

ITU-D Regional Development Forum for the Asia
Pacific Region

"NGN and Broadband, Opportunities and Challenges"
Yogyakarta, Indonesia, 27-29 July 2009



Case Study on Sustainable National Broadband Proliferation

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- **Broadband and its Definition in the context of Nepal**
- **Available Technologies for Broadband in Nepal**
- **Rural Broadband Models**

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Broadband and its definition

- Definition in terms of speed $\geq 128\text{kbps}$
- Definition in terms of services- Multiple services, voice, video and data
- Defined by National Regulators

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Available Technologies for Broadband

- ADSL by incumbent operator
- Optical/coaxial Cable
- EVDO & EDGE
- 3G On Testing by incumbent operator
- Radio/Wi-Fi (802.11a/b/g) in ISM band
- VSAT

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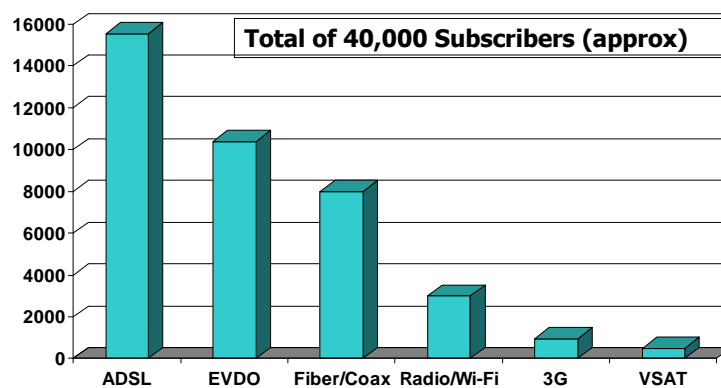
Broadband Technologies (contd)

- Urban areas
ADSL, Fiber/Cable , 3G
- Rural Areas
EVDO, Wi-Fi, VSAT
- NGN and WiMax: N/A, only Planned

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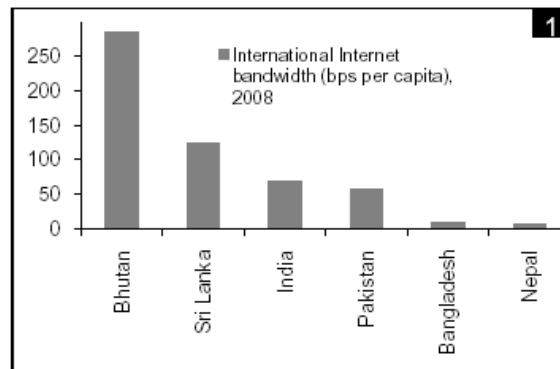
Broadband Services



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International Bandwidth (SAARC benchmarking)

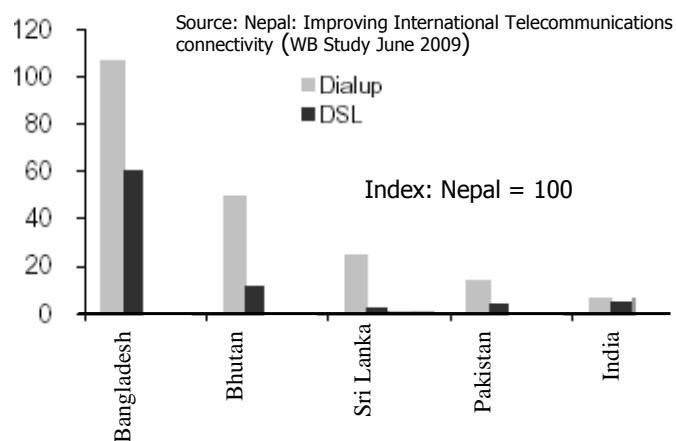


Source: Nepal: Improving International Telecommunications connectivity (WB Study June 2009)

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Relative Costliness



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Rural Users

- Communities
 - Schools, User Groups, NGOs and INGOs
- Government Agencies
 - Post Offices
 - Local Governments DDC/VDC
- Projects

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Rural Broadband Models

Community Based Models

- The equipment are owned by the community,
- funded by government or non-government organizations,
- access is extended through the radio links,
- to provide broadband service through community centers

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Rural Broadband Models (contd.)

School Based Models

- The equipment are owned by the school,
- Partially or completely funded by government or non-government organizations,
- access is extended through the radio links,
to provide broadband service

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Rural Broadband Models (contd.)

■ DDC/VDC Model

- The equipment are owned by the DDC/VDC,
- funded by government or non-government organizations or by the both
- access is extended through the radio links (WiFi),
to provide broadband service

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Rural Broadband Models (contd.)

- **Post Office Model**
 - The equipment are owned by the Post Office,
 - funded by government or donor agencies or by the both
 - access is extended through the CDMA or VSAT systems to provide broadband service

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Rural Broadband Models (contd.)

- **Operator Based Model**
 - The equipment are owned by the Operators,
 - funded by government or operators themselves
 - access is extended through the radio links (WiFi), or VSAT to provide broadband service

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Programs in Pipe Line

- Wireless Broad Band for E-governance
 - ADB Funded Program for 2,000 VDCs out of 3,915)
 - Tele-medicine
 - Education
 - Office Automation
- Extension of ADSL to all urban areas (62,000 lines)
- District Optical Fiber Connectivity (75 districts)

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Major Issues & Challenges

- Quality of copper Loop for ADSL
- Issues regarding sharing of local loop
- Bandwidth High Costs
- e-readiness
 - Lack of proper applications e.g. local content
 - Inadequate knowledge
 - Inadequate Coverage

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