



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

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### **Bhutan – Country Report**



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## ICT DEVELOPMENT IN BHUTAN

The momentum of ICT development in Bhutan picked up with the introduction of Internet and television for the first time on 2 June 1999.

Bhutan has a digital telecommunicationis network covering all districts and urban centres, and an estimated 21,500 telephone users. It has one ISP, Druknet, with international connectivity through KDDI, Japan (1 Mbps), BT, London (1 Mbps), and Intelsat Germany (640 kbps). There are approximately 1,600 Internet dial-up account holders with Druknet and 26 leased lines. It is estimated that Bhutan has about 5000-6000 computers, most of them in government and semi-government organisations. There are about 225 IT professionals, 16 ICT vendors and solution providers, and 14 IT training institutes and 2 government institutes where IT trainings are provided.

Many government departments have established IT units and manage their LANs and develop their own websites. The Ministry of Trade and Industry is implementing an e-commerce preparatory project focussing on women, the Ministry of Agriculture is implementing its enterprise network to link all research centres, the Ministry of Health has piloted a Telemedicine project, the education sector is implementing the Education IT Master Plan. The Department of Information Technology is conducting nation wide ICT campaigns in schools, and the Department of Planning is implementing Planning Information Network (PIN) and providing training to district sector heads on the use of ICT. Financial institutions have computerised their systems. Kuensel, the only print media in the country runs an interactive and dynamic website, and travel agents use Internet and e-mails for marketing and customer services.

## ICT POLICY, E-STRATEGIES AND ACTION PLANS

Despite many past initiatives and plans pertaining to ICT, there has been a growing perception of lack of a nation-wide concerted effort to promote ICT at all levels. Following its recent (July 2003) establishment, the Ministry of Information and Communications has embarked on developing an ICT White Paper for the country based on the Digital



Opportunity Initiative (DOI). It is being developed with broad consultations with all sections of society, including government and semi-government organisations, the private sector and representatives from the stake holders at large. The White Paper will seek the endorsement and commitment of the highest level of government, the Cabinet Ministers. The “Asian Forum on ICT Policies and Strategies” is therefore a very timely opportunity to review what we have done so far, vis-à-vis the White Paper, which will be the main guiding force for future ICT development in the country, as well as to take back valuable insights from the experiences of other participating nations, most of whom are at the forefront of the ICT revolution.

The Bhutan Information Technology Strategy (BITS), formulated in 1999 provided the necessary direction in the development of the Bhutan ICT Master Plan in 2001. These documents together with consideration of changes in technology that have taken place since, formed the basis of the programmes and projects of the 9<sup>th</sup> Five Year Plan (2002 – 2007). Some of the priority programmes of the plan are:

- Enactment of ICT Act for the country
- Incorporation of Unicode Dzongkha (the national language) system into major Operating Systems
- Drafting of Media Act
- Implementation of an appropriate electronic signature to pave way for e-governance and e-commerce
- Implementation of local area networks (LANs) in all district administration offices
- Developing a government-wide broadband network
- Establishment of Public kiosks and e-posts
- Computerisation of geog administration offices
- Study for establishing cyber-parks
- Conducting ICT pormotional activities in schools
- Formulating policies and plans to strengthen the ICT private sector

The draft ICT Act for Bhutan has already been completed, and the drafting of the Media Act has started. Both will be submitted together to the National Assembly during the 2004 session. The Unicode Dzongkha system and font developments are in the final stages, and incorporation into major operating systems is expected soon. The government has already



started work with Bhutan Post (a corporation) to implement e-post in the country. ICT promotional activities in schools, carried out since last year will be a continuous process. Bhutan has also completed (August 2003) an e-readiness report.

## WTO AND GLOBALISATION

Bhutan is currently in negotiation to accede to the WTO. It has passed “The Copyright Act of the Kingdom of Bhutan” and “The Industrial Property Act of the Kingdom of Bhutan, 2001”. Bhutan is member of WIPO. It is also party to the following conventions relating to intellectual property:

- Convention Establishing the World Intellectual Property Organisation (16 March, 1994)
- Paris Convention for the Protection of Industrial Property (4 August, 2000)
- Madrid Agreement Concerning the International Registration of Marks (4 August, 2000)
- Protocol relating to Madrid Agreement Concerning International Registration of Marks (2000)

The ICT Act of Bhutan, mentioned above, was drafted by an international consultant, and completed in August 2003. It has taken into consideration Bhutan’s accession to the WTO.

## REGULATORY FRAMEWORK

The Telecommunications sector is governed by the Bhutan Telecommunications Act 1999, and Bhutan Communications Authority (BCA), under the Ministry of Information and Communications is the regulatory authority.

The ICT and Media Acts will be submitted to the National Assembly Session in 2004. The ICT Act contains provisions on a comprehensive range of ICT issues including, provision of ICT facilities and services, radio communications, cyber issues (e-commerce, e-governance, e-signature, consumer protection for e-commerce, online privacy, domain names, ISP(operations and liabilities) and certain cyber offences. Besides, the Act contains



provisions for an independent regulatory body and a Bhutan Communications Appellate Tribunal. It is worth mentioning that the Act also contains a provision for privatisation of Bhutan Telecom, a fully government owned and the only telecommunications and Internet service provider in the country.

## **CONTENT AND APPLICATIONS**

Almost all applications developed in the country are by government offices and are mainly database systems. Some of the prominent applications include, the Budget and Accounting System (BAS) of the Department of Budget and Accounts, the Personal Information System (Zhiyog system) of the Royal Civil Service Commission, Bhutan Automated Customs System (BACS) and Revenue Management System of Department of Revenue and Customs. In addition to these systems some ministries have developed their own Management Information Systems. A census system is being developed by the Ministry of Home and Cultural Affairs and the Ministry of Labour and Human Resources has embarked on development of an online job portal.

Most government offices and a good number of private companies, especially tour and travel companies, share information and communicate via their own websites. A government web portal has also been launched. However, most of these websites are static.

The use of Dzongkha (the national language) for content development is very much constrained by the absence of a standard Dzongkha system and fonts. There are multiple incompatible and proprietary fonts in use today. However, the completion of the Dzongkha Unicode project mentioned above will usher in an era where computing in Dzongkha will be possible both within the country and internationally.

## **PUBLIC PRIVATE PARTNERSHIPS**

Privatisation and competition are preferred means of establishing ICT facilities and delivery of ICT services and capabilities. In this respect public private partnerships (PPP) have a significant role to play. While the global nature of the ICT industry is that it relies on FDI and relatively easy flow of capital, it is currently quite difficult in Bhutan. The ICT Act mentioned



above, has been designed to facilitate FDI, especially in the areas of infrastructure, human resource development and in provision of e-services.

## CONCLUSION

Some of the constraints and challenges Bhutan faces in the ICT sector include:

- high cost of providing telecommunications and Internet services
- Computers and accessories relatively very expensive for the average Bhutanese
- lack of sufficient financial resources and lack of FDI
- lack of appropriately trained human resources
- very low telephone density (about 3%)
- inadequate regulatory framework
- difficult terrain, leading to high infrastructure establishment cost
- insignificant private ICT sector in the country

Efforts are already underway to overcome these challenges. They include the establishment of the Ministry of Information and Communications in July 2003, the drafting of the ICT Act of Bhutan and the development of the ICT Policy White Paper. The opportunity for Bhutan to participate in this forum, which cannot have come at a more appropriate time, will go a long way in contributing and shaping Bhutan's ICT policies, strategies and action plans, which will ultimately determine how effectively Bhutan can harness the huge potential of ICT.