

**Information and Communication
Technology in Bangladesh
*Issues, Challenges and Opportunities***

Presentation

by

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at

**AEDSB Seminar, World Bank Office,
Washington DC**

4th September, 2002

Outline of Presentation

- ❖ Background of Development of ICT in Bangladesh
- ❖ Present position of ICT in Bangladesh
- ❖ Opportunities
- ❖ Major Constraints
- ❖ Some Recent Developments
- ❖ Future Prospects
- ❖ Concluding Remarks

Background

Computer use started in 1964

- IBM 1620 at the Atomic Energy Centre, Dhaka
- Used by Universities

Banks, Insurance Companies and Utility Companies

- Accounting and Consumer Billing
- Electricity / Gas / WASA (67-68)

Independence in 1971

- Financial Crisis
- “Mainframe” installations closed down
- 1979 : IBM 370 at BUET
 - Bureau Service
- Mainframes and Minis
 - IBM S/34, S/36, 4341

Telecom Infrastructure in Bangladesh

- ❖ 700,000 fixed lines (90% in service)
 - BTTB (Government monopoly)
- ❖ telephone density : 0.5 lines per 100 population
 - one of the lowest in the world
- ❖ average telephone density is 0.05 per 100 people in rural areas
- ❖ 800,000 mobile cellular telephones
 - impressive growth; >100% CAGR
 - 16,000 village phones in 15,000 villages providing teleaccess to 30 million people

The Digital Divide

- ❖ Global Internet Population : 550 million
 - Annual growth : approx 30%
 - $\approx 9\%$ of global population
- ❖ Present position in Bangladesh
 - 700,000 Internet/E-mail users i.e. $\approx 0.55\%$ of population (*1/16 th of global average*)

Global Connectivity

❖ Internet

- Private sector ISPs (June 1996)
- VSAT initially licensed by BTTB
deregulated in 2000
- around 75 ISPs
 - mostly in Dhaka
 - gradually spreading to other Cities/Towns

❖ E-mail

- Dialling from outside 1994
- 150,000 account holders
 - CAGR > 100%
- c. 700,000 users

Global Connectivity

(contd.)

- ❖ Broadband – wireless or cable
 - available in Dhaka and Chittagong
- ❖ Submarine Cable connection to Global Information Superhighway

being negotiated with SEA-ME-WE 4 Consortium to be commissioned hopefully by 2004; MOU to be signed today at Bali, Indonesia

Recent Developments

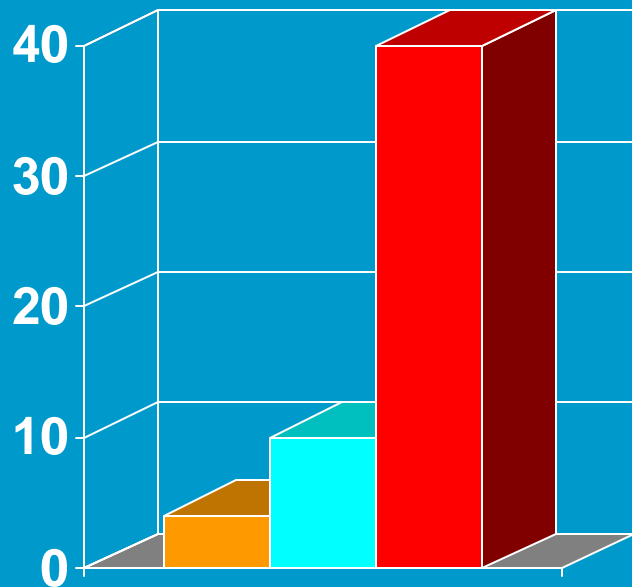
- ❖ June 1997 : Committee appointed by the Government
 - Export of Software and Data Processing Services from Bangladesh
 - Members from Government, Private Sector, IT Professionals, Academia
- ❖ September 1997 : Committee submits report
 - 45 Recommendations
- ❖ January 1998 : Recommendations accepted by Government and being implemented now
 - ❖ *around 30% implemented*
- ❖ January 2002 : Revised Recommendations submitted to Government

Bangladesh's Strengths

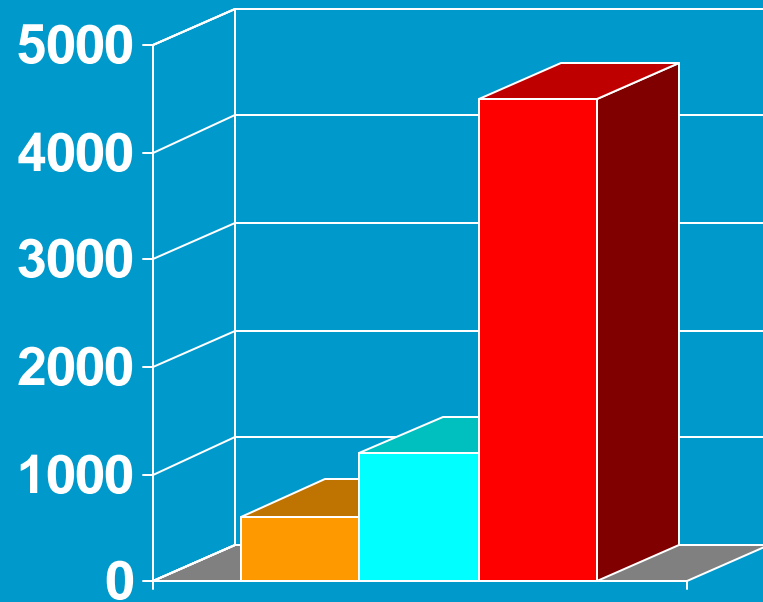
- ❖ A substantial number of educated unemployed youth force, with ability to read and write English
- ❖ Quite a few Bangladeshi skilled IT professionals working abroad (NRBs)
- ❖ Universities in Bangladesh are turning out an increasing number of graduates in Computer related subjects every year
- ❖ A large number of Bangladeshi students are studying overseas in Computer related subjects.

Bangladesh's Strengths(*contd*)

❖ Bangladesh offers a very attractive cost-effective wage level, viz.



Data Entry (10,000 keystrokes)



Programmer (US\$ per month)



Fiscal

- ❖ Import Duties , Taxes and VAT withdrawn from all computer hardware and software in 1998; FY02-03 budget proposal included 15% duty + VAT; withdrawn later
- ❖ Tax holiday allowed for 5 consecutive years
- ❖ 15% price preference for locally developed software
- ❖ Banking procedures amended and simplified
- ❖ Working Capital loan without collateral
- ❖ Equity Participation Fund (Tk. 3,000 million)

Infrastructure

- ❖ Software Copyright Act enacted in 2000
- ❖ BERNET (Bangladesh Educational & Research Network) set up
- ❖ High Speed Data Communication network (Fibre Optic Backbone) being set up in the country by BTTB
- ❖ Internet being made available to public at affordable rates (< 50 paisa per min)
- ❖ HighTech Park with high speed data links being established at Kaliakoir, 40 km from Dhaka
- ❖ Cybercafes, Public Kiosks

Rural Areas

- ❖ Danger of increasing urban / rural disparity
- ❖ Mobile Grameen phones
 - 16,000 “phone ladies” in 15,000 villages providing teleaccess to 30 million people
- ❖ Grameen Communications
 - Solar powered computers
 - Village e-mail service
 - Village internet programme
 - Grameen cyber kiosks

Human Resource Development

- ❖ 38 Universities + 4 BITs + 31 colleges under Natl Univ. offering undergraduate degrees in IT related fields
 - Annual output c. 2,500 p.a.
 - 2006 c. 10,000 p.a.
- ❖ Degrees from Foreign Universities : 5
- ❖ Post-graduate diploma in IT to convert graduates in allied fields to IT professionals (leading to MCA)
 - 6 Universities around 300 per year

Human Resource Development (contd.)

- ❖ Large number of training institutes with franchises from internationally recognised institutions
- ❖ Programming competitions for students
 - National
 - International
 - BUET emerged as the regional champion (hosted by IIT Kanpur) and 11th in the World Finals in Florida, March 2000 and 29th in the World finals held on 10 March, 2001 at Vancouver, Canada

Access to Information

- ❖ Difficulties in getting access to documents in public sector organizations
 - Review existing laws, regulations to establish the right of a citizen to view all documents unless related to state security; *Freedom of Information Act being drafted by Law Commission*
- ❖ Electronic Government
 - All forms to be made available on the web
 - All government departments/ministries dealing with members of public to have webpages
 - Procurement of goods and services

Marketing

- ❖ Domestic market being developed
- ❖ NRBs in North America being mobilized
 - SBIT2000, TechTransfer NA (+BD)
- ❖ Participation in International Fairs and Shows (COMDEX, CeBIT)
- ❖ Software Expos being organized
- ❖ Foreign Teams visiting Expos in BD
- ❖ Marketing office in USA (EPB+BASIS)

CD and Multimedia Products

- ❖ Export from Bangladesh to North America and Latin America
- ❖ Cartoon Animation
- ❖ Banglapaedia (Asiatic Society)
- ❖ JMBP Archiving
- ❖ CD-based magazines

ICT-related Organizations

- ❖ 1979 : BCS (Bangladesh Computer Society)
3000 members
- ❖ 1989 : BCS (Bangladesh Computer Samity) :
280 members
- ❖ 1997 : BASIS(Bangladesh Assocn. of
Software & Information Services) : 80
members
- ❖ 2001 : ISP Association
- ❖ 2001 : E-Commerce Association

Prospects

- ❖ E-Commerce
 - Grameen Udyog selling Grameen Check
 - banglabooks.com
- ❖ Problems : Money transfer, Security, Privacy
- ❖ Voice over IP
- ❖ Access to Internet using Telephones only
 - www.internetspeech.com (developed by Dr. Emdad Khan, USA)
- ❖ Broadband Access : cable , wireless

Opportunities

Software Development/Services

- ❖ Becoming increasingly competitive
- ❖ Affected by recession in global economy

IT-enabled services

- ❖ declining charges of telecommunications
- ❖ declining cost of computing

resulting in

cost advantage of outsourcing to countries where manpower is relatively inexpensive

International Back-office Operations

- ❖ Call centers
- ❖ Data warehousing/mining
- ❖ Software development
- ❖ Website design
- ❖ Engineering design
- ❖ Medical records
- ❖ Legal records
- ❖ Magazine editing
- ❖ Accountancy
- ❖ Finance management

Opportunities (contd.)

IT-enabled Services

examples

- ❖ Data Entry
- ❖ Back-office Computing
- ❖ Medical Transcription
- ❖ Insurance Claims Processing
- ❖ Payroll
- ❖ Legal Database
 - creation and maintenance

IT-enabled services

- ❖ Multimedia content creation (CD-ROM, Web)
- ❖ CADD Conversion
 - manually drafted drawings to autocad/database
- ❖ Engineering Design, CADD
- ❖ Translation
- ❖ Animation

Some recent initiatives

- ❖ Community Access Facility at Madhupur and Mirzapur : Grameen Communication)
- ❖ Telemedicine : 2 companies working
- ❖ Electronic transactions and Cyber Crimes Act has been drafted – being reviewed by stakeholders
- ❖ Computer Education for School Children in remote villages – pilot project of Learn Foundation in Sylhet with MIT, USA

Policy Initiatives

- ❖ IT Policy drafted and submitted to the Government in 2000

July 2001 : Cabinet approves, but sends it to committee (of 5 Secretaries) to find out if there are conflicts with other policies

- ❖ Another policy drafted by FBCCI and submitted to GoB

Some recent initiatives

(contd.)

- ❖ Bangladesh Railway Fibre Optic Network made available for data communication
- ❖ Access to Internet using Mobile Telephones (WAP technology) launched on 1st August, 2001

Some recent initiatives

(contd.)

- ❖ IT Task Force headed by Prime Minister formed in January 2001
1 meeting held in 2001; 2 meetings held in 2002
- ❖ Ministry of Science and Technology renamed as
Ministry of Science and Information & Communication Technology

E-Government : The Existing Scenario

- ❖ www.bangladeshgov.org
 - 25 Ministries listed : only 6 have links to websites
 - 40 Govt./Semi-Govt. agencies have links to websites
- ❖ Some of the websites have quite a lot of information, e.g. policy documents, reports, forms
 - *e.g. NBR, BCC, LGED, JMBA, Finance Division*
- ❖ Most are not updated and contain obsolete information
- ❖ No interactivity; e-mails not replied

Implementation Problems

- ❖ Low computer penetration
- ❖ Low teledensity
- ❖ Internet access slow and expensive
- ❖ Bangla interface lacking

Actions

- ❖ Set up Internet Kiosks (Public Access Facilities) at/near Railway stations, Launch Terminals, Post Offices

Outsourced to private sector operators, who will act as *information intermediaries*

Implementation

❖ Risks

- Attack by hackers
- security of transactions
- confidentiality of correspondence

❖ Amend Official Secrecy Act

Enact *Freedom of Information Act*

E-Commerce : The Existing Scenario

❖ B2B : www.bangladeshgarments.info created for the BGMEA members with all the features required by Bangladesh's garments exporters in mind

❖ On-line trading of shares (CSE)

❖ B2C : Grameen check

Painting,

Books : www.banglabooks.com

Variety of consumer items : www.munshigi.com

Problems

- ❖ Weak data communication infrastructure
- ❖ Electronic Fund Transfer
 - Credit cards for international transactions not available
- ❖ Security
- ❖ Privacy
- ❖ Absence of legal infrastructure

Some recent initiatives

- ❖ Electronic Transactions Act drafted by Law Commission
 - based on UNCITRAL, India and Singapore
 - being reviewed by stakeholders, both in Public and Private sectors
 - being extended to cover Cyber crimes and Data Protection/Privacy
- ❖ Bangladesh Telecom Regulatory Commission starts functioning
- ❖ Bangladesh Railway Fibre Optic Network made available for data communication

Actions Required

- ❖ Deregulation in Telecom sector
 - open up international gateway to private sector
 - national data communication backbone
 - allow agencies like PDB, PGCB, REB to offer data communication services
 - privatize BTTB (?)

- ❖ Compulsory IT Training for all Government Officials
 - Essential qualification for recruitment and promotion

Actions Required (*contd.*)

- ❖ Pilot Projects in each Government organization
 - prioritize
- ❖ Separate Budget Head for computerization/E-Government applications
- ❖ Transfer at least 50% of Tk. 300 crores Equity Fund to small E-Government projects

Actions Required (*contd.*)

- ❖ establish *Centre for E-Governance*
 - Public-Private Partnership
 - Monitoring by PM's Office
 - Identify Common Applications e.g. personnel management, payroll, accounting and develop software which can be adopted/adapted by multiple agencies
 - Introduce E-mail/Electronic Document Transfer within Government system
- ❖ Software development, management may be outsourced to local companies

One Web Portal

Decisions of the IT Task Force headed by PM
(February, 2001)

- ❖ All Government Ministries/Offices with whom members of public have to interact must have websites
 - only 10% of government ministries and agencies have websites
- ❖ All Government publications accessible from Web
 - only a few forms are available
- ❖ E-Gazette to be published
 - not yet implemented

Recent Developments in Telecom Sector

- ❖ BTRC set up in January, 2002
 - Trying to establish its regulatory role
 - Intervened when BTTB/MOPT unilaterally introduced time-based billing for local calls
- ❖ VoIP to be legalised by early 2003
- ❖ Cellular license : 3 to 4 more by end 2002
- ❖ Fixed telephone license : 1 by June 2003
- ❖ BTTB : Internet access in 43 districts (out of 64)

Major Challenges

- ❖ Improve the image of Bangladesh and market Bangladesh as destination for software and ITES
 - NRB support required
- ❖ Human Resource Development
 - CS/CSE
 - ITES
 - English proficiency
- ❖ Infrastructure
- ❖ Overcome bureaucratic inertia and gradually introduce e-government

Concluding Remarks

- ❖ Government recognition of IT as a thrust sector
- ❖ Fiscal Incentives : Duty free import, Tax holiday
- ❖ High level of enthusiasm among young people
- ❖ Government ministries, departments having web sites
 - easier public access
- ❖ Digital Dividend