



Digital Bangladesh for Good governance

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1. The Pledge for a Digital Bangladesh by 2021

Information and Communication Technologies (ICTs) were recognized by the world leaders as a key development enabler in World Summit on Information Society (WSIS) in Geneva in 2003 and in Tunis in 2005 (Tunis Commitment). In the Poverty Reduction Strategy of the country called National Strategy for Accelerated Poverty Reduction (NSAPR) 2009, ICTs were similarly identified and given due importance. The current government's Digital Bangladesh by 2021 vision proposes to mainstream ICTs as a **pro-poor tool to eradicate poverty, establish good governance, ensure social equity through quality education, healthcare and law enforcement for all, and prepare the people for climate change.**

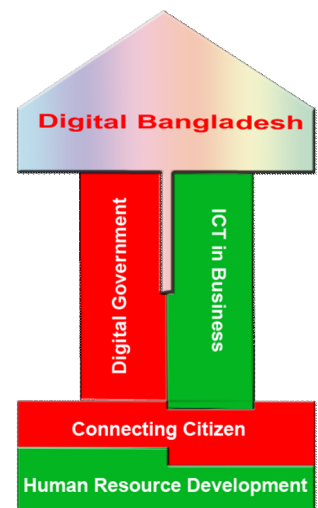
Remarkable to mention is the fact that over 50 Secretaries of the government, a similar number of e-Governance Focal Points who are senior policy makers one in each Ministry, all 64 Deputy Commissioners who are heads of district administration, and all 483 Upazila Nirbahi Officers who are heads of sub-district (upazila) administration have attended multi-day long orientation workshops on Digital Bangladesh. These intensive workshops led by the Prime Minister's Office were unprecedented. They have ensured that the **cornerstones of civil service are brought on board en masse to provide the necessary leadership at different levels of the administration** to utilize the benefits of ICTs to establish good governance and alleviate poverty within the Digital Bangladesh strategy. The Digital Bangladesh strategy has four broad components:

1.1. Human Resource Development

The key objective is to make the best use of new technologies to build world-class 21st century skills in all areas of study especially mathematics, science, and English language through use of newer and **cost-effective delivery tools and digital learning contents.** This component will also deal with providing vocational and -lifelong education opportunities to the youth and adults in order to **retool them and build newer skills to improve their productivity commensurate with the needs of the 21st century globalized world.**

1.2. Connecting Citizens

The objective of this component is to find a **sustainable connectivity channels to ensure the benefits of Digital Bangladesh reach the marginalized and the**



disadvantaged. Innovative shared access outlets, awareness and capacity development of local communities to access public e-services, massive development of local language content and locally relevant content, and establishing two-way channels to promote participation of grassroots in policy discourse are key focus areas.

1.3. Digital Government for Pro-Poor Service Delivery

The key objective of the Digital Government component is to leverage ICTs in all spheres of government to ensure delivery of services to those who are the least served. Development of an e-administration platform and creation of affordable, transparent e-services using **ICTs that are already in the hands of millions such as mobile phones, radio, TV in addition to internet are key.** Important areas to address are education, healthcare, agriculture, administration of land and water resources, social safety nets, law enforcement and judiciary and disaster management.

1.4. ICT in Business

This component will deal with three broad issues of Digital Bangladesh i) using ICTs to promote **access to markets** by the disadvantaged producers and SMEs, ii) **promotion of ICT business** through providing services and technology needed to sustain the three other components of Digital Bangladesh, and iii) boosting ICT as an **export oriented sector to earn foreign currency and generate employment.** m-banking and electronic payment as well as electronic business transactions are few key initiatives.

2. Plans and Status of Digital Government for Pro-poor Service Delivery

2.1. Agriculture

Given that Bangladesh is an agrarian economy with almost 60% of the population still employed in the agriculture sector and that the country has set a course for self-sufficiency in food production by 2013, this sector naturally gets the highest emphasis in the Digital Bangladesh e-services strategy. Some areas of focus are:

- strengthening the existing information channels and developing new ones to provide farmers with real time information related to integrated crop management, input availability and dosage, irrigation, soil quality, etc. at the community level

- building capacity of farmers and extension workers through distance learning and by using locally relevant multimedia content
- fostering market access with necessary information and training to promote, support and enhance rural farm and non-farm enterprises locally and internationally
- mobilizing finance (including m-banking) for rural farmers who are underserved by the commercial banking system and/or the country's microfinance NGOs
- organizing/uniting farmers nationally to enable exchange of knowledge, information and to ensure their collective voice and participation in policy formulation

Current initiatives: 10 Agriculture Information and Communication Centre (AICC); 20 Fisheries Information and Communication Centre (FICC); web-based price information dissemination by Department of Agricultural Marketing (DAM); web-based Information Repository by Department of Agriculture Extension (DAE); GIS-based soil testing database by Soil Resources Development Institute (SRDI); mobile accessible agriculture helpline run by private mobile operators.

2.2. Education

Bangladesh has a large educational system consisting of some 150,000 institutions, 34 million students and over 900,000 teachers. There are about 20 million students in primary education (including madrasas and non-formal programs) and 11 million at the secondary level (including madrasas). At university level, there are 31 public and 54 private universities. The nation has achieved an enviable near-100% enrollment in primary education, but, at the same time, the dropout rate is an alarming 50% by the end of the 5-year primary cycle. It has been observed that a little over 1% of the students who complete primary schooling acquire the standard competencies. 25% of the primary graduates drop out at the initial stage of enrollment in secondary education.

ICTs have been identified as a key enabler to **address the quality component of the education equation**. Attractive e-learning environments in schools, and distance learning through TV, radio, mobile phones and internet will increase retention. The government plans to make ICT education compulsory at secondary level by 2013 and at primary level by 2021. Teacher training will be increasingly decentralized through the use of ICTs already in place at the Upazilla Resource Centres for primary and model schools for secondary.

Current initiatives: establishment of computer labs in 128 secondary schools and colleges (2 in each district); 568 secondary schools and 64 colleges supplied with laptops and projectors on movable trolleys which can be moved into classrooms for e-learning; all primary and secondary textbooks available on the internet; digital content development on English, mathematics and science; training of primary and secondary school teachers using digital content; ICT literacy for teachers with private sector operators; Post Graduate Diploma in ICT in 13 public institutions to create 1,200 ICT experts every year; creation of Bangladesh Research and Education Network (BdREN) to be connected to high-speed international research network Trans Eurasia Information Network (TEIN3).

2.3. Healthcare

Priority actions for this sector are to develop a nationwide integrated health record system, strengthen the fledgling telemedicine network (now available only in the private sector at a high cost), and launch mobile health units with simple test kits and ICT connectivity to specialized centres. **ICT-enabled healthcare service delivery and capacity building of tens of thousands of semi-skilled health workers around the country** can significantly reduce infant and maternal mortality, currently at 5.4% and 3.8% respectively, to the 2021 target levels of 1.5% for both rates.

Current initiatives: internet connectivity and doctors' access through mobile phone at over 800 health centers; video conferencing facility in community clinics; database for health policy planning; OMR-based patient-level data collection; rudimentary telemedicine piloted by NGOs; mobile-based helpline with doctors.

2.4. Land and Water Resources

Land and real estate typically account for between 50 and 75 percent of a country's economic assets. In Bangladesh, 60% of the people's livelihoods are directly linked to land, it is the only major asset held by lower income groups, and allegedly 80% of the country's lawsuits are linked to land disputes. It is not a coincidence that the leading economies of the world have in place well functioning and reliable land administration systems. It is for these reasons that the present government declared electronic administration of land and water resources as one of its key election pledges. Under this massive plan that will take several years to implement, **a digital land management system** will be established through creation of a digital archive of existing and new surveys of all 64 districts. The **Deeds Registration System within the Law Ministry will be improved** as well.

Current initiatives: a small pilot in one land area of the capital city and significant local and international studies to launch a large scale programme.

2.5. Social Safety Nets

Currently 6-7 central government agencies and thousands of local government institutions are used as channels for selecting beneficiaries and delivering benefits. This not only creates chaos in the delivery system, but also makes it very difficult to monitor delivery and impact of the SSN programmes. Best practices in the developing world will guide Bangladesh to develop **mobile-based banking and money delivery systems**. Improved targeting will be achieved using the already established voter registration platform where over 85 million voters have been registered with bio-metric information.

Current initiatives: a small pilot to target and track allowances for widows.

2.6. Disaster Management, Environment and Climate Change

Bangladesh has identified that **ICTs can play a critical role in all four phases of disaster risk management cycle:**

- Preparedness ó reliable and rapid communication for preparation and assessment, observation and positioning tools, especially when crucial on-the-ground infrastructure is damaged.
- Mitigation ó sharing information on location and hazard specific long term mitigation options for informed decision-making.
- Response ó sharing instant knowledge and information on location specific climate change impact by sectors and analyzing alternative options for preparation.
- Recovery ó ICT-based advisory services for efficient coordination, evaluation of disaster and risk reduction activities, long-term sustainable planning and policy formulation.

Current initiatives: ICT-based information delivery centres including Union Parishads around the country; digital content for disaster preparedness, mitigation, response and recovery; location-specific pre-disaster warnings using mobile phones.

2.7. Law Enforcement, Legal Services, Judiciary

The country has already recognized that ICTs will greatly enhance the transparency, accountability and efficiency of law enforcement by making **vital data at the fingertips of the law enforcers**. Electronic filing of general diary and first incident report will improve the customer experience, **toll-free phone-based legal advisory** can alleviate hassle and put legal services at citizens' doorsteps especially for women, hard-core poor, disabled, and other marginalized groups who are not otherwise able to access these services. **Publishing cause list and case updates on the internet and making them phone and SMS-enabled** will increase transparency of the judiciary and reduce citizens' hassle.

Current initiatives: immigration database covering 90% of the total movement linked to Bureau of Manpower and Training (BMET), crime data management system in all divisional and district headquarters, automated fingerprint identification system, all laws available online (www.bdlaws.gov.bd), citizens' access to police cases using SMS.

2.8. Local Government

The current government places an unprecedented emphasis on revitalizing local government institutions at the rural level (around 4,500 Union Parishads) and at the sub-district level (Upazila Parishads). The LGIs are being re-designed to play an extremely critical role to serve as local delivery centres for information and e-services, thereby **upholding the government's commitment to get services to citizens' doorsteps**. Local government administration will be improved with greater transparency, accountability and ensuring that people's voices will be channeled to policy making levels. Collection of demographic information, birth, death and marriage registration, school enrolment, vaccination, employment and many other pieces of information using ICTs will provide a greater degree of efficiency in targeting, policy making and accuracy in information dissemination.

Current initiatives: 100 Union Information and Service Center (UISC) and 5 Upazila Information Centres provide low-cost ICT access (internet, mobile phones), digital content on agriculture, education, health, human rights, etc. and capacity building programme on various areas. 1,000 UISCs are being targeted for the year 2010.

2.9. Connectivity Infrastructure

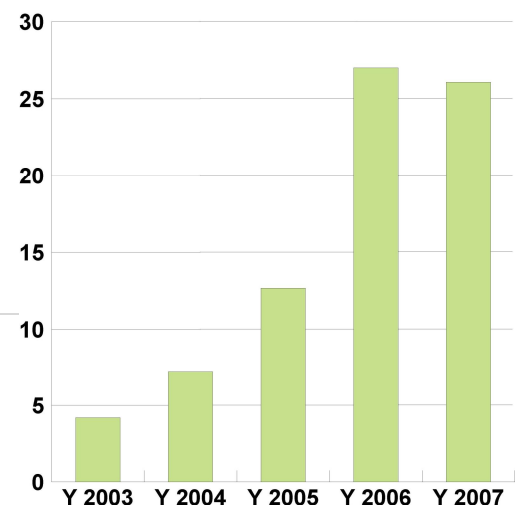
In 1997, the tax on computer and related products were withdrawn bringing the computer within the reach of a wide spectrum of citizens. Today, a Pentium-4 based PC can be purchased for as low as Tk. 20,000 (US \$325).

Since liberalization of its Telecom Policy in 1998, the country has observed one of the fastest mobile phone growths in the world covering 98% of the country's geographic area with one third of the population carrying mobile phones. However, in rural areas, one mobile phone has the catchment area to cover a significant population. There are around 1.5 million fixed phone users, 5 million internet users (one of the lowest in South Asia at 3%) of which 4.6 million use mobile phone to access internet. However, the broadband penetration in the country is very low (less than 50,000 connections). Two WiMAX operators very recently started the service in the capital city. There exist nationwide fibre connectivity by the incumbent Bangladesh Telephone Company Ltd. and Power Grid Company of Bangladesh. A new private sector operator started rolling out optical fibre in different parts of the country for expansion of broadband internet. However, internet connectivity remains unaffordable to most of the people. The government has reduced the Internet bandwidth price several times and it is now cost Tk. 18,000/Mbps from BTCL. To create accessibility for rural people, government has started establishing shared access points at Union Parishads, farmer's clubs and fisheries extension offices. This supplements the NGO and private sector-led efforts of setting up more than 2,300 telecentres around the country. The government is very actively exploring the option of licensing community radio for information dissemination.

3. Plans and Status of ICT in Business

Doing business through the use of ICT is also taking some momentum in the country. For example, stakeholders, shipping agents and freight forwarders of Chittagong Custom House can now perform their desired transactions online significantly cutting down the number of steps and time taken for customs clearance. The Department of Agricultural Marketing publishes daily, weekly and fortnightly price information for market price for producers, researchers and policy makers alike.

The ICT sector of the country now boasts about 500 software and ITES companies and 10,000 registered and unregistered hardware vendors. The software companies employ a total of about 10,000 people while the ITES companies about 15,000 people. At present, more than 100 software and IT enabled services companies in Bangladesh are exporting software and



services to 30 different countries in North American, Europe and Far East. In the FY 2008-09, IT software exports to different countries were around US \$30 million contrasted with US \$4.54 million in the FY 2004-05. Typically the revenue per employee is on a lower side (US\$ 10,000 per year). It is widely believed that readiness of Bangladesh for IT export is more pertinent for IT Enabled Service than the software export. The skill level for exporting ITES is generally lower in many ITES areas such as graphics, engineering drawing, customer support, accounting etc. Also, the employment creation (though the salary of one ITES employee is quite low, almost one third of that of a software employee), the absolute number of jobs that are being created in ITES sector is potentially much higher than the software sector.

To continue its support to the ICT entrepreneurs, the government extended the implementation period of a subsidized IT Park (ITP) which houses 48 software and ITES companies. Under a National ICT Internship programme, over 500 graduates were selected for internship in the ICT sector in 2009. Measures have also been taken to establish a National Data Centre along with the establishment of Public Key Infrastructure (PKI) in the country. Development of a large Hi-tech Park in Gazipur continues.

4. 2009: The Launching Year of Digital Bangladesh

Through the leadership of the new government, energized by the Digital Bangladesh call to action, the year 2009 saw the launching of many Digital initiatives by all ministries. Below is a list of the highlights in how an enabling environment for Digital Bangladesh is being created:

Policy and Law

- approval by the Cabinet of a citizen-centric ICT Policy 2009 with 306 action items for all agencies of the government
- promulgation in the Parliament of the revised ICT Act 2009 allowing Digital Signatures and addressing cybercrimes
- promulgation in the Parliament of the Right to Information Act ensuring wide access by citizens to vital information that had been hitherto blocked by age-old laws such as Official Secrets Act 1923, among others
- permission from Bangladesh Bank for internet transaction and for m-banking in limited areas creating momentum in e-commerce and m-banking

Demonstration Effect

- at least one e-service from each Ministry/Division totaling over 50 services
- a national one-stop-shop web portal (www.bangladesh.gov.bd) which won an international award

- expansion of online government forms
- nationwide expansion of utility bill payment using mobile phones anytime, anywhere
- realization of the large voter roll database, combined with the Birth Registration database, as platform for e-services delivery for a host of different services across the government such as VGF/VGD cards, driving license, passports, vaccination, school enrolment tracking, etc.

Citizens' Access

- establishment of call centres and telecentres in LGIs, farmerø clubs, fisheries extension offices, schools to provide vital information on agriculture, health, education, human rights, and disaster management
- through a PPP model, establishment of PCOs in over 8,000 post offices

Financial Resources

- a special allocation of Tk. 100 crore in the budget for e-service delivery and development of the ICT sector
- strong emphasis on PPP with a fund allocation of Tk. 1,200 crore and a PPP framework under development

5. Where We Need to Work Together

As Bangladesh proceeds boldly to implement its ambitious and yet achievable Digital Bangladesh Vision 2021 priorities, it faces several challenges. These are precisely the areas where the government needs to work with the development partners to gather international best practices, transfer technology and know-how to the government, and build institutional capacity. It must be realized by both the government and the development partners that ICTs have emerged as a non-threatening approach to catalyze, not force, administrative reform through various productivity enhancement tools and knowledge management platforms, but most importantly, by providing a natural vehicle for re-engineering business processes both for service delivery and for administrative decision making.

- **Human resource development.** The policy makers in Bangladesh have woken up to the reality that -humanwareø is far more important than hardware and software to realize the Digital Bangladesh vision. The HRD challenge appear in different forms: first, the service providers especially the government must be much more aware of the service delivery options and benefits ICTs present; second, the government officials must embrace ICTs in their day to day work ó the younger officers seem must more amenable to developing an ICT work culture; third, the general literacy of the population being less than 50% presents a significant challenge in adoption of

computer technologies (and, for this reason, adoption using mobile phones, TV, radio at the general user end is far more realistic in the short term. However, in the long term, meaningful adoption and multiplier effect in service delivery, employment creation, among many other areas of ICTs, will depend on upliftment of general literacy in the country.) The development partners already working on primary and secondary education will be able to create larger impact by focusing on e-learning and ICT literacy. The creation of one of the largest voter ID databases in the world in just one year proves that a pool of secondary and higher secondary students embrace ICTs with avid interest and successfully accomplish a mammoth task. The development partners focused on skills enhancement in the civil service need to take a change management approach and focus on peer learning and ultimately institutional capacity development described in the next section.

- **Financial allocation and institutional capacity.** The still lacking institutional capacity to identify, design and manage ICT-based projects within the government deters the policy makers to allocate significant budgets that would be required to implement Digital Bangladesh. Some of the demonstration initiatives called 'Quick Wins' facilitated by the Access to Information (A2I) programme and other programmes such as Managing at the Top (MATT-2) are recently creating an appetite for calculated risk-taking for larger ICT-based projects within the civil service. Institutional capacity must be enhanced to formulate conducive policies and procedures as well. The change agent network of Secretaries, e-Governance Focal Points, Deputy Commissioners and Upazila Nirbahi Officers that is systematically being developed by intervention of the Prime Minister's Office and Ministry of Establishment may be leveraged by the development partners in developing change management leadership and institutional capacity.
- **Affordable connectivity.** The cost of internet connectivity is still one of the highest in the region and is well below the affordability of the common citizen. Broadband access is still in its infancy because of lacking last mile connectivity and high cost of access. Development of a policy for Universal Service Fund is still an area of exploration.
- **Locally relevant and local language content.** The new media and internet open up the user to a world of information and knowledge, but unfortunately, very little is in the native language and much of the content is not locally relevant, contextually meaningful or culturally sensitive to the teeming millions.

- **PPP framework.** It is seen that ICT projects especially e-governance or e-service delivery projects tend to sustain themselves much better when the private sector takes a financial stake. Such public-private partnerships minimizes risk on the government side and creates natural incentives on the private side to ensure the quality of service and responsiveness to citizens. A PPP framework that complies with Public Procurement Rules 2008 to accommodate ICT projects is still very much in its infancy.
- **Reliable and continuous power.** The country currently suffers from a chronic shortage of about 1,500 MW of power. In locations of the country, power is not available when it is needed to conduct a digital programme such as during office or school hours. With Digital Bangladesh implementation, this shortage will one hand impede progress of digitalization, and on the other, will make the power shortage more acute unless power generation can be boosted in the short term.
- **Legal reform for businesses and consumers.** ICT-based service delivery requires modifications to many existing laws. Several development partners are already working on legal reform. Such effort may be linked to the reform necessitated by Digital Bangladesh efforts for larger impact.
- **Branding Bangladesh as a software/ITES outsourcing destination.** For international market access for export focused software/ITES companies, linkage is a critical factor, rather than presence of a potential market. It has been found that NRBs (Non Resident Bangladeshis) have played a significant role in creating that linkage. In majority of cases with respect to successful export in key markets, particularly in USA, Japan and Australia, the NRB entrepreneurs have played the main role in creating market access. However, this linkage remains person dependent and very small at a national level. With national sponsorship, involvement of selected international missions, and a high-level committee to market the country, a national momentum for country branding is very possible. A distinct focus on ITES is necessary for two simple reasons: one, ITES industry can employ far more people than the software industry, and two, the country has tens of thousands of available unemployed resources who can be gainfully employed in the ITES sector.

6. Way Forward

Almost 40 years ago, Bangabandhu Sheikh Mujibur Rahman, the father of the nation, dreamt of a Sonar Bangla where the common citizen of the country lives in prosperity and has equitable access to quality education, healthcare, law and justice ensured by the government. The current government has resurrected that vision and made it ready for the 21st century highly globalized world and names it Digital Bangladesh. Although Bangladesh has its own limitations in resources, capacity and knowledge, the country's potential in human resources can be tapped through appropriate use of ICT tools. The government is committed towards reaching the goal of a knowledge based and middle income country by 2021. With an actionable ICT Policy 2009, Right to Information Act and ICT Act that provide the enabling environment for citizens' information access and e-commerce, a network of proactive and ready change agents in the Ministries, districts and upazilas, a number of initiatives that demonstrate the true concept and benefits of Digital Bangladesh, a technology-savvy young workforce ready to be guided and led, the country is staring at a tremendous opportunity to leapfrog. Guidance and assistance from development partners can greatly accelerate this journey.