal Nepal Academy of Science and Technology* (RONAST), with a mandate to:

- advance science and technology for the development of the nation;
- improve and promote indigenous technologies;
- promote research in science and technology; and
- identify and facilitate appropriate technology transfer (RONAST, n.d., para.2).

RONAST focuses on natural and hard science issues – alternative energy, radiation monitoring, and the environment for example.

Since the introduction of a party system in 1991, Parliament has been the highest policy-making body in Nepal, though Cabinet takes the lead in designing public policies. Other stakeholders involved in the policy process include the National Planning Commission, sectoral ministries, local government institutions (LGIs), political parties, community-based organizations, professional associations, academic institutions, and the mass media. Consultation with these institutions takes place in various ways.

There are two types of policies: sectoral and general. Sectoral policies are initiated by sectoral ministries, and general policies by institutions such as the Parliament and the NPC. While government ministries, the NPC, and LGIs must be formally consulted, other actors are approached for policy consultation *as and when needed* (H. Ghimire, 2002, p.3). However even when needed, financial constraints often seem to prevent the government from seeking research support.

> Research has not been used a lot because it is costly. …The National Planning Commission is now aware of the need for research in every sector – research allows the government to consider problems and challenges (Amatya, p.c., December 2, 2002).

Because Nepal is still heavily dependent on foreign aid, the donor community often has a strong influence on public policy, and so the policy process tries to accommodate their views. For example, donors are sometimes asked to comment on specific policy issues before a policy is finalized (H. Ghimire, 2002, p.3).

In terms of *university research*, lab work has been the tradition. Nepal has four universities: Tribhuvan, Kathmandu, Purbanchal, and Siddhartha, largely government-funded. On occasion the government provides funding for training programs (in 2001 for example, Tribhuvan University received Rs.4.5 million for ICT programs) however it will usually provide only small amounts of seed money for research (Joshi, personal communication, December 5, 2002).

> Research activities could be supported through the collaborative effort of industry, government, and the universities though this is not happening now. …
> The universities are capable of providing research but we must receive sufficient funding. The government is interested in us doing research but it cannot support us with funding (Joshi, p.c., December 5, 2002).

Some within the government have argued that academic research has not been relevant to the needs of policy makers.

> University researchers haven't always done relevant research. Over the last ten or so years, university professors have been doing more consultancy work, and so are becoming more integrated with the government (Sharma, p.c., December 3, 2002).

> Research should…be demand-driven to ensure relevance. There are good people in government and a lot of very educated people. There needs to be government ownership of research, as well as ownership by other stakeholders (Bhattarai, personal communication, December 3, 2002).

The same criticism has been levelled at non-governmental organizations (NGOs). One interviewee suggested that the government ought to develop a professional cadre of permanent staff dedicated to research. Right now the bureaucracy is too mobile. NGOs are essential for encouraging pluralism however Nepal still requires a public body in support of policy development (Bajracharya, personal communication, December 4, 2002).

5.2 The Policy Community

Paul Pross' "policy community" concept is a useful point of departure for this section. Within any area of policy (e.g. information technology) there are *sub-government* actors (politicians, departments, strong interest groups, and relevant international organisations) and an *attentive public* (less influential politicians and departments, smaller interest groups, journalists, academics, and citizens). Both groups are interested in and able to exert some influence on policy.

Nepal's IT sector is small and almost exclusively confined to the Kathmandu valley. The key actors (individuals and institutions) include:

Sub-government actors

- *Prime Minister* (chair of the National IT Development Council)

- *Ministry of Science and Technology* (then-Minister Chaudhary; currently Minister Upendra Devkota; Secretary Mahesh Man Shrestha)
- *National Planning Commission* (former member Dr. Ramesh Ananda Vaidya; current member Dr. Shankar Prasad Sharma)
- *National Information Technology Centre* (Atma Ram Ghimire)
- *Ministry of Information and Communication*
- *Nepal Telecommunications Authority*
- *Nepal Telecommunications Corporation*
- *Computer Association of Nepal* (current President Lochan Lal Amatya; then-President Bijaya Krishna Shrestha)
- *International Centre for Integrated Mountain Development*
- *United Nations Development Program*

Attentive Public actors

- *Ministry of Education and Sport*
- *Ministry of Industry, Commerce and Supply*
- *Ministry of Tourism*
- *ISP Providers* (e.g. Mercantile Communication, Worldlink)
- *Software Developers* (e.g. Professional Computer Systems)
- *Universities and Colleges* (e.g. College of Software Engineering, Tribhuvan University, Kathmandu University, Institute of Engineering)
- *Media* (e.g. Kathmandu Post, The Rising Nepal, Space Time Cable TV Network, Media Service International, Nepali Times)
- *Civil Society* (e.g. Nepal Internet Users' Group, Women Entrepreneurs of Nepal, Centre for Studies on Democracy and Good Governance, Institute of Integrated Development Studies)

5.3 Intent and Mechanisms

This case focuses on one part of the policy process – policy development. Leaving aside for a moment the broader context, the *intent* of this project was very clear: to develop an IT policy for Nepal, through a participatory process.

The development of the policy (the *mechanism* through which the policy was developed) was a very linear process. The linear model follows an ordered sequence of steps, "…starting with the

identification of a problem or issue, and ending with a series of activities to solve or deal with it" (Sutton, 1999 in Neilson 2001, p.14). In this case, the National IT Development Working Committee identified the country's need for an IT policy, and set up a sub-committee to do the work. The sub-committee invited participants from the private sector, academia, and civil society for discussion and the drafting of six background papers. These were used to construct a draft policy. The policy was vetted, finalized, and passed by the Government within the year.

Although this case – when considered in isolation – is quite simple, it has actually occurred within a broader policy process, the dynamics of which are much more complex. The case study analysis attempts to provide some of the environmental or contextual factors which have helped to shape the case and the policy influence that has occurred, however it is at best only a partial explanation since the larger policy process contains many unknowns (e.g. sources of information, the personal opinions and preferences of policy-makers which influence how they respond to information, etc.).

There are a series of models which seek to explain the policy process; these fall into two camps: rational and political. Rational models assume that new research can directly influence policy, while political models acknowledge the complexities of the policy process and the importance of the policy environment.

Neither of these models by itself provides an adequate explanation of the entire policy process, however each may be useful in describing different parts of the process, in different cases.

5.4 Types of Policy Influence

The analysis of policy influence in the next section is based on Evert Lindquist's typology of policy influence as presented in his paper "Discerning Policy Influence: Framework for a Strategic Evaluation of IDRC-Supported Research". Lindquist delineates three types of policy influence, outlined in Table 1 below.

Table 1 – Types of Policy Influence

Expanding Policy Capacities

- Improving the knowledge/data of certain actors
- Supporting recipients to develop innovative ideas
- Improving capabilities to communicate ideas
- Developing new talent for research and analysis

Broadening Policy Horizons

- Providing opportunities for networking/learning within the jurisdiction or with colleagues elsewhere
- Introducing new concepts to frame debates, putting ideas on the agenda, or stimulating public debate
- Educating researchers and others who take up new positions with broader understanding of issues
- Stimulating quiet dialogue among decision-makers

Affecting Policy Regimes

- Modification of existing programs or policies
- Fundamental re-design of programs or policies

Evert Lindquist, 2001

This typology provides a broad basis for defining what one means by "policy influence" and as Lindquist notes in his paper, the first two items (Expanding Policy Capacities and Broadening Policy Horizons) should perhaps more appropriately be terms "intermediate policy influence."

This model is useful because it recognizes the complex and dynamic nature of the policy process; policy influence is not a static point in time but rather an ongoing evolution of problem/issue assessment by policy and decision makers, followed by their response (which may at times be no response at all), and the implications of that. As well, because policy influence does not occur in a vacuum, external factors (including competing interests) may affect outcomes in unpredictable ways. Policy influence is almost never direct or immediate – rather policy research and other information will usually percolate throughout the policy environment for a while, with new information constantly being introduced and old information challenged as policy-makers and other actors decide how to respond. Lindquist's typology captures some of the subtleties of policy influence, and also hints at the importance of timing, strategic targeting, persistence, and building a critical mass of support and information.

Section 5.5 will present some of the observable successes with respect to policy influence, in this case.

5.5 Policy Influence in This Case

This section will consider each of Lindquist's applicable types of policy influence in turn, with some description of how each of these has occurred in this case. Where appropriate the paper will expand upon the language used in Lindquist's typology.

5.5.1 Expanding Policy Capacities

Improving the knowledge/data of certain actors

The Ministry of Science and Technology and the National Planning Commission recognized their limited ability to design a national IT policy, given their lack of expertise in the sector. Private sector, academic, civil society, and other government actors were invited to participate because of their familiarity with sectoral issues. Each of the six background papers was authored by one or more "experts" in that field; a professor from Tribhuvan University and the General Secretary of the Computer Association of Nepal co-wrote the paper on human resource development for example.

> The bureaucracy does not have a detailed awareness of IT issues, and so one objective [of the process] was also to educate the government about ICTs, global trends, and so on. We were trying to create social capital and e-leadership in the government (Bhattarai, p.c., December 3, 2002).

> It [policy process] has also helped to increase awareness – there was a lot of media coverage. The government is also now more willing to provide assistance to the IT sector (Kanel, personal communication, December 3, 2002).

The greatest onus was on the Ministry of Science and Technology to improve its understanding of IT, so that it could effectively promote the sector. The Ministry has put into practice some of what it learned during the process: it recently launched its own website, has started to improve its

filing system with the introduction of e-filing, and is discussing the potential of e-governance to communicate with remote regions of the country.

5.5.2 Broadening Policy Horizons

Providing opportunities for networking/learning within the jurisdiction or with colleagues elsewhere

The process was an opportunity for many of the actors in the IT sector (those invited by the Government to participate) to come together and discuss their interests and vision for IT in Nepal. Many of the participants noted that the discussions and workshops helped them to gain an appreciation of where other stakeholders were coming from.

> Involving the private sector has increased the good will all around and strengthened the mutual understanding of each others' positions (Vaidya, p.c., December 4, 2002).

> The ICT industry has been reassured that the government is trying to move on ICTs. The education sector has realized the relevance and importance of ICTs, and is developing institutes and courses (B. Shrestha, personal communication, December 4, 2002).

The improved relationship between the Government and – in particular – the private sector has led to increased networking and mutual support. Several government officials attended CAN's International Conference on Information Technology, Communications and Development in 2002, and the Ministry of Science and Technology has agreed to co-sponsor CAN's next InfoTech[3] exhibition and conference in 2003. The Government has also taken steps to support IT business; for example it now allows companies to depreciate their software at an accelerated rate when submitting financial reports.

Introducing new concepts to frame debates, putting ideas on the agenda, or stimulating public debate

Information technology is a relatively new policy area, particularly in developing countries where financial constraints make it difficult to keep pace with global technological developments. Although some IT policy issues are less new than others, Nepal has only begun to grapple with many of these in recent years, and so much of the information presented during the workshops had not been discussed in great detail (or in such a forum) up to that point.

The six key issues (human resource development, universal access, infrastructure, software, e-commerce, and e-governance) were debated in detail during a series of meetings, and elucidated in the background papers.

> The fact that the policy and the process have contributed to the debates of ICTs is a success and is policy influence (Harris, personal communication, December 2, 2002).

Much of what was discussed or presented in the papers did end up in the final policy document, although some have criticized the process, and as a result the policy, for being skewed toward the business aspect of IT, and for failing to incorporate a strategy for how IT might be used to promote social development in the country.

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[3] InfoTech is an annual event to market information technology products and services, and to increase public awareness and computer literacy.

5.5.3 Affecting Policy Regimes

Creation of New Policy

The Nepalese Parliament passed the IT Policy in October 2000. The Policy was the culmination of a year of discussions between various stakeholders, and six strategy papers written for the purpose. The policy was one of the few (and perhaps the only one) to have been developed through a participatory process, and several participants noted that although this was a rare event, the National Planning Commission and/or the Government at large had recognized the usefulness of such an approach.

> By involving local people, they [Government] were able to appreciate the difficulties or challenges to developing the ICT sector, and took ownership of the process and outcomes (Kanel, p.c., December 3, 2002).

> Just hiring a consultant to develop a strategy will not have the learning benefit or the ownership and commitment to ownership. This was a participatory exercise; few policies have been developed this way (Vaidya, p.c., December 4, 2002).

Why a participatory process this time? First out of necessity – the Government did not have the required sectoral knowledge to develop the policy on its own, and Nepal needed a solid national policy to gain a position in the global market. Second because the person leading the sub-committee (Dr. Vaidya) clearly appreciated the usefulness of a participatory approach, as did ICIMOD, the collaborating institution. Third because there was funding available to hold workshops, engage consultants, fund research, and publish the results.

> Without a pool of funds dedicated to research the government may not always take the time or find the funds to do research (Vaidya, p.c., December 4, 2002).

These specific conditions (lack of Government expertise, policy actors pushing for participation, sufficient funding) helped to create a policy environment conducive to participatory policy development. Section 5.6 presents other factors which facilitated policy development in this case.

5.6 Facilitating Factors

Information technology is an *emergent decision regime* (Lindquist, 2001). Because of limited capacities, knowledge and resources, and because of the urgency of the situation (the country needed an IT policy to attract investors) policy makers needed research, analysis, and the participation of the policy community. This temporary dearth of skills and information within Government provided a *window of opportunity* for actors in the IT sector to influence the Government's agenda.

> …new policy fields provide 'windows of opportunity' for research to influence policy that might not otherwise exist. Anecdotal evidence offered by IDRC staff involved in ICT programming areas suggests that researchers are being called on more and more by national governments to assist with policy formulation and development. This suggests that past policy experience, or existing policies in similar sectors, has not provided policymakers with the knowledge or resources they need to produce satisfactory policies (Neilson, 2001, p.43).

Throughout the 1990s key actors such as the Computer Association of Nepal had lobbied the Nepalese government to create a more supportive policy environment for IT. Their proposals were already in the "policy stream" and were elevated on the government's agenda when they were seen as potential tools for Nepal's development. CAN acted as a *policy entrepreneur* (Kingdon, 1984 in Neilson, 2001), advocating for the prominence of the IT sector.

If one considers policy influence as a continuum, the development of Nepal's IT policy would be on the right of the continuum, meaning that *other forms of policy influence had come before it*. As the point above makes clear, policy makers had already had several years of "softening up" – the global ICT boom had influenced their thinking, as had the IT private sector in the country. For example, CAN was established in 1992 and one of its stated objectives was (and is) "to assist in the utilization, enhancement and promotion of computers and information technology within the country…" (CAN, n.d., para.2).

There was also an element of *policy transfer* in this case. The government used India's IT policy as a reference, and contracted an Indian policy design expert to vet its own draft.

> Policy transfer refers to a process by which actors borrow policies developed in one setting to develop programmes and policies in another (Dolowitz and Marsh, 1996 in Neilson, 2001).

Finally, the process itself was facilitated by *technical support* from ICIMOD, which helped to keep the process moving. As well, *financial support* from IDRC enabled some research to be carried out, a consultant to be contracted to review the strategy papers, and a book detailing the process to be published.

5.7 Policy Development within the Policy Process

Some policy influence in this case was inevitable – it was a Government-initiated process to develop policy. Perhaps even more important (and instructive) than the policy itself was the participatory process through which it was developed, and beyond that how this event fit within the broader policy process.

As Shahid Akthar (p.c., November 6, 2002) noted,

> The policy is good but policies come and go – circumstances change and policies need to by dynamic and adapt to changing needs. What is more important is how countries reach these policies (Akthar, personal communication, November 6, 2002).

Despite the fact that this was not an entirely open process (all of the participants were invited by the Government) it was still much more inclusive than most of Nepal's policy development to date. As a result, communication amongst the engaged policy actors has improved, and a sense of mutual trust has developed. This in itself is impressive, and bodes well for the future development of the sector.

Policy development is the culmination of a series of events and circumstances within the policy area, however it does not signal the "end" of the process. Although a highly visible form of policy influence, policy formulation is in many ways the beginning – a foundation on which concrete action towards *ultimate goals* such as social and economic development can be based. Without sufficient resources and/or the political will to enact policy and to tailor it over time to meet changing circumstances, policy is simply a tool never applied.

It is important to recognize that policy development (or change) is just one part of the policy process, and that implementation is as important when the goal is to improve the lives of local people. This case illustrates that even with good policy in place, the policy process continues, and continues to be vulnerable to often unpredictable externalities. Policy is simply a tool, and without people to apply it is of little use to those it is meant to help.

6. Concluding Remarks

The development of Nepal's IT Policy was an important achievement for the Government and for the IT sector. Virtually unprecedented in the country's history, the Information Technology Policy 2000 was crafted through a participatory process that involved most of the key stakeholders in the policy area. This process facilitated the buy in of participants, and fostered a better relationship between the Government and other actors, particularly the private sector.

The policy was written during an era of global IT optimism, and signified the Government's desire to mold Nepal into a knowledge-based society, and to promote the country's IT sector on international markets. The private sector had lobbied for years to elevate information technology on the Government's agenda, and were able to point to neighbouring countries such as India, as examples of the sector's potential.

The policy itself was the culmination of these events, and has been heralded by many as a foundation piece for development of the sector. Another of the Government's goals is to use IT as a tool for social development, although an IT Bill outlining clear action plans has yet to be approved by Parliament. Implementation of the Policy has been slow to date, due largely to political and social instability in the country. Resulting financial constraints mean that for the foreseeable future the Government is unlikely to make much progress on its plans, although small steps are being taken in human resource development and on an IT park located in the capital city.

There is still considerable optimism amongst stakeholders (including the Government), and a sense of shared interest which seems to have been fostered by the policy development process. In fact the process itself is perhaps more important than the policy in the long run, since it has helped to create a network of policy actors who will likely collaborate in the future, under this and – one hopes – subsequent updates of the IT Policy.

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Annex One: Information Technology Policy (2057) 2000

1. VISION

"To place Nepal on the global map of information technology within the next five years."

2. BACKGROUND

The world's least developed countries including Nepal have availed themselves of the opportunity to rapidly develop education, health, agriculture, tourism, trade and various other sectors using information technology (IT). The extensive application of this technology will engender economic consolidation, development of democratic norms and values, proportional distribution of economic resources and enhancement of public awareness, thereby raising living standards and eventually contribute significantly to poverty alleviation. It is the information technology which will turn out to be a strong infrastructure for mitigating Nepal's geographical adversities. In the coming years, globally, there will be a significant difference in the economic conditions of the countries developed in the field of information technology and of the countries lagging behind in this field. The persistence of such disparities may not be congenial even for the developed countries. In this context, there is a greater possibility that the international community will extend its support to developing countries in the promotion of information technology. Such assistance will certainly play a vital role in the national development of a least developed country like Nepal. Hence, it has become essential to formulate a policy at the earliest for developing information technology with a view to boosting up national economy.

3. OBJECTIVES

The information technology policy shall be formulated to achieve the following objectives :

3.1 To make information technology accessible to the general public and increase employment through this means,

3.2 To build a knowledge–based society, and

3.3 To establish knowledge–based industries.

4. STRATEGIES

The following information technology strategies shall be adopted to accomplish the abovementioned objectives through rapid development and extension of information technology in a fair and competitive manner.

4.1 The government shall act as a promoter, facilitator and regulator.

4.2 High priority shall be accorded to research, development and extension of information technology with participation of private sectors.

4.3 Competent manpower shall be developed with the participation of both the public and the private sectors for the sustainable development and extension of information technology.

4.4 Domestic and foreign investment shall be encouraged for the development of information technology and the related infrastructures.

4.5 Nepal shall be placed on the global map of information technology.

4.6 E-commerce shall be promoted with legal provisions.

4.7 Information technology shall be used to assist e-governance.

4.8 Information technology shall be applied for rural development.

4.9 Information technology industry shall be promoted.

4.10 Speedy and qualitative service shall be made available at a reasonable cost by creating a healthy and competitive atmosphere among information technology service providers.

4.11 Computer education shall be incorporated in academic curriculum starting from the school level.

4.12 Professional efficiency shall be enhanced through the use of information technology.

4.13 Information technology network shall be extended to rural areas.

4.14 Nepal shall be placed on the international market through information technology.

4.15 Export of services related to information technology (software and hardware) shall be increased to 10 billion rupees within the next five years.

5. INFORMATION TECHNOLOGY POLICY

The following policies shall be followed up for the implementation of the aforesaid strategies:

5.1 To declare information technology sector a priority sector,

5.2 To adopt one window system for the development of information technology,

5.3 To prioritize research and development in the field of information technology,

5.4 To create an atmosphere conducive to attracting investment in the private sector, keeping in view the private sector's role in the development of information technology,

5.5 To provide Internet facilities gradually to all Village Development Committees of the country,

5.6 To assist educational institutions and encourage domestic and foreign training to fulfill the requirement of appropriate manpower at various levels pertaining to information technology,

5.7 To computerize the system in all government offices and build their websites for the flow of information,

5.8 To encourage the use of computers in private sectors,

5.9 To develop physical and virtual information technology parks at various places with

private sector's participation in the development of information technology,

5.10 To use information technology to promote e-commerce, e-education, e-health, among others, and to transfer technology in rural areas,

5.11 To establish a National Information Technology Centre,

5.12 To establish a fund at the national level by mobilizing resources from His Majesty's Government, donor agencies and private sectors so as to promote research and development of information technology and other related activities,

5.13 To establish a venture capital fund with joint participation of public and private sectors,

5.14 To include computer education in the curriculum starting from the school level and broaden its scope,

5.15 To establish Nepal in the global market through the use of information technology,

5.16 To enact necessary laws for providing legal sanctions to the use of information technology,

5.17 To use information technology gradually in all government activities and provide legal sanctions to them.

6. ACTION PLAN

The following action plan shall be adopted to implement the national information technology policy and fulfill its objectives :

6.1 Participation of private sectors in infrastructure development : There may be up to cent percent foreign investment in areas such as information technology park, research and development, technology transfer and human resource development.

6.2 Infrastructure development : The following arrangements shall be made for development of infrastructure related to information technology :

6.2.1 An info-super highway and north-south info-highway shall be built taking into account the rapidity of information flow, changes introduced through information flow and the gradual development of multimedia service. Nepal shall be linked with other parts of the world through a broadband information network.

6.2.2 An IT park shall be established at Banepa in Kabhrepalanchok District. Such IT Parks shall be established also elsewhere as required with private sector's participation.

6.2.3 Any company interested in establishing an industry within the park shall be levied only 1% customs duty in importing IT related equipments for the next five years.

6.2.4 Internet nodes shall be established in all development regions by fiscal year 2058/059 (2001/2002) and in district headquarters by fiscal year 2060/61 (2003/2004) with participation of the private sector in order to make Internet facility available throughout the Kingdom. In making telephone contact with such nodes, the telephone charge shall be levied on par with local calls; and telephone contact with a nearby node within the development region shall be deemed to

be a local call, so long as the node in that district is not established. The use of the Internet shall be gradually extended to rural areas as well. The charge for telephone calls to be used for the Internet shall be gradually reduced.

6.2.5 Telecommunications and electricity services shall be provided to the entrepreneurs involved in information technology sector as per their need.

6.3 Human Resource Development : The following measures shall be adopted to develop skilled manpower :

6.3.1 Necessary facilities shall be provided to the universities in the country and graduate and postgraduate-level classes of international standard shall be offered in computer science and computer engineering subjects.

6.3.2 A long-term programme with a slogan "Computer education to all by 2010 A.D." shall be formulated and computer education shall be offered as an optional subject in some public secondary schools from the coming academic year and shall be made a compulsory subject in phases.

6.3.3 IT shall be used to improve the quality of education.

6.3.4 Private sector shall be encouraged to prepare middle-level manpower required for the information technology sector. Assistance shall be provided to the private sector to set up institutions for education, research and development in the field of information technology in each development region.

6.3.5 Computer knowledge shall gradually be made compulsory to all newly-recruited teachers so as to introduce computer education in schools; and computer education shall also be provided to all in-service teachers in phases using various means including distant education.

6.3.6 Emphasis shall be given to provide computer education from the school level. Internet facility shall be made available free of cost to universities and public schools for four hours a day within the next five years to provide computer education in a systematic way.

6.3.7 His Majesty's Government shall provide scholarships to public and private sector technologists for higher study in information technology.

6.3.8 Necessary scholarships shall be provided to poor and meritorious students from remote areas to pursue higher studies in information technology.

6.4 Dissemination of Information Technology : The following measures shall be followed up for the extensive dissemination of information technology :

6.4.1 Educational institutions and hospitals in the areas where telecommunication and electricity services are already available shall be encouraged to use IT enabled services. Even in places where electricity service is not available, the development of information technology through solar power system shall be encouraged.

6.4.2 Distant learning system shall be introduced through the Internet and Intranet apart from radio and television. Networking systems like school-net, research net, commerce-net and multilingual computing shall be developed.

6.4.3 A three-year programme shall be formulated and launched to extend the use of computer in government offices. All ministries, departments and offices shall be linked to the Internet; and other agencies shall also be encouraged to be linked through the Internet.

6.4.4 Websites for all ministries, departments and district offices shall be created within one year. Necessary legal provisions shall be made to reduce the use of 203 Chapter 9 — Information and Technology Policy 2057 (2000/2001) papers by using information technology in all kinds of government activities in a phased manner.

6.4.5 An action plan shall be devised and introduced to include computer education as a subject for the examination of a specified rank and make it obligatory for the applicants taking a written examination during recruitment. Provisions shall also be made for prescribing basic computer training as a requirement for the promotion of employees.

6.4.6 Content shall be prepared to enhance Nepali materials on the Internet to preserve Nepali arts and culture as well as to develop rural areas.

6.4.7 A public awareness-enhancing campaign on the utility of information technology shall be launched extensively through the electronic media.

6.4.8 Provision shall be made for an information officer in each ministry in a phased manner.

6.4.9 In view of the present development of information technology, provisions shall be made to open voice-mail to talk point-to-point for one's own business without a link to the public switched telephone network.

6.5 Promotion of E-commerce, etc. : E-business, tele-medicine, tele-processing, distant learning, and the like shall be promoted as follows :

6.5.1 Necessary arrangements shall be made to encourage e-commerce.

6.5.2 Necessary legal infrastructure shall be created for the promotion of tele-medicine, distant learning, tele-processing and e-commerce.

6.5.3 Intellectual property right shall be protected through the formulation of necessary laws in relation to the development of information technology.

6.5.4 Provisions shall be made for the export of software and IT–enabled services through IT in the following ways:
a) The person or organisation concerned shall submit certified copies of the documents on agreements relating to export to the Nepal Rastra Bank.
b) Invoice or bill of exportation made under the agreements referred to in clause (a) shall be submitted to the Nepal Rastra Bank.
c) The Bank shall validate foreign currency earned on the basis of such documents.

6.6 Facilities : The following facilities shall be provided for the development of information technology sector :

6.6.1 One percent (1%) customs duty shall be levied on hardware, software and all kinds of computer spare parts imported by training institutions related to information technology, albeit on the recommendation of the National Information Technology Centre on the basis of services rendered and the achievements of such institutions.

6.6.2 As software development and services based on software are operated twenty four hours, such services shall be declared essential services to guarantee regular production by employees working in the companies related to such services, and arrangements shall be made accordingly.

6.6.3 A venture capital fund shall be established by utilising capital market with the joint investment of His Majesty's Government and private sector. His Majesty's Government shall make an investment of 100 million rupees initially for such a fund.

6.6.4 Domestic preference shall be given in accordance with the prevailing law on computers, spare-parts and software produced within the country.

6.6.5 Software may be directly depreciated for the purposes of income tax, whereas equipment relating to information technology may be allowed an accelerated depreciation in two years.

6.6.6 In case an investment has been made in foreign currency either as a loan or share capital required to build and operate infrastructure, the investor shall be allowed to repatriate the principal amount and interest of the loan and dividends in accordance with the prevailing laws.

6.6.7 The foreign currency earned from exporting information technology software and services shall be granted facilities on par with facilities provided to other export-oriented industries earning foreign currency.

6.6.8 An information technology development fund shall be established to create public awareness about information technology, assist rural networking, develop information technology with market management, generate required manpower for this sector and make social services easily accessible where such technology is used. Arrangements shall be made for financial contributions towards this fund from His Majesty's Government, private sector, donor agencies and others. The National Information Technology Centre (NITC) shall operate this fund. A feasibility study shall be carried out to mobilise additional financial resources by establishing information technology bond.

6.6.9 Export of software shall be subjected to an additional service charge of 0.5 % for the information technology fund, in addition to customs duties. The amount obtained from that charge shall be deposited in the fund referred to in clause 6.6.8.

6.6.10 As Nepali nationals working abroad can play an important role in the technology transfer and market promotion in this sector, they shall be encouraged to invest their foreign currency earnings in this sector.

7. INSTITUTIONAL PROVISIONS

7.1 The National Information Technology Development Council, consisting of the following members, shall be constituted under the chairmanship of the Rt. Honourable Prime Minister:

a. Rt. Honourable Prime Minister Chairman
b. Honourable Minister, Ministry of Science and Technology Vice-chairman
c. Honourable Minister, Ministry of Information and Communications Member
d. Honourable Vice-chairman, National Planning Commission Member
e. Honourable Member, National Planning Commission (Information Technology Sector) Member
f. Secretary, Ministry of Finance Member
g. Secretary, Ministry of Law, Justice and Parliamentary Affairs Member
h. Secretary, Ministry of Water Resources Member
i. Secretary, Ministry of Science and Technology Member
j. Secretary, Ministry of Education and Sports Member
k. Secretary, Ministry of Information and Communications Member
l. Computer specialist representatives, University/ RONAST (three persons) Members
m. Chairman, Computer Association of Nepal Member
n. President, Federation of Nepalese Chamber of Commerce and Industries Member
o. Persons involved in Information Technology in Private Sector (three persons) Member
p. Chairman, Telecommunications Authority Member
q. Executive Director, NITC Member-Secretary

7.2 The National Information Technology Council shall review and revise information technology policy, appraise annual progress and solve problems that may arise and carry out such other activities as it may deem necessary for the development and extension of the information technology sector.

7.3 To carry out research on and develop information technology, develop manpower required for this sector and a curriculum for information technology, improve the quality of computer training operated by the private sector, ascertain the norms and monitor these and co-ordinate such activities of establishing relations with foreign educational institutions, a National Information Technology Co-ordination Committee, shall be constituted as follows:

a. Honourable Minister, Ministry of Science and Technology Chairman
b. Honourable Member, National Planning Commission (concerned sector) Vice-Chairman
c. Vice-chancellors of any two universities Members
d. Secretary, Ministry of Finance Member
e. Secretary, Ministry of Industry, Commerce and Supplies Member
f. Secretary, Ministry of Science and Technology Member
g. Secretary, Ministry of Education and Sports Member
h. Secretary, Ministry of Information and Communications Member
i. Two information technologists Members
j. Representative, Computer Association of Nepal Member
k. Representative, Federation of Nepalese Chamber of Commerce and Industries Member
l. Executive Director, NITC Member-Secretary

7.4 National Information Technology Centre : This Centre shall be set up under the Ministry of Science and Technology. As per requirements, its regional and district level offices shall be established. It shall carry out the following functions :
a) Act as a data bank of information and assist in computerisation of records in government offices and in developing and expanding contents,

b) Act as the Secretariat of the National Information Technology Development Council and the National Information Technology Co-ordination Committee, implement or get implemented the policy and plan on information science and information technology, monitor and supervise the same and regulate the activities carried out by the private sector and submit reports on these activities to the council,
c) Render assistance in all kinds of computer-related services of His Majesty's Government. Also, render assistance in designing, updating and operating websites of all the agencies of His Majesty's Government and serve as a data depository by collecting all types of data at the national level,
d) Act as a regulator for the healthy development of information technology,
e) Arrange for coding and standardisation required to bring about uniformity with respect to information technology and implement and monitor it.

7.5 Information Technology Park Development Committee : This committee shall function as a separate body under the Ministry of Science and Technology. It shall manage and co-ordinate parks to be built in various places in the country and coordinate the construction and implementation of info-cities and info-villages.

8. LEGAL PROVISIONS

Necessary laws shall be enacted to regulate transactions to be carried out through information technology as well as other necessary arrangements pertaining to this technology and to protect intellectual property right.

9. AMENDMENT TO THE POLICY

This policy may be reviewed and amended every two years in view of technological development and expansion of services resulting from rapid developments in the information technology sector. Nonetheless, at the suggestion of various sectors, it may be reviewed and amended if necessary even prior to this period.

Annex Two: Gender Dimensions

In order to compete in the global marketplace – and more fundamentally to improve the lives of its citizens – the Nepalese Government faces the major challenge of building sufficient human capital in the country. Human capital is related to a combination of factors, including health and nutrition, life expectancy, and education.

Focusing on the latter, Nepal's adult (>15 years old) literacy rate in 2002 was 41.8 percent. The combined primary, secondary, and tertiary gross enrollment rate in 1999 was 60. Only 14 percent of all tertiary students were enrolled in science, math, or engineering between 1994 and 1997 percent (Human Development Report, 2001).

In addition there is a large gender gap in the education sector, which intensifies as one moves from the urban to rural areas.

> While 47 percent of adult urban women can read and write, only 17 percent of adult women can do so in rural areas. There is also a significant difference in female/male literacy gap among various ecological and development regions. The Kathmandu Valley has the highest female literacy rate and also the highest female/male literacy ratio. There are 68 literate adult women to 100 literate adult men in the valley, while there are only 34 literate women to 100 literate men in rural areas (Asian Development Bank, 1999, ch.2).

Families have different reasons for not sending their daughters to school. The most common is a lack of household resources. In addition, families are often reluctant to invest in a girl's education because her husband's family – and not they – will benefit from her increased income. Girls also typically have the greatest workload in the home, and often cannot be spared to attend school.

In the workforce,

> women are mainly concentrated in low-skilled, menial, and repetitive jobs and in the lower echelons of the industrial hierarchy in what is virtually an extension of their household activities. Lack of education and training opportunities, employer biases, and limited mobility due to social responsibilities combine to keep them at these lower echelons (ADB, 1999, ch.3).

Although there are very few women in senior positions within the information technology sector, the percentage of females studying IT is increasing.

> There is greater female participation in ICTs than in other engineering fields. Out of 24 seats we reserve two seats for girls (i.e. at least two seats must go to girls) (Joshi, p.c., December 5, 2002).

The Ministry of Science and Technology's human resource development program included a special provision for female students. After the first round of seats had been filled, priority was given to women to fill vacancies.

There seem to be two views on IT as it relates to women. One is an emancipatory view, which sees the potential of information technology as a tool for real social change – to lobby the Government and to advocate on women's issues for example. The other view sees IT as a tool to increase women's employment opportunities, but within the current social paradigm where a

women is confined mainly to the home. At least one interviewee pointed out the ease with which a women could work from home, using IT.

Very few women participated in the development of Nepal's IT policy, in large part because of the few professional women there are in the sector. Several people noted that there was an effort made to include women, however "they were conspicuous in their absence" (Akthar, p.c., November 6, 2002). No women sat on the steering committee and no women were involved in writing any of the six background papers, although there were a few women involved in the discussions.

Although information technology may offer greater opportunities for women in terms of employment and emancipation, there are clearly many larger gendered issues which must be resolved before women can hope to play a leading role in this or any other sector. Some of these issues include:

- women's limited access to productive assets – land and property, credit, and modern avenues of knowledge and information – reinforced by unequal inheritance laws and by social norms that confine women's resource base only to marriage
- lack of information on women's employment and wages, and underreporting or "invisibility" of women's economic activities
- concentration of women in low-wage, low-skill, menial jobs in the agriculture and nonagriculture sectors, due to lack of education, training, information, and bargaining power
- high and increasing work burden without concomitant increase in access to resources
- the "feminization" of the self-employed sector
- poor working environment – e.g. concentration at lower level jobs, poor working conditions, lack of child care facilities at workplaces, and trade unions' lack of awareness of women's problems – and the gaps between law and practice (ADB, 1999, ch.3).

Annex Three: Tombstone Data

Project Name: Formulation of Information Technology Policy and Strategy, Nepal	**Country:** Nepal
Project Number: A small grant under umbrella project 3820 (98-0006)	**Internal Funding Value:** CAD$60, 671 **Parallel Funding Value:** CAD$0 **CAP/RAP Values:**
Date of Approval: 1999 **Duration:** 6 months	**Recipient Institution:** International Centre for Integrated Mountain Development (ICIMOD) **Recipient Type :** INGO
Beneficiary Institution: National Planning Commission **Beneficiary Type:** Government Department	**Policy Domain:** Information Technology
Intent of Policy Influence: Develop new policy	**Use of Research:** knowledge generation

Annex Four: List of Interviewees

Amatya, Lochan Lal, President, CAN

Bhattarai, Manohar, ICT Consultant, UNDP ICT for Poverty Reduction project

Harris, Roger, ICT4D Consultant

Joshi, Shashidhar Ram, Head of Department of Electronics and Computer Engineering, Tribhuvan University

Kanel, Bhesk, Deputy General Manager, Nepal Telecommunications Corporation

Pradhan, Sushil, Director (Systems), Professional Computer Systems

Rana, Bandana, President, Sancharika Samuha Nepal

Rana, Greta, Senior Editor of Information, Communication and Outreach, ICIMOD

Shah, Ajit, CTO, Everest Net

Shah, Krishna, CEO, Everest Net

Shah, Rishi, Academician, RONAST and Director, Lotus Holdings

Sharma, Kiran, Coordinator of Technical Services, United Mission to Nepal, and member Nepal Internet Users' Group

Sharma, Shankar, Vice-Chairman, National Planning Commission

Shrestha, Bijaya, Chief Engineer Beltronix, and former President CAN

Shrestha, Mahesh Man, Secretary MoST

Shukla, Tapa Nath, NTV

Singh, Shishir, Director of Administration and Finance, Everest Net

Suwal, Bipin, Managing Director, Professional Computer Systems

Thapa, Timila Yami, DesignCo

Upadhaya, Gaurab, Internet Economic Analyst

Vaidya, Ramesh Ananda, former Vice-Chariman, NPC

Annex Five: Terms of Reference

A. Background

Many IDRC project and program objectives reflect the expectation that the research supported will influence public policy at the national and local levels. Within projects and programs, the Centre staff promote various means of linking research to public policy, and research supported is often reported to have enhanced decisionmakers' awareness of policy options or to have been otherwise taken into account in policy processes. If the Centre is going to increase (and improve the performance of) its portfolio of projects with this mandate, the Centre needs to address what it means by "policy influence". Initial discussions with Centre staff, and reviews of the literature and other relevant Centre documents point to three key questions: (1) what constitutes public policy influence in IDRC's experience; (2) to what degrees, and in what ways, has IDRC-supported research influenced public policy; and (3) what factors and conditions have facilitated or inhibited the public policy influence potential of IDRC-supported research. This will serve two main purposes: first, it will provide learning at the program level which can enhance the design of projects and programs to address policy issues where that is a key objective; second, it will provide an opportunity for corporate level learning which will provide input to the strategic planning process, providing feedback on performance, and feeding the design of the next corporate program framework.

The cases studies will form one important set of data in improving the Centre's capacity to support research which "will foster and support the production, dissemination and application of research results leading to policies and technologies that enhance the lives of people in developing countries." (from *IDRC program directions 2000-2005*, p.16). Attached are three documents which provide the background to the overall study: 1. Study Overview; 2. Framework Paper by E. Lindquist; and 3. Literature Revievw by S. Neilson.

The focus of case studies will be on the development of rich case studies that explore not only the IDRC work undertaken but also the changing context in which the work was carried out and the processes that were used. It is anticipated that the study will cover a range of stories to include cases where policy outcomes may be perceived as either positive or negative (i.e., research leads to "good" policymaking or "bad" policymaking). The cases will present detailed stories of the policy influence process. The story will be developed through: (1) A review of documents including project design documents, monitoring documents (inter alia, technical reports, trip reports, correspondence) and project reports; and where they can be located; (2) Interviews with project leaders and project participants; (3) Interviews with those said to have been influenced; and (4) Interviews with relevant IDRC staff (e.g. responsible PO's).

B. TORs

As part of building a corporate response to the three key questions outlined above, the consultant will prepare the following case study (ies): ___*[insert project name(s) and number(s)]*___ Preliminary tombstone data and instructions for file access are enclosed.

In order to prepare the case study, the consultant is expected to have reviewed project documents prior to any interviews and to know the role of the interviewee in the project. Interviews should normally move out from those most directly affiliated with the project to those purported to have been affected by or to have used the results in some way. Because there is inherent bias in interviewees to present findings in the best possible light, triangulation of data sources is crucial. Every effort should be made to ensure that interviews are conducted with representatives of at

least three of the main groups involved: project implementors, beneficiaries, POs, policy makers and where applicable related project participants (other funded or departmental studies which have been linked to the project). The consultant will normally have an opportunity for follow-up visits for data verification or further data collection where warranted.

The consultant will collect data in three key areas:
1. about what led to the project

– How did you get involved in [area of exploration] in the first place?
This has to do with clarifying the role of the interviewee as a leader, a respondent to an issue that was raised, as someone who has seen this field for a long time, as a policy maker, researcher, funder, etc.. In the case of interviewing a PO, this might be expressed in terms of response to a proposal, in terms of project development with regards to how policy influence may or may not have been incorporated into the proposal, in terms of their leadership in a research field; in the case of a researcher, this might be raised in terms of a problematique in their country, in terms of fall-out of their previous research, in terms of a dialogue with a PO, in terms of a proposal they have been floating for a long time seeking funding, etc. In the case of a purported beneficiary, their involvement might be much later in hearing the results and connecting them with an issue in their Ministry, Department or Organization.

2. about the project

– **When it was started, what did [the project] intend to achieve**?
Here one knows the objectives already, it is a discussion starter with the interviewee; they can be prompted as appropriate with the project objectives. One should identify the nature of the project as characterized by the interview, in terms of capacity building objectives, the policy influence objectives if any, the overall intent of the activity. This should also include the researcher's understanding of policy influence in terms what that means, what that entails (assumptions, hypotheses re: influencing policy). If any areas of objectives are left out, they should be introduced by the interviewer.

– **What happened?**
What was accomplished (were project objectives met, changed, completely revised, not met, but good things happened, not met but bad things happened; nothing happened, etc.) Here the interviewer is expected to move the interview towards policy related influence, but without closing off areas of activity which might have led to policy influence later. Where there is policy influence identified (as there should be in all cases), the interviewer needs to probe who was influenced, including their positions at the time of influence and their current positions if known, and in what ways. This could include (but is not limited to) the following:

People inside the policy process:
(1) policy workers (those in the front line of policy recommendation and development)
(2) policy decision makers (those in charge of policy decisions: political and bureaucratic)

People outside the policy process:
(1) those who directly influence policy makers
(2) those who indirectly influence policy makers

The interviewee should give an indication of what indicators they are using to determine if there has been policy influence and how they define it. This will be a crucial data set in defining policy influence. Types of policy influence (after Lindquist) include (but are not limited to):

– Expanding policy capacities
Improving the knowledge / data of certain actors
Supporting recipients to develop innovative ideas
Improving capabilities to communicate ideas
Developing new talent for research and analysis
Broadening of policy horizons
Providing opportunities for networking / learning within the jurisdiction or with colleagues elsewhere
Introducing new concepts to frame debates, putting ideas on the agenda, or stimulating public debate
Educating researchers and others who take up new positions with broader understanding of issues
Stimulating quiet dialogue among decision makers and among or with researchers

– Affecting policy regimes
Modification of existing programs or policies
Fundamental re-design of programs and policies
The consultant will identify behavioural change associated with these three types of influence and any additional types of influence which do not appear to fit this categorization will also be named.

Capacity building is a critical dimension of policy influence. By capacity building, we refer to the process by which individuals, groups, organizations and institutions strengthen their ability to carry out their functions and achieve the desired results over time (Peter Morgan 1997). This refers therefore to the capabilities of individuals, organizations, institutions, and to the strengthening of relationships among them.

– Why did it happen?
This is crucial as it deals with the relationship between the context and the project. Type of governance regime in the country is a critical factor for consideration. Perceptions about why should vary among interviewees and the discussion will build from interview to interview on a project. What were the contextual factors and what were the capacity factors within the project team? What favoured/inhibited progress? Who did what? Here, one should be identifying the key influences both within the project and in its enabling environment which caused the project to develop as it did. Dissemination strategies should also be explored.

3. about what happened after the project
Depending on the age of the project, it is crucial here to explore what is perceived to have been influenced by the project, when that influence occurred and whether or not the policy change or change in mind set (if any type of change actually happened) endured.

Here it is important to come back to outcomes and outputs of the project which may have appeared to have no policy linkage during the time of the project, but which may have had some later.

External factors are key to consider here: what changed, what remained constant in the political, legislative, economic, technical and social environments related to the project's work?
Tracing organizations and individual project members is critical: where did they go? What did they go on to do?

Tracing beneficiaries is also key: what was their role in sustaining the change (if any); what was their role in introducing new changes? Where did they go and what did they go on to do?
We are particularly interested in the role of the PO and IDRC generally in these processes: what is the perceived role (by project participants, aby beneficiaries, by other related individuals and groups)?

Dissemination strategies should be reviewed.

Gender

Gender dimensions are discussed here, but relate to all stages of the activity - planning, implementation and post project. Gender should be considered with regards to tracing of project implementation team members as well as beneficiaries: were both men and women involved in the policy influence process and in what ways? How was this perceived by policy makers and by researchers (contributing inhibiting, neutral factor)? Was analysis gender sensitive or gender neutral at all stage of the policy influence process:

problem definition
definition of goals and beneficiaries
definition of research agenda
definition of research policy interface and linkages
formulation of policy options
choice of preferred options
(Where applicable, implementation, M&E, policy revision processes)

Each area should cover the opening question first, followed by questions and discussions to elicit information related to the three main questions of the study

C. Tombstone Data

In addition to the case elements outlined, for purposes of data analysis, the consultant will include in each case the following information (items 1*-7* to be provided by the Centre):

1. Project name*
2. Project Number*
3. Dollar value*
4. Project start date (right term?)*
5. Project duration (until legal Closure)*
6. Name of recipient institution(s)*
7. CAP/RAP break (Centre-administered portion of funds, vs recipient administered portion of funds)*
8. Intent of policy influence: while it may be clear from the objectives whether or not policy influence was intended in a given activity, other aspects of the project document may require review in order to determine the intent vis-a-vis policy influence.

9.Type of project recipient:
Research Centre
University
NGO
INGO
Government Department
    a. International
    b. National
    c. Provincial
    d. Local
Government Specialized agency
    a. International
    b. National
    c. Provincial
    d. Local
UN agency
Other multilateral agency
Consultant (individual or organization)

10. Type of project beneficiary identified (if not same as recipient):
Research Centre
University
NGO
INGO
Government Department
Government Specialized agency
UN agency
Other multilateral agency
Consultant (individual or organization)

11. Type of use identified for the research (per Carol Weiss):
problem solving
knowledge generation
enlightenment
political
tactical
interactive
intellectual

12. Policy area (wide open category in terms of what area of policy is intended to or is influenced), e.g.,
– policies for ICTs in schools

D. Process

The consultant will participate in a meeting with the evaluation unit and other consultants on the study. The purpose of the meeting is to: consult about the TORs and ensure as much consistency as possible across sites; and present the consultants with the view of the project as a whole and the role of the case studies in the evaluation.

On completion and write up of the case study, the consultant will, at the invitation of the Centre, participate in a regional-level analysis of the cases in the region. Other participants would include other consultants, some of the project leaders (possibly from the studies involved, or other related projects in the region), regional POs, RD, 1 or 2 "experts" from the region, and a member of the evaluation team.

The consultant will make a brief presentation, describing the case and indicating preliminary findings. The consultant may be asked to facilitate the data analysis or may be asked to be an active participant in the process.

Following the workshops, the team may determine that it is advantageous to follow up the findings with further data collection in the field, either for the introduction of new respondents or to gather data in areas not yet addressed in the case.

Upon completion of the case studies, and the development of a regional analysis, the Unit may invite the consultant to participate in a preliminary global analysis of the data. On the basis of these documents, the consultants will be reconvened with the evaluation team for further analysis of the findings.

E. Products

The consultant will work with the Centre to identify and locate the appropriate individuals to be interviewed. The consultant may also have to search out individuals who are no longer known to the Centre but who were central to the project.

Based on the TORs and reading the project file, the consultant will develop interview guides for interviews with project leaders and participants, program officers, beneficiaries and others reached in the implementation and follow up to the project. These interview guides will be shared with and approved by the Centre.

The consultant will submit trip reports for all travel related to the project. These trip reports should include the names and coordinates of all interviewees as well as any preliminary findings which might be of relevance to other consultants carrying out case work elsewhere.

The consultant will submit copies of all interviews conducted as they are written up.
The consultant will provide a draft report to the Centre for its comment.

Based on feedback, the consultant will revise the report for use at a regional or Ottawa consultation.

Based on the findings of the consultation, further revisions will be incorporated into a final report.

References:

Peter Morgan, 1997. The design and use of capacity development indicators. Paper prepared for CIDA.