BANGLADESH

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Bangladesh Open Source Network (BdOSN)[4]; Bangla Wikipedia[5]; Bangladesh NGOs Network for Radio and Communication (BNNRC)[6]
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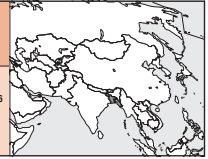
Introduction

This report is an attempt to monitor information and communications technology (ICT) development in different sectors of Bangladesh and to compile civil society views and understandings of policy intervention in those areas. We consulted different organisations to identify issues of importance, to check the status of policy intervention and to map the challenges and opportunities. Areas that we tried to cover are: infrastructure and access; community radio; localisation; and open content development. The aim of the report is to focus on areas that are relevant and pertinent to the ICT for development community, and in which a large number of civil society organisations (CSOs) are involved.

The report has been developed by conducting desk research and through conversations with relevant organisations, along with interviews and field-level data collection. This is a living and collaborative document. Different chapters are written by different organisations that are actively involved in the areas we cover. As lead organisation, Bytes for All's methodology has been to communicate with these organisations, to facilitate the collaborative process and to compile the findings into a report. We also published the report as a wiki and invited feedback, additional information and corrections.

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Country situation

Access and infrastructure

Bangladesh remains at the bottom in South Asia in the UN's ICT Diffusion Index, with a rank of 164 in 1997 and 171 in 2001 and 2004 (UN, 2006). Nevertheless, the enactment of the National Telecommunications Policy in March 1998 (UNPAN, 1998) and the Bangladesh Telecommunications Act in 2001 (ITU, 2001); the establishment of the Bangladesh Telecommunication Regulatory Commission in January 2002; the introduction of the National ICT Policy in October 2002 (MSICT, 2002) and the ICT Act in 2003; and the very recent legalisation of voice over internet protocol (VoIP) telephony, are several milestones the country can be proud of.

The country is progressing in terms of ICT penetration – especially as far as cellular penetration is concerned. Currently, five cellular phone operators have covered 61 districts out of 64 and over 90% of the population, comprising a subscriber platform of more than 15 million.[7]

The Bangladesh Telephone and Telegraph Board (BTTB), the lone government-owned telecom provider, has provided conventional public switched telephone network (PSTN) access to all 64 districts and to 465 *upazilas* (sub-districts); internet service provider (ISP) services to all 64 district headquarters and 165 *upazilas*; and digital data network (DDN) access to 41 districts through its own infrastructure. Over 150 ISPs have obtained licences from the Bangladesh Telecom Regulatory Commission (of which more than 80% are located in Dhaka and Chittagong); 1,800 km of fibre under the Bangladesh Railway is being utilised by private mobile telephone operators; and 468,000 MIU km[8] of submarine cable has been linked to the landing station at Cox's Bazar as part of the South East Asia-Middle East-Western Europe (SEA-ME-WE4) submarine cable consortium project (with 64 STM-1 or 10 Gbps capacity).

Table 1 shows the country's basic ICT indicators, while Table 2 shows the figures for main telephone lines in Bangladesh. Table 3 shows cellular subscriber growth in the country between 2002 and 2005, and Table 4 shows the information technology parameters between 2002 and 2004.

Community access points

The idea of common access points allowing rural communities to access technology emerged from research conducted by the Development Research Network (D-Net) in 2001, when D-Net was established. The initial findings of its research showed that access to information was an important dimension of access. While a lack of access to information contributed to poverty, it was missing from current discourse on poverty.

The Dhaka Ahsania Mission (DAM) launched the first community learning centre, locally known as *Gonokendra*, in 1987. Now there are more than 100 *Gonokendras* across the country. Each centre functions as a community-based information centre, which includes local government or non-governmental organisation (NGO) extension departments. Primarily print media is distributed: DAM supports these centres by supplying books, newspapers, newsletters, magazines, booklets, posters, etc. However, five also offer access to ICTs.

D-Net conceived of the idea of *Pallitathya* (rural information) in 2001. As there was no tailor-made digital content for rural people, D-Net started developing content in nine areas dealing with life skills and livelihood. This content is now more than 30,000 pages long and, packaged on CD as *Jeeon-IKB*, serves as an information and knowledge base for the rural communities.

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1 <www.dnet-bangladesh.org>.

2 <www.bytesforall.org>.

3 <www.sdnbd.org>.

4 <www.bdosn.org>.

5 <bn.wikipedia.org>.

6 <www.bnnrc.net>.

7 For more information on the five operators see: <www.grameenphone.com>, <www.banglalinkgsm.com>, <www.citycell.com>, <www.aktel.com>, and <www.teletalk.com.bd>.

8 Minimum investment unit, which is equivalent to one STM-1 (synchronous transfer mode at 155 Mbit/s).

Table 1: Basic ICT indicator

Year	Population density (per sq. km)	GDP per capita (USD)	Total telephone subscribers (per 100 inhabitants)
2002	925	346	1.26
2003	938	354	1.56
2004	952	382	2.63
2005	985	-	2.63

Source: **International Telecommunication Union (ITU)**

Table 2: Main telephone lines

Year	Main telephone lines (000s)	CAGR[9] (%)	Main telephone lines (per 100 inhabitants)	CAGR (%)
2002	605.9	10.5 (1997-2002)	0.46	8.9 (1997-2002)
2003	742.0	12.5 (1998-2003)	0.55	10.8 (1998-2003)
2004	831.0	13.9 (1999-2004)	0.61	12.3 (1999-2004)
2005	831.0	14.0 (2000-2005)	0.61	12.4 (2000-2005)

Source: **ITU**

Table 3: Cellular subscribers

Year	Cellular mobile subscribers			
	(000s)	CAGR (%)	Per 100 inhabitants	As % of total telephone subscribers
2002	1,075.0	110.5 (1997-2002)	0.81	64.0
2003	1,365.0	78.7 (1998-2003)	1.01	64.8
2004	2,781.6	79.6 (1999-2004)	2.03	77.0
2005	9,000.0	100.3 (2000-2005)	6.35	91.5

Source: **ITU**

Table 4: Information technology parameters

Year	Internet		PC per 100 inhabitants
	Hosts	Users per 100 inhabitants	
2002	-	0.15	0.34
2003	-	0.18	0.78
2004	13	0.22	1.20

Source: **ITU**

D-Net established four *Pallitathya Kendra* (Rural Information Centres) as pilot projects in 2005 in remote villages of Bangladesh: Nilphamari, Netrokona, Noakhali and Bagerhat. Each of the *Pallitathya Kendras* have three computers, two to three mobile phones, a digital camera, soil test kits, a nebuliser that local doctors can rent, and a weighing machine. A copy of *Jeeon-IKB* is also provided. The centres are connected to the internet through Grameen Phone (the largest telecom operator in Bangladesh) and EDGE technology.[10] The cost of establishing the centres ranges from BDT 77,000 to BDT 180,000 (USD 1,000 to USD 2,500). The earnings from the centre cover more than 50% of operating costs. Already more than 10,000 villagers have visited the *Pallitathya Kendras*.

Relief International's Schools Online division initiated its Internet Learning Centres (ILCs) programme in 2003. The programme was launched in 2005. Currently 27 ILCs are in operation across Bangladesh, with the majority (sixteen) located in Chittagong.[11] Each ILC is equipped with five to ten computers, one scanner and one digital camera. Connectivity varies from location to location. In some places ILCs are equipped with broadband internet connectivity and others have dial-up connectivity. The ILCs are located in *upazila* headquarters.

Young Power in Social Action (YPSA) launched a Community Multimedia Centre in the Sitakund *upazila* of Chittagong district in 2005. The centre is well equipped with computers with CD-ROM, a pocket PC, digital video camera, audio recorder, cassette player, cable TV, cable radio and DVD players. It is connected to the internet via

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9 Compound annual growth rate, computed by the formula: $[(Pv/P0)\,(1/n)]-1$ where Pv= Present value, P0= Beginning value and n= Number of periods.

10 Enhanced data rates for GSM evolution (EDGE) service is provided in Bangladesh by Grameen Phone. It offers general packet radio service (GPRS) roaming connectivity services that hook a user into the internet from remote locations.

11 There are four ILCs in Dhaka, three in Comilla, two in Jessore, and one each in Khulna and Rajshahi.

dial-up. Innovatively, it uses loudspeakers to disseminate useful information to the community.

Rural ICT Centres (RICs) are run by the Digital Equity Network (DEN) with support from KATALYST, a multi-donor consortium working in Bangladesh. An RIC is a physical infrastructure with basic ICT facilities (each RIC is equipped with four computers, one colour printer, one scanner and three digital cameras). Three RICs, located in Kahalu, Panchbibi and Shibganj in Bogra district, were launched in 2006. All three centres are located in *upazila* headquarters. RICs disseminate business information for local businesses in selected sectors that are dominant in the localities (e.g. information for fisheries, for potato or poultry farmers, etc.). The centre also provides information on a range of topics such as health and education, and offers government information as well.

The Community Information Centre (CIC) model has been initiated by Grameen Phone. The first sixteen CICs were launched as a pilot project in different parts of the country in February 2006. Of these, four were set up in each of the Sylhet, Rajshahi and Khulna divisions,[12] and two in each of the Dhaka and Chittagong divisions. In May 2006, another ten CICs were established: seven in the division of Chittagong, two in the division of Dhaka and one in the Rajshahi division. The CICs are equipped with at least one computer, a printer, a scanner, a web cam and an EDGE-enabled modem to access the internet using EDGE connectivity. The CICs are fully owned by local entrepreneurs with a minimum investment of BDT 80,000 (USD 1,100). The CICs are run as a franchise of Grameen Phone.

The Amader Gram Learning Centre (AGLC) project established a pilot of its version of a rural information centre in Bagerhat in April 2001. What amounts to a communication, information and learning centre was designed to develop participatory monitoring and learning systems at the village level. Under the project's roll-out, five centres have been equipped with computers, printers and telephones, among other tools. One of the centres, at Khulna City, has been set up for overall coordination and monitoring. Ten group leaders (all women) have been trained to act as information coordinators, disseminating information on health, sanitation, education and livelihood opportunities.

Community radio

The proposed draft of the Broadcasting Act 2003 aims "[t]o provide for the regulation of broadcasting services, including terrestrial, satellite and cable broadcasting, and to make provision for the establishment of an independent Authority for the purpose of overseeing broadcasting regulation, with a view to promoting independent, pluralistic broadcasting in the public interest" (MI, 2003). While the National Parliament has not yet approved the Act, it has called for an independent body – the Bangladesh Broadcasting Authority (BBA) – to be created. The BBA would be answerable to the parliament.

The BBA will be responsible for:

- Developing and implementing a broadcasting frequency plan to ensure orderly and optimal use of the broadcasting frequency spectrum.

- Issuing licences for the provision of broadcasting services to the public and ensuring that licence conditions are respected.

- Overseeing the development of an advertising and programme code for content and the implementation of these codes.

The BBA will issue various types of broadcasting licences to interested parties. These are classified by tier (public, private and community), type (radio, TV, terrestrial, satellite or cable), and scope (national, regional or local, or number of subscribers). It is also mentioned in the draft Broadcasting Act that "community broadcaster" means a "broadcaster which is controlled by a non-profit entity and operates on a non-profit basis, carries programming serving a particular community including by reflecting the special interests and needs of that community, and is managed and operated primarily by members of that community" (MI, 2003). By enacting the Broadcasting Act, community broadcasting can formally come into existence using radio, television or the internet.

The National Media Survey (NMS) 2005 is the fourth national survey of its kind undertaken in Bangladesh. The first media survey was conducted in 1995 and the second and third national surveys were conducted in 1998 and 2002 respectively. Some of the findings of this survey are:

- The ownership and reach of radio seems to be declining. Only 32% of people own radios. Among these, only 27.3% of the radios are in working order. This was perhaps because of the rapid increase in the opportunity to watch TV and the failure of public radio to attract listeners.

- 22.5% of people listen to radio. Radio listenership has declined significantly in urban areas. As in the past, radio reach remains higher among males (30%) compared to females (16%).

- Dhaka is the most popular radio station in the country, and has a 31.3% listenership.

There are at least four commercial FM radio stations now operating in Bangladesh, beside the government-owned Bangladesh Betar. The BBC and Voice of America also operate FM stations. In regulatory terms, Bangladesh Television (BTV) and Bangladesh Betar are part of the Ministry of Information, from whom they get their direction and funding, ensuring firm government control over their operations.

There have been a number of experiments in community radio in Bangladesh. The Centre for Development Communication (CDC), and later, the Mass-Line Media Centre (MMC), have both established community radio stations. The Bangladesh NGOs Network for Radio and Communication (BNNRC) is a national coordinating organisation dedicated to promoting community radio and citizens' band (CB) radio[13] as a means of holistic development. The YPSA, a BNNRC member, built a cable radio station[14] in Sitakund, an *upazila* in the Chittagong district. At present, they do not have a licence to operate a community radio station, so they produce local content and "broadcast" it over the cable network. SPEED Trust from Barisal, DUS from Noakhali, COAST from Bhola, and Sankalpa from Barguna also produce local content, but upload it onto the internet.

Localisation

Bangla is the primary language for the 130 million people of Bangladesh. However, organised efforts in software and content localisation are not very visible in the country. It is obvious that before any

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12 Bangladesh is divided into six administrative divisions.

13 A system of short-distance radio communication between individuals. See: <en.wikipedia.org/wiki/Citizens'_band_radio>.

14 Where radio programmes are broadcasted via cable network.

content can be generated or any application developed, some basic standards for encoding the language must be developed.[15]

The first attempt at localisation was made in the early 1980s with Bangla font development in the Windows environment. These efforts were led by commercial vendors. But an absence of planning made the localisation process cumbersome, and the results were not good. Many fonts were developed in a haphazard way resulting in gross inoperability. In the late 1990s Unicode[16] shed new light on the issue, and the process of localisation began to take a new shape in the country.

The open source movement has had the most significant impact on localisation. In 1998, Tanim Ahmed, a software developer in Bangladesh, first solved the locale issue[17] (bn.BD) and started a process of localising Linux.[18] Since then the major initiatives have been run by volunteers, while institutional initiatives have recently started to emerge on the scene. Government localisation initiatives have, however, been absent (even while Bangla has been included on its official websites).

In the late 1990s, the voluntary group Ankur[19] started localising open source software like Linux, OpenOffice.org, Gaim, etc. Another voluntary organisation, Ekushey, started developing open source Unicode fonts and a Bangla input system (i.e. determining how Bangla fonts can be arranged using the existing keyboard). In 2004, the Bangladesh Computer Council (BCC), a government body, took the initiative from the government side and came up with a national keyboard mapping and a collation sequence.

Around this time, the country's sole centre for localisation, the Centre for Research on Bangla Language Processing (CRBLP) at BRAC University, started conducting research projects that dealt with Bangla-language processing. At present the research team is working on Bangla information retrieval (e.g. Bangla spell-checking and a Bangla search engine), morphological analysis,[20] developing a digital lexicon and an online dictionary, optical character recognition and Bangla speech processing, among other tasks. The centre is supported in part by a grant from the PAN Localisation Project of the International Development Research Centre (IDRC).

In 2005, the Bangladesh Open Source Network (BdOSN) was formed with local open source volunteers. BdOSN, again a voluntary organisation, took Bangla localisation as one of its main issues. Open source localisation has started to thrive as a result. Ankur (together with volunteers) has already localised various open source software programmes. These included Linux distributions like Fedora, Mandriva, SUSE and Ubuntu; desktop environments like Gnome and KDE; and applications like OpenOffice.org, Gaim, Firefox and Thunderbird. While

there still remains work to be done to achieve complete localisation in these programmes, Ankur and BdOSN have also completed Bangla's first glossary of computer terms.

Open content development

The main open content project in Bangladesh has been the development of the Bangla Wikipedia. Its development has been organised by BdOSN and its sister organisation, Bangla Wiki. The project aims to develop a free, open access encyclopaedia in the Bangla language. Besides the Bangla Wikipedia,[21] recent initiatives have focused on open content in science, especially in mathematics.

Since its launch in late March 2006, the Bangla Wikipedia project has been extremely successful. The project has been able to attract a large number of editors. As of October 2006, the total registered editor count was 865. The number of articles has grown from its initial rate of 800 articles per month, with occasional bursts of activity. The Bangla Wikipedia crossed the 10,000 article mark in September 2006, becoming the 50th Wikipedia, and the second language from South Asia, to achieve this. It is ranked 44th among more than 200 Wikipedias in different languages. Besides articles, Bangla Wiki has also focused on creating a free repository of images and other multimedia content. As of October 2006, more than 400 images on various topics had been uploaded to Wikimedia Commons under Creative Commons or GNU Free Documentation licences.

Participation

CSOs have attempted to influence policy in a number of ways, both direct and indirect.

Access and infrastructure

ICTs have been recognised as a key sector through the formation of a high-powered National ICT Task Force, with the prime minister as its chairperson. However, many of the World Summit on the Information Society (WSIS) and World Summit on Sustainable Development (WSSD) commitments have not reached the grassroots. Government agencies like the BTTB and the BCC, including relevant ministries, such as the Ministry of Posts and Telecommunications and the Ministry of Science and Technology, are not working with sufficient momentum. Private entrepreneurs like the ISP Association of Bangladesh and the recently-evolved Bangladesh Cable Internet Operators Association are working in unison in many areas of the Dhaka metropolis to provide door-to-door internet access. Civil society is doing what it can. Efforts are being made to promote community internet access at the grassroots level by Amader Gram, the YPSA and the Society for Economic and Basic Advancement (SEBA) in the south, by KATALYST in the north, by Relief International's Schools Online in a number of locations, and by the SDNP in several strategic places.[22] However, there is little coordination between them. Much has to be discussed to unify these unique and novel efforts.

In August 2006 D-Net, together with the BNNRC and YPSA, held a successful international workshop in Rangpur called Building a Telecentre Family in Bangladesh: A Workshop for Social Entrepreneurs and Practitioners. The international telecentre organisation telecentre.org (an initiative by IDRC and Microsoft) and UNDP Bangladesh supported the workshop. It brought 57 organisations under the same roof for the first time. They shared experiences, were introduced to hands-on

15 These include character set encoding (ASCII/UNICODE), keyboard layout, keypad layout (e.g. for mobile telephones), collation sequences (to enable applications like databases), terminology translation and locale definition (to enable computer interface in the local language).

16 Unicode is an industry standard designed to allow text and symbols from all of the writing systems of the world to be consistently represented and manipulated by computers. See: <en.wikipedia.org/wiki/Unicode>.

17 Locale refers to the collection of information associated with a country or region. This includes the language spoken in the region, date format, number format, currency format, measurement units, scripts and local names for time zones. Users can configure their system to pick up a locale that suits them.

18 <Banglalinux.org>.

19 <www.ankurbangla.org>.

20 Morphological analysis is a technique for exploring all the possible solutions to a multi-dimensional, non-quantified problem complex. See: <en.wikipedia.org/wiki/Morphological_analysis>.

21 <bn.wikipedia.org>.

22 The authors may have excluded other reputable efforts in this sector, but unwillingly.

ideas about why and how to build telecentres, and talked about Mission 2011 – the goal of building a telecentre in every village by the 40th anniversary of Bangladesh's independence.

A formal consultation, Towards Mission 2011: Building a Telecentre Family in Bangladesh, was held in Dhaka in January 2007. A total of 20 organisations, including research institutions, NGOs, private sector enterprises and other development partners, participated in the meeting, and have now formed the Bangladesh Telecentre Network (BTN).

Community radio

There are a number of problems with the existing community broadcasting situation. For instance, there is no participatory system through which licensing conditions can be developed or applied. This means that licensing processes are not transparent, and there are no clear conditions for granting a licence.

All decisions in this area are made by the Ministry of Information rather than an autonomous body. Licensing has been *ad hoc*, often with licences being allocated on political grounds. This goes against international standards, and threatens issues such as freedom of expression. It also deprives the decision-makers of an opportunity for developing a regulatory regime in the best interests of the public.

In many countries, one of the criteria for assessing applications is the contribution the proposed service would make in promoting local content production and diversity. However, there is no clear way of promoting these goals in the current regulatory environment in Bangladesh.

There is also no system for regulating content and, in particular, for ensuring that it meets certain minimum standards in relation to both regular programming and advertisements. There have already been complaints of excessively sexual material on TV, as well as material that degrades disabled people.

In March 2006, a roundtable on community radio was organised jointly by the BNNRC, Voices for Interactive Choice and Empowerment (VOICE), the MMC, FOCUS and the YPSA in association with UNESCO, the UNDP and UNICEF, in Dhaka. Policy recommendations included:

- Greater awareness of the educational and developmental potential of community radio among policy-makers, regulators, non-government and community service organisations is needed.

- Legislative reform should take account of the specific characteristics of community radio and provide for its support within the policy and regulatory framework.

- Assistance is needed to enable existing community radio stations to adapt to new digital production technologies and to increase their access to the internet.

- Strategic links should be encouraged between community radio and telecentres (or any other community access initiative) to cluster community media resources.

- Online and technology-based learning centres should incorporate creative production facilities and access to local radio distribution as well as the internet.

- Support for community radio development should be provided through intermediary bodies at the national and regional level through training, guidance and mentoring.

Localisation

The success of the localisation movement in Bangladesh is largely due to it being volunteer-driven and spearheaded by the country's open source movement. The BdOSN and Ankur have arranged localisation boot camps throughout the country since June 2006. These camps have helped volunteer programmers get to know each other, and have strengthened collaboration.[23] These initiatives have attracted the attention of universities and the government. More researchers at universities are now showing interest in localisation (as mentioned above, BRAC University now hosts the country's main localisation centre) and the government has decided to post Bangla content on its websites.

Open content development

The Bangla Wikipedia project is loosely organised using internet-based mailing lists. Most of the participants in the Bangla Wikipedia are students in Bangladesh and West Bengal, or expatriates living in North America, Europe and Japan. Bangla Wiki has conducted several workshops to familiarise new users with techniques and skills related to the project. To promote public awareness, it organised rallies during the Bangla New Year, and also observed August as "Bangla Wiki Month". Bangla Wiki has set up an office in conjunction with the BdOSN for people with limited internet connectivity. Here interested editors can access the internet and contribute to the Wikipedia. In addition, people from other regions of the country can send articles via postal mail, which are later added to Bangla Wikipedia by Bangla Wiki volunteers.

Conclusions

This report aimed to provide an update on the ICT development situation in Bangladesh and to help civil society identify areas of policy intervention. We identified only a number of areas, and policy interventions in these areas are an ongoing process. In some cases, CSOs are networking and re-grouping among themselves to project a single voice to the decision-makers; in others they are already in consultation with the government. The greatest challenge is to get their policy recommendations approved and implemented by the government so that grassroots communities can benefit. The national parliamentary election in Bangladesh will be taking place soon. Change is therefore unlikely in the short term. CSOs working in these areas are preparing themselves for a fresh journey with renewed capacity and commitment. ■

References

ITU (International Telecommunication Union) (2001). *The Bangladesh Telecommunication Act, 2001* [online]. Available from: <www.itu.int/ITU-D/treg/Documentation/Bangladesh/BTRC-TelecomLaw2001.pdf>.

MI (Ministry of Information) (2003). *Bangladesh Broadcasting Act (draft).*

MSICT (Ministry of Science and Information & Communication Technology) (2002). *National Information and Communication Technology (ICT) Policy* [online]. Available from: <www.bccbd.org/html/itpolicy.htm>.

UN (United Nations) (2006). *The Digital Divide Report: ICT Diffusion Index 2005* [online]. New York, USA and Geneva, Switzerland: UN. Available from: <www.unctad.org/en/docs/iteipc20065_en.pdf>.

UNPAN (United Nations Online Network in Public Administration and Finance) (1998). *National Telecommunications Policy of Bangladesh (1998)* [online]. Available from: <unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN003203.pdf>.

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23 Four boot camps were arranged and more than 10,000 strings of OpenOffice.org were translated in these camps. The CRBLP developed an open source, cross-platform Unicode rich text editor capable of editing Bangla (BanglaPad), a Bangla phonetic spelling checker and a Java interface for PC-Kimmo, a command line morphological analyser.