

ICT DEVELOPMENT IN THE KINGDOM OF BHUTAN

Presented by:
Bhutanese Delegation

The views expressed in this paper are the views of the author and do not necessarily reflect the views or policies of the Asian Development Bank (ADB), or its Board of Directors or the governments they represent. ADB makes no representation concerning and does not guarantee the source, originality, accuracy, completeness or reliability of any statement, information, data, finding, interpretation, advice, opinion, or view presented.

ICT VISION

- WITH PEOPLE AT THE CENTER OF DEVELOPMENT, BHUTAN WILL HARNESS THE BENEFITS OF ICT, BOTH AS AN ENABLER AND AS AN INDUSTRY, TO REALIZE THE MILLENNIUM DEVELOPMENT GOALS AND WORK TOWARDS ENHANCING GROSS NATIONAL HAPPINESS.

INITIATIVES OF THE ROYAL GOVERNMENT OF BHUTAN

- The government of Bhutan established **Ministry of Information and Communications** in July 2003 as a separate Ministry to coordinate ICT development in the country.
- The Ministry before July 2003. The Ministry of Communications, Roads, Housing, transportation, Planning of Towns etc.

ICT WHITE PAPER

- Realizing paramount importance of ICT as an enabler in the socio-economic development of the country, the **ICT White Paper** was formulated by the Ministry of Information and Communications.
- The White Paper highlights ICT policy, vision, Strategic Components and Future directions.
- The five strategic components necessary for ICT development as specified in the white paper are:
 1. Infrastructure
 2. Human Capacity
 3. Policy
 4. Enterprise and
 5. Contents and Applications

The ICT white Paper has been endorsed by and has received support from the highest level .

BHUTAN ICT POLICY AND STRATEGY (BIPS)

- The formulation of Bhutan ICT Policy & Strategy (BIPS) as a follow up to the White Paper is in the advanced stages.
- This will serve as a reference and guidelines to coordinate the development of ICT across all sectors in the country.
- The Five Committees formed are currently working on the formulation of the BIPS
- The formulation of BIPS involves representatives from all sectors

INFORMATION, MEDIA AND COMMUNICATIONS DRAFT ACT

- The ICT act and the Media act has been converged together to be called The Information, Communications and Media Act.
- The draft act will be submitted to the National Assembly in July 2004.
- This act will create conducive environment for development of ICT in the country.
- Convergence of all aspects of ICT and Media will be provided for in the ACT.

The background is a blue gradient that transitions from a lighter blue on the left to a darker blue on the right. A thin, light blue curved line starts at the top left and arcs across the top of the slide. The text is centered in the middle of the slide.

EXISTING ICT INFRASTRUCTURE

1. TELECOMMUNICATIONS NETWORKS

The Bhutan Telecom corporation, the only service provider with infrastructure for providing ICT services in the country:

- Satellite links for International communications
- Domestic Digital Microwave System
- DRMASS System
- Local and INTS Switching systems
- DAMA Satellite services
- GSM 900 Cellular services
- The only ISP for Internet

PLANS IN THE NEAR FUTURE

- OPGW (Optical Power Ground Wire) transmission lines for the western region started.
- Rural Telecom project to be implemented by BT.
- East-West PDH Digital Microwave system to be upgraded using SDH microwave systems at STM-1 level.
- IP Based Networks will be part of the Rural Telecom Project.
- Studies will be conducted to replace all ground wires on power lines with optical fiber cables.

2. CABLE TV OPERATORS

- The television broadcasting was first launched in June 1999.
- Licensing of Cable TV Operators also started in 1999.
- At present there are 36 cable operators spread over 19 of the 20 districts.
- The Cable TV network covers almost all the places where there is electricity.

4. VSAT COMMUNICATIONS

- One VSAT operator licensed in 2003 to provide voice and data communications services.
- Basically the VSAT operator licensed to compete with BT.
- Initially may provide services for lease line customers.

IT TRAINING INSTITUTES

- Computers first Introduced in mid 80s.
- There are 16 IT based firms including suppliers, service and maintenance centers at present.
- There are 18 computer training institutes including one government institute, established in different urban centers of the country.

ICT APPLICATIONS AND CONTENT DEVELOPMENT FRONT

- Government Web Portal to facilitate access to various Web addresses
- Dzongkha font is being developed
- IT promotion at schools
- Establishment of computer networks in schools and government offices
- Setting up of Planning Information Network in all the district head quarters (Data Base Systems).
- Possibilities of establishing National IT Park being explored by the Ministry

APPS AND CONTENT DEV FRONT (CONTD.)

- E-learning initiatives being coordinated by the Education ministry.
- Setting up of e-Post in various parts of the country being implemented by the Bhutan Post and BT. Assistance provided by UPU, ITU and the Government of India.
- E-Government pilot project assisted by UNDP and implementation by DIT.
- Establishment of ICT Units in all the government ministries. This is felt to be an important step.
- Positive progress in Telemedicine across the country assisted by JICA
- Most agricultural research centers have been networked by WAN

CONSTRAINTS AND LIMITATIONS

- De-regulation of the Telecoms sector started sometime in the 80s.
- Before De-regulation most telecom companies owned by Governments.
- Grants and other assistance available for providing the Missing Link.
- Donors realized that Telecoms made money for Governments in the early 90s.
- Missing Link becomes the Digital Divide.
- Assistance for network building stops.

CONSTRAINTS AND LIMITATIONS (CONTD)

- The Digital Divide widens.
- All sectors compete for the limited resources.
- Difficult for ICT to be given priority. Hungry to be fed etc.
- **ICT DEVELOPMENT HAMPERED BY LACK OF FUNDS.**
- Availability of hardware another problem.
- Lack of human resources yet another obstacle.
- Most donors and International agencies not geared for assisting ICT sector

CONSTRAINTS AND LIMITATIONS (CONTD)

- Have Hardware, software etc.
- How about literacy?
- Literacy about 56%. This is not computer literacy.
- The problem seems to get bigger.
- NO fiber connection to the NET. Cost of access is high as it is Satellite based.

CONSTRAINTS AND LIMITATIONS (CONTD)

- Several seemingly very difficult problems.
- Need International and Regional Co-operation, and Political commitment at the National Level for effective ICT development.
- ICT development must cater to all these issues.

CONCLUSION

- With the formulation of BIPS and the concerted effort of all the stakeholders, we would like to see that ICT in BHUTAN develops AS AN ENABLER AND AS AN INDUSTRY so that people can harness the benefits of ICT and work TOWARDS ACHIEVING GNH.