

Realizing the Vision of  
**Digital Bangladesh**  
through e-Government

July, 2010



BANGLADESH ENTERPRISE INSTITUTE

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# FOREWORD

The present government's vision of making a "Digital Bangladesh" by 2021 has brought about an increased impetus in efficiency and technological improvement towards a greater openness, transparency, and accountability in government system and performance. In this circumstance, BEI has undertaken a rigorous study on the status and possibilities of e-Government entitled "Realizing the Vision of Digital Bangladesh through e-Government", as a follow-up to a study entitled "Study of e-Government in Bangladesh" carried out by BEI in 2004. This study aims to assist the Government of Bangladesh and development partners to reach the vision of 'Digital Bangladesh' through more coordinated efforts.

e-Government initiatives in developing countries are often constrained by lack of financial resources, low level of skills and capacity within governments, and the absence of incentive structures for rewarding performance. This study has also focused on Public Private Partnerships (PPPs) in e-government, which can help overcome many of these constraints, while at the same time increasing opportunities for the private sector. Moreover, this study has given particular emphasis on Education and Health sectors since both are high-priority areas for the government and developing partners with respect to use of ICT. We also organized two round-table discussions on "Scope of PPP in Land Related Citizen Services using ICT" and "Future of eHealth in Bangladesh" to understand the current state and opportunities of e-Government in Bangladesh.

I owe my deepest gratitude to the Hon'ble Minister Prof. A. F. M. Ruhul Haque M.P., Ministry of Health & Family Welfare, and Dr. Abul Barkat, Chairman, Janata Bank, and Professor, University of Dhaka for gracing our two round-table discussions as Chief Guest and sharing their valuable experiences with us. I would like to thank Professor Dr. Abul Kalam Azad, Director (MIS), Directorate General of Health Services (DGHS) for presenting a key note in the 2nd round-table discussion on health. I am grateful to the designated discussants who have participated in the round-table discussions and made those fruitful by sharing their valuable thoughts and recommendations. I would like to thank the ministries and donors that we have interviewed and for supporting us by providing necessary documents.

My heartiest gratitude goes to the team of consultants who contributed to this document, namely Mridul Chowdhury, Rubayat Khan, Md. Touhidul Imran Chowdhury and Tahmina Khanam. I am indebted to my colleagues, including Shahab Enam Khan, Asif Ayub and Azmal Mahmud Khan, for their support. Finally, this research study would not have been possible without the support of Canadian International Development Agency (CIDA). I am particularly grateful to Mr. Alan Leber, First Secretary (Development) of Canadian High Commission for his valuable advice and support.



**Farooq Sobhan**  
President  
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# ACRONYMS & ABBREVIATIONS

A2I	Access to Information
ADB	Asian Development Bank
ADP	Annual Development Program
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BASIS	Bangladesh Association of Software and Information Services
BBTOA	Bangladesh Bus Truck Owners Association
BCC	Bangladesh Computer Council
BDT	Bangladeshi Taka (the currency of Bangladesh)
BEI	Bangladesh Enterprise Institute
BEPZA	Bangladesh Export Processing Zones Authority
BGSL	Bakhrabad Gas Systems Limited
BICF	Bangladesh Investment Climate Fund
BITMAP	Bangladesh Technology Information Programme
BOGC	Bangladesh Oil & Gas Corporation
BOI	Board of Investment
BOO	Building-Own-Operate
BOOT	Building-Own-Operate-Transfer
BOT	Building-Operate-Transfer
BPDB	Bangladesh Power Development Board
BPSIG	Bangladesh Private Sector Infrastructure Guidelines
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
BTCL	Bangladesh Telecommunications Company Ltd.
BTRC	Bangladesh Telecommunication Regulatory Commission
BTTB	Bangladesh Telegraph and Telephone Board
CIDA	Canadian International Development Agency
CIO	Chief Information Officer
DC	District Commissioners
DCCI	Dhaka Chamber of Commerce and Industries
DDA	Directorate of Drug Administration
DESA	Dhaka Electricity Supply Authority
DESCO	Department for International Development
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DLRS	Directorate of Land Records and Survey
DMP	Dhaka Metropolitan Police
DNS	Directorate of Nursing Services
DPDC	Dhaka Power Distribution Company Ltd.
DPE	Directorate of Primary Education
DSHE	Directorate of Secondary and Higher Education
DWASA	Dhaka Water Supply and Sewerage Authority
e-Government	Electronic Government
e-Health	Electronic Health
EMR	Electronic Medical Record
EU	European Union
FY	Fiscal Year
GIS	Geographic Information System
GoB	Government of Bangladesh

HSC	Higher Secondary Certificate
ICT	Information and Communication Technology
IFC	International Finance Corporation
ILO	International Labour Organization
IT	Information Technology
ITC	International Trade Center
JGTDSL	Jalalabad Gas Transmission and Distribution System Limited
JICA	Japan International Cooperation Agency
LAN	Local Area Network
LGD	Local Government Division
LGED	Local Government Engineering Department
LGRD	(Ministry of) Local Government and Rural Development
m-Health	Mobile Health
MIS	Management Information System
MoCommunications	Ministry of Communications
MoEdu	Ministry of Education
MoEF	Ministry of Environment and Forestry
MoHA	Ministry of Home Affairs
MoHFW	Ministry of Health and Family Welfare
MoLand	Ministry of Land
MoLaw	Ministry of Law, Justice and Parliamentary Affairs
MoPEMR	Ministry of Power, Energy and Mineral Resources
MoPME	Ministry of Primary and Mass Education
MoPT	Ministry of Posts and Telecommunications
MoSICT	Ministry of Science and ICT
MoWR	Ministry of Water Resources
NBR	National Board of Revenue
NGO	Non-governmental Organization
PGCB	Power Grid Company of Bangladesh, Ltd.
PMO	Prime Minister's Office
PPP	Public Private Partnership
REB	Rural Electrification Board
RJSC	Registrar of Joint Stock Companies
ROM	Rehabilitate-Operate-Maintain
ROT	Rehabilitate-Operate-Transfer
SICT	Support to ICT (SICT is a project to support the National ICT Taskforce of Ministry of Planning of GoB)
SLMTTM	Self-Learning Multimedia Teachers' Training Materials
SMS	Short Message Service
SOT	Supply-Operate-Transfer
SSC	Secondary School Certificate
TTI	Teacher's Training Institutes
UIC	Union Information Center
UP	Union Parishad (an elected local government body)
UN	United Nations
UNIDO	United Nations Industrial Development Organization
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization

# EXECUTIVE SUMMARY

Bangladesh has made significant strides forward in the field of e-Government in the past decade, starting with somewhat scattered projects on infrastructure development and some applications for automation of internal processes, but gradually moving towards e-services delivery and inter-connected governance. From late 1990s till about 2006, the government undertook a number of e-Government projects, many of which were initiated from the Ministry of Planning. After 2006, a more consolidated approach to e-Government was undertaken with increased emphasis on citizen service delivery and transparency. With the advent of Digital Bangladesh as a prime focus of the government that took power in 2009, e-Government got a renewed vigor from the Prime Minister's Office (PMO). Since then, the government, with stewardship from the PMO, has been increasingly moving away from isolated approach towards more integrated, connected and transactional e-services.

Some interesting initiatives have been taken in the areas of education and health - the prime areas of development. Following trends in the private sector, the government has introduced remote consultation from doctors and specialists using mobile phones. Both Department of Health and the Department of Family Planning have extensive information systems for strategic decision-making, such as logistics supply, performance analysis of field health staff and personnel management. However, several major challenges still exist, which the government and the donors should particularly focus on, such as lack of inter-operability between health systems and lack of electronic medical records of patients.

In the area of education, there has been notable progress with respect to education-related citizen services compared to use of ICTs in education. Many initiatives have been undertaken to send computers to schools, but these have not been matched with requisite teacher training or infrastructure development - hence, the computers remain unused in many cases. The government also does not have clear policy guidelines regarding the use of ICTs for education - currently, there is a disproportionate focus on computer literacy and not enough on innovative use of ICTs for general education.

Despite the progress in e-Government, the country does face some significant barriers to its further enhancement with respect to the government's capacity. While the government's ICT infrastructure has improved notably, they are still limited mostly to offices in urban locations. Access to computers is also generally restricted to higher level officials, who often do not use them that often. The government's ICT staff is also not very well prepared for large-scale transition to e-Government due to several factors, such as low salary and unattractive career path. The administrative structure needed for a coordinated approach to e-Government is also non-existent, with different entities responsible for different components. Also, the requisite policy and legal framework to enable growth of e-Government still has some major gaps, with respect to guidelines for data standardization, shared ICT resources, data security and privacy.

In view of the above, some of the key areas that need immediate attention of the government and the donors are the following: (i) integration of e-Government as a core component of civil service reform; (ii) coordinated approach to e-Government (iii) create incentive mechanism to create a more skilled ICT workforce within the government; (iv) coordinated financing mechanism for e-Government initiatives; (v) develop infrastructure for payment of e-Government services.

Another key deficiency in e-Government in Bangladesh is the lack of innovative means of private sector engagement. While there have been a few cases of successful cases of public-private partnership in e-Government, the government has yet to come up with clear guidelines and policy for PPP in this area. The current government's significant emphasis on PPP opens opportunities for the private sector to pursue innovative models for PPP and for the donor community to facilitate this process. However, the government



has to take steps towards making policy and regulatory framework for PPP in e-Government since general PPP guidelines are often not sufficient to address issues in e-Government.

However, not all e-Government initiatives will be relevant for PPP. There are some criteria that can be used for screening out which e-Government projects are particularly suited for PPP, such as scope for revenue generation, degree of hassle faced by citizens to avail the service, percentage of the population the service is relevant for etc. Some of the areas which lend themselves particularly well for PPP are: (i) Utility services (utility bills, line connection and complain management); (ii) Transport (bus-train tickets, vehicle registration, licensing, renewals, collection of fees and taxes, etc.); (iii) Security and Civil services (general diary, case filing and status checking, immigration support, car tickets, etc.); (iv) Educational services (online registrations, applications and admissions, certificate requests, information for higher education, e-learning, etc.); (v) Land records digitization. The government and the donor community may take steps towards realizing the potential of PPP in these areas.

# 1. INTRODUCTION

The digital (or e-) revolution holds the potential to narrow the differences in the quality of citizen services between developed and developing countries, and increase accountability, transparency and efficiency of government in the latter. Bangladesh has made significant strides forward in the field of e-Government in the past decade, starting with slightly scattered projects for internal automation but moving gradually towards e-services delivery and connected governance. Nevertheless, the country has faced some typical hurdles faced by developing countries, many of which continue to remain barriers to e-Government implementation.

The 2008 elections in Bangladesh brought in a new government with a broad platform to reduce poverty as well as improve governance, rule of law and citizen's access to government services. "Digital Bangladesh" has been proclaimed a high priority of the Government in the pre-election manifesto<sup>1</sup>, and although the lack of clarity with respect to the vision has somewhat impeded implementation so far, there is unprecedented consensus that introduction of digital technologies can be a key modality in making government more efficient, effective and accessible. The Prime Minister and high level government officials are quite emphatic about its commitment to increasingly take government services to 'citizen's doorsteps'. The continued focus on this vision provides a fresh opportunity to take forward the agenda of e-Government, carrying its benefits to ordinary citizens and improving the general business environment through greater transparency in both the regulatory environment as well as in government operations.

However, despite the promise of vision, full introduction of e-government is extremely challenging requiring significant management of change in government offices. The government is yet to outline a solid and coordinated strategy to overcome this and other previously faced challenges in e-Government implementation. Recent studies and experiences with e-Government projects show that PPPs might be one of the key mechanisms for overcoming persisting challenges to e-Government implementation, including financial and managerial deficiencies. Donor agencies and development partners themselves, also, are suffering from lack of coordination in supporting e-Government projects. Hence, an up-to-date study on the capacity of the GoB in implementing e-Government, the strategies through which potential pitfalls could be avoided in going forward, and how donor agencies can optimize resource investments to achieve results, was felt necessary.

## 1.1. Objectives of this study

There have been many studies undertaken at various times on e-Government implementation in Bangladesh. Some of these studies have evaluated the successes and failures of e-Government projects, and sieved the lessons to propose recommendations for the future. Others have attempted to provide some sense of direction, and address the lack of coordination, by prioritizing some e-government projects over others. A few further studies - undertaken by both government and non-government entities, have attempted to take stock of the government's capacity to implement e-Government, highlighting bottlenecks that need to be addressed. A 2007 study by the World Bank has also assessed the potential of Public Private Partnerships (PPP) in the field of e-Government in Bangladesh, and promoted it as one of the most effective approaches to address most of the technical, financial and managerial challenges and to ensure sustainability of such projects.

All of these outputs from previous studies, and other exercises conducted by the UN and the government to identify visions for going forward, however, have not been developed into a comprehensive and coordinated implementation strategy, thereby impeding execution.

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1. "Our vision is to make Bangladesh digital by 2021", mentioned in the Manifesto of the Awami League before the 2008 elections, titled "Charter for Change".

In view of the renewed focus on e-Government by the current government, among many, this document focused on two major gaps that have hampered the progress of e-Government:

- a) Lack of efficient administrative structure to plan, administer and execute e-Government
- b) Lack of partnership-based participation of the private sector

With these gaps in mind, this study has been designed to fulfill the following objectives:

- a) Understand the trends and evolution of e-Government projects in Bangladesh, with special focus on key development sectors, and identify persisting challenges, to aid effective programming for donor agencies
- b) Evaluate the current status with respect to the government's capacity for e-government implementation, especially the administrative structure, and provide strategic directions
- c) Appraise the state of private sector participation in e-Government projects, and provide guidelines with respect to use of PPPs in addressing critical and persisting challenges
- d) Capture a snapshot of donor organizations' priorities in the field of e-Government, aimed at helping coordinated and optimized utilization of resources in the future

## 1.2. Organization of the report

This report is divided into two broad sections. Section one evaluates the past and present initiatives in e-Government in Bangladesh, and tries to understand its evolution of e-Government in Bangladesh. In this section, we also look at the strategic priorities of various donors in the field of e-Government, and the readiness and capacity of the government with respect to e-Government. The later section outlines the importance of Public Private Partnerships (PPPs), and various ways in which PPPs could be used to address the challenges of e-Government implementation in Bangladesh. This section also highlights some priority areas ripe for PPP e-Government projects, concluding with policy recommendations.

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2. Sobhan, Farooq, Chowdhury, Mridul et al. "Study of eGovernment in Bangladesh" Bangladesh Enterprise Institute, April 2004.

3. "Fifty Most Important Government Services and Twenty Most Important Information Needs for Citizens: Assessment of Bangladesh" Prepared by D.Net for The World Bank, June 2006.

4. "Country Assessments for Identifying Potential Public Private Partnerships in e-Government" Country Assessment Report for the World Bank - Bangladesh, Evalueserve, 13 April 2007.

### 1.3. Methodology

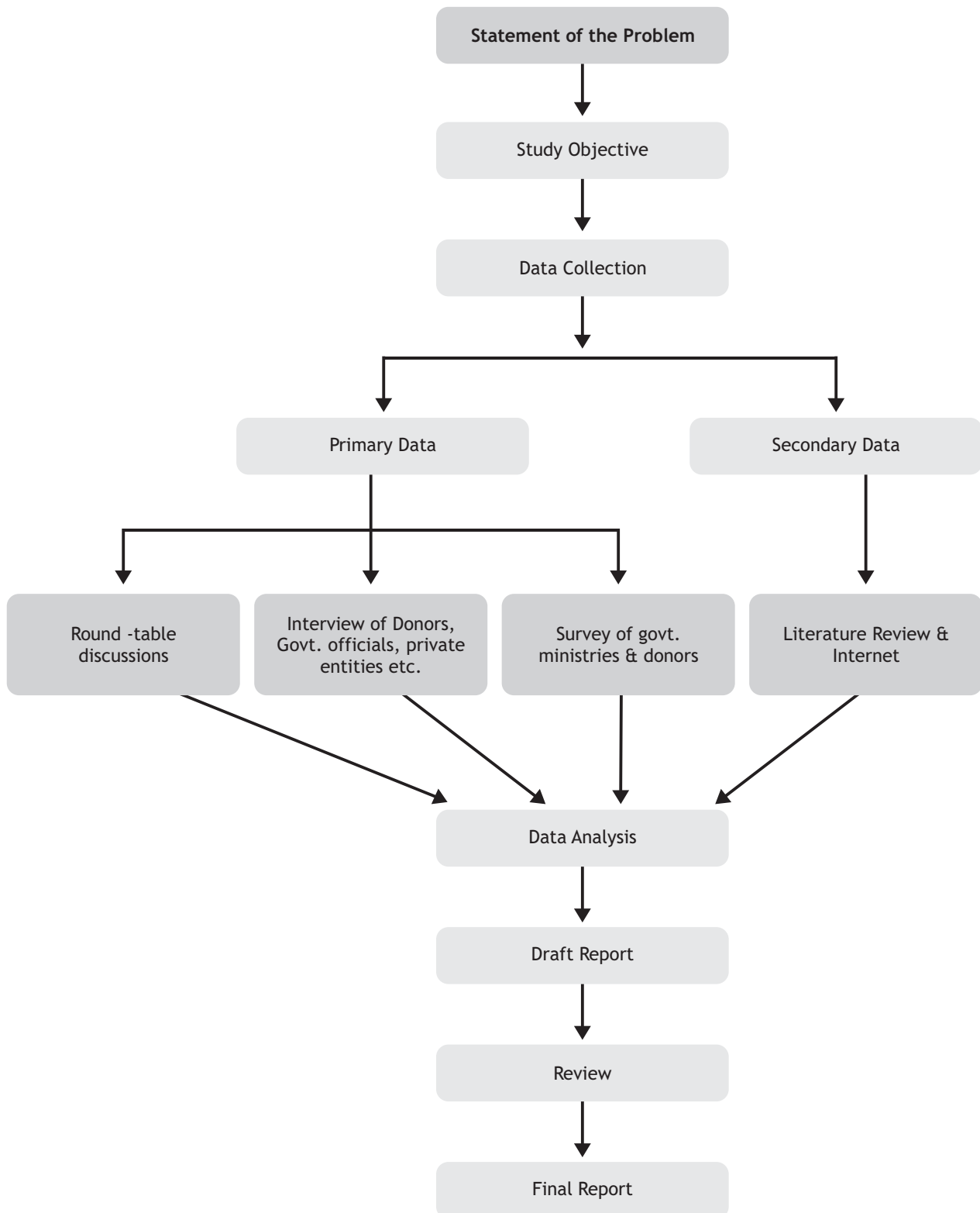


Figure: Process flow diagram

## Stock-taking

Both primary and secondary data was collected for purposes of this study. Primary sources included interviews with ministries, donors, private agencies, and conducting round-table discussions [overview of two round-table discussions are in Appendix 9 and 10 respectively].

For secondary data, extensive literature review was conducted on all documents, presentations, reports and other materials relevant to e-Government in Bangladesh and the region. Study reports were collected from various entities such as the World Bank, Access to Information Programme (A2I) of UNDP, etc. Extensive search was also conducted on the internet for relevant materials.

Information about e-Government initiatives in different Ministries have been gathered through face-to-face and telephone interviews, and also through questionnaire surveys [Appendix 6]. Some key policy-makers and champions of e-Government in various ministries were interviewed to capture the vision of e-Government with respect to creating Digital Bangladesh [list of interviewed people is given in Appendix 8].

## Donor Mapping

Donor mapping, a priority focus of this study, was conducted to understand the initiatives that have been undertaken by the development partners of Bangladesh in the field of e-Government. A survey questionnaire [Appendix 7] was sent to twenty donors requesting up-to-date information regarding their e-Government or ICT-related projects. Six key donors were physically interviewed for getting a clear overview of their work in this area. They were also asked about future e-Government initiatives and possible PPP opportunities.

## Round-table Discussions

Two round-tables were organized with the participation of the relevant stakeholders from government, non-government and business spheres with the particular aim of examining the scope for PPP opportunities in e-Government. The first round table, held on 13 January 2010, was on "Scope of PPP in Land Related Citizen Services using ICT", and the second, held on 26 April 2010, was on "Future of e-Health in Bangladesh".

The first round-table was designed to facilitate partnerships between the different stakeholders to initiate and plan the development of a replicable model of ICT-based land management services through PPP arrangement. Such a project would enable much greater efficiency in land records management and dispute resolution, reduce the scope for rampant corruption in government land offices, and reduce the tremendous load of land-related lawsuits on the judicial system. For this purpose, Government officials, land experts, ICT experts, ICT businesses, eminent economists, policy makers, media personalities, representatives of international NGOs, and civil society representatives were invited to discuss this issue. The overview of first round-table is given in Appendix 9.

The second round table was designed to bring together stakeholders from the government, development partners, domestic and international health institutes and telemedicine organizations to discuss the future opportunities of e-Health in providing better and more affordable health care through optimal utilization of limited resources of GoB and other health care providers. The overview of second round-table is given in Appendix 10.

## Limitations

There have been certain limitations in conducting this study and they are as follows:

- ❖ Not all the ministries could be interviewed despite repeated attempts.
- ❖ Not all ministries and divisions, and donor agencies, responded to the survey questionnaires which were sent to them.
- ❖ Because of the sporadic nature of many e-Government initiatives, comprehensive information about them were hard to collect, and were often not available.

## 2. CURRENT STATUS OF e-GOVERNMENT IN BANGLADESH

The World Bank in 2007 ranked Bangladesh 92nd among 132 countries and last among 5 countries in the South Asian subcontinent, with regards to its ICT infrastructure. It is also ranked 123rd and 5th in South Asia, in the e-services adoption index.

However, despite being behind most South Asian counterparts, Bangladesh has been catching up quickly in the field of e-Government. According to UN's E-Government readiness report 2008, while most other countries (including India and Sri Lanka) in the region have slipped significantly in the rankings, Bangladesh advanced 20 steps between 2005 and 2008. Bangladesh's Readiness Index value of 0.29 was not that far behind India (0.38), although it was still some distance from the regional leader Maldives (0.45). Nevertheless, Bangladesh was still behind all neighbors except Nepal, Myanmar and Afghanistan.

### 2.1. Evolution of e-Government in Bangladesh

Completed in 1994-5, and running successfully since, the railway ticketing system automation was the one of first noticeable large-scale e-Government projects in Bangladesh, and was a major milestone in the path of e-Government. Since then, a fairly large number of different initiatives have been taken by the government for the implementation of e-Government [a comprehensive list of e-Government initiatives is given in Appendix 1]. Initially, there was a clear emphasis on building ICT infrastructure, possibly deemed as a pre-requisite to the delivery of e-citizen services. However, despite some successes, many of these e-government projects did not sustain in the long run due to lack of long-term visions for those projects, and myriad other challenges.

Over time, the government modified its approach and undertook strategies to address some of those challenges. Increasing number of citizen centric e-services projects was gradually undertaken. However, due to various factors, many of those projects had limited scope, and interoperability and integration between those services were largely absent. In the era of the present government, a confluence of favorable factors has been playing a positive role towards a renewed vigor towards the prospects of e-Government.

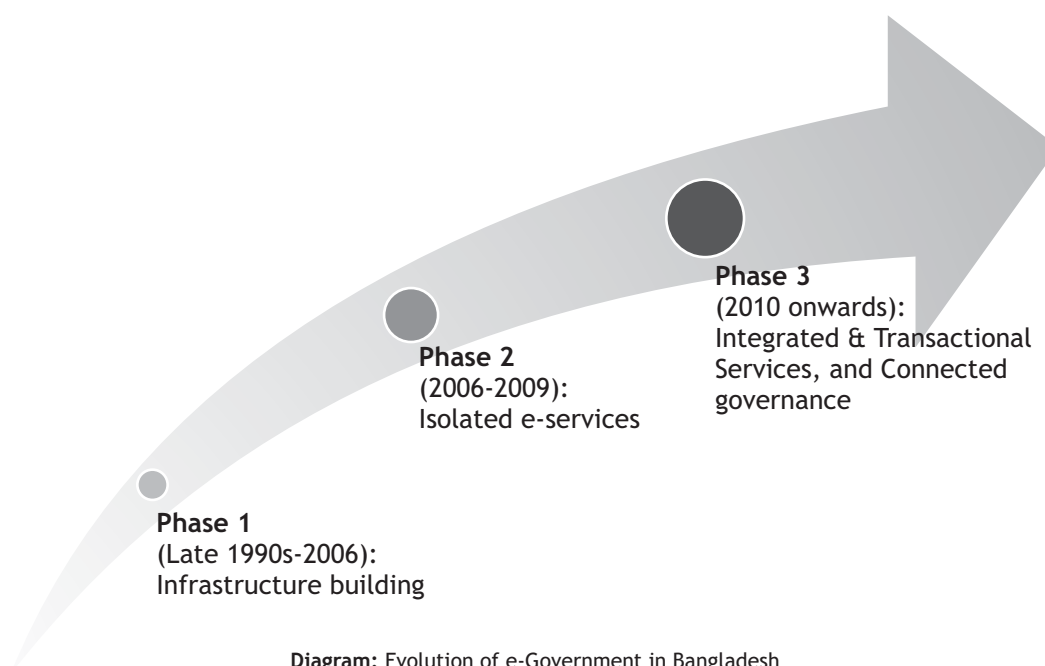


Diagram: Evolution of e-Government in Bangladesh

### 2.1.1. Late 1990s to 2006: Setting the Stage

Early efforts started in mid 1990s, when the government automated the railway ticketing system. Another notable project from this period was the e-birth registration project under Rajshahi City Corporation in 2001, which made the process significantly faster and more efficient. Another early success was the automation of BANBEIS, which included GIS mapping of all schools and detailed information regarding them (including logistics, teachers, etc.), enabling unprecedented efficiency in education planning.

It can easily be noticed, however, that each of these projects were essentially the automation of existing government processes. While these increased efficiency in the respective agencies, they were not necessarily targeted towards empowerment of citizens through easy and open access to information and government services.

This trend of infrastructure building and process automation continued in a more coordinated manner from 2002-03, with the formation of the Support to ICT (SICT) Task Force Project, a publicly funded implementation arm of the National ICT Task Force based at the Planning Commission. SICT functioned like an internal facilitator which conceptualized, planned and prioritized projects, and provided funding and technical assistance to line ministries to implement them. SICT undertook a total of 38 projects, approximately 63% of which were focused primarily on internal automation and infrastructure building, and has completed 34 so far<sup>5</sup>.

Another public entity, the Bangladesh Computer Council (BCC), provided key support with respect to infrastructure development, technical assistance and capacity building for various e-Government initiatives.

The first full-fledged ICT policy of Bangladesh, a major milestone in the path to e-Government, was passed in 2002, following the then Prime Minister's declaration of ICT as a 'thrust sector'. The document was focused heavily on ICT infrastructure building, process automation and creating an enabling environment. The policy, therefore, was literally largely an 'ICT policy', and not an e-government policy per se, although it represented the de-facto e-Government policy until 2009. The policy adequately reflects the approach of the government towards e-Government for much of this period (until 2006) - as being limited to ICT capacity and infrastructure development, and not as a core development and governance issue.

Many of the projects initiated by the SICT or the line ministries themselves during this period did not sustain in the long run. In May 2008, a Review Committee formed by the Caretaker Government found that out of the 103 policy directives of 2002, only 8 were fully or largely accomplished, 61 were partially accomplished and 34 remained unaddressed. Some of the prime reasons and challenges that led these early e-Government initiatives to lack of sustainability include the followings:

- a) ***e-Government was not made a part of national development agenda:*** Although ICT was a priority area for the government - insinuated by the creation of SICT itself under the direct guidance of the then Prime Minister - it, and in particular e-Government, was still not necessarily considered to be a national developmental priority.
- b) ***Lack of organizational ownership or buy-in:*** Despite the initial success of many projects in the pilot stage, they were often not carried forward subsequently due to the lack of organic demand within the implementing institutions themselves. A relevant example is illustrated by the Sher-e-Bangla Nagar telephone exchange automation project. While the project was initially hailed as a success, after the pilot, the services were discontinued. Many of the government websites developed also, were not regularly updated since their development, and hence failed to serve even the basic purpose of information portals.
- c) ***Lack of incentive for government officials to become computer literate:*** Government evaluations and performance assessments did not take into account computer proficiency as a criterion.

5. Website of Support to ICT Task Force Programme Project, Planning Division, Ministry of Planning, GoB. <<http://www.sict.gov.bd/>>

6. Sobhan, Farooq, Chowdhury, Mridul, et al. "Study of eGovernment in Bangladesh" Bangladesh Enterprise Institute, April 2004.

- d) **Lack of emphasis on improved governance:** Many of the initiatives had infrastructure development ("procuring hardware and establishing connectivity")<sup>6</sup> as their primary goal, which resulted in technical infrastructure being created successfully, but not necessarily used for improving governance.
- e) **Lack of capacity to implement e-Government projects:** Government bodies mostly lacked the human resource capacity to technically develop and manage e-government projects. Low salary structures and lack of career options in this track of the government cadre ensured that good technical personnel could not be retained in these jobs. There were also no focal responsible persons for ICT projects.
- f) **Lack of financial resources:** In most cases, projects were not designed to recoup investments and be self-sustainable, and the large initial investments necessary were a hindrance for government entities to undertake e-Government projects.

### 2.1.2. 2006 to 2009: Isolated e-services

Since 2006, with the caretaker government taking over, a gradual shift was noticed in the approach to e-Government. The top-down approach to planning was gradually being replaced by more participatory approach within different entities of the government. It was increasingly realized that without internal demand and ownership generated through a planning process, success with such projects, which required extensive change management, could not be achieved.

An entity, which played an important role in this shift, was the Access to Information (A2I) Programme at the Prime Minister's Office (PMO). The programme was initiated in 2006 with support from UNDP to support the e-Government Cell at the PMO. Although A2I was not directly in charge of implementing e-Government projects, it took significant initiatives to generate internal bureaucratic demand for e-Government, such as the series of workshops which led to 53 e-Citizen services being committed to by the secretaries of various ministries and divisions in June 2008. Similarly, 64 e-Citizen services were later identified by District Commissioners (DCs) for implementation. A2I also provided continuous technical support and consultation to these projects. A list of A2I initiatives is available in A2I Programme website<sup>7</sup>. A comprehensive list of all e-Government projects completed, undergoing and planned by ministries and divisions are given in Appendix 1.

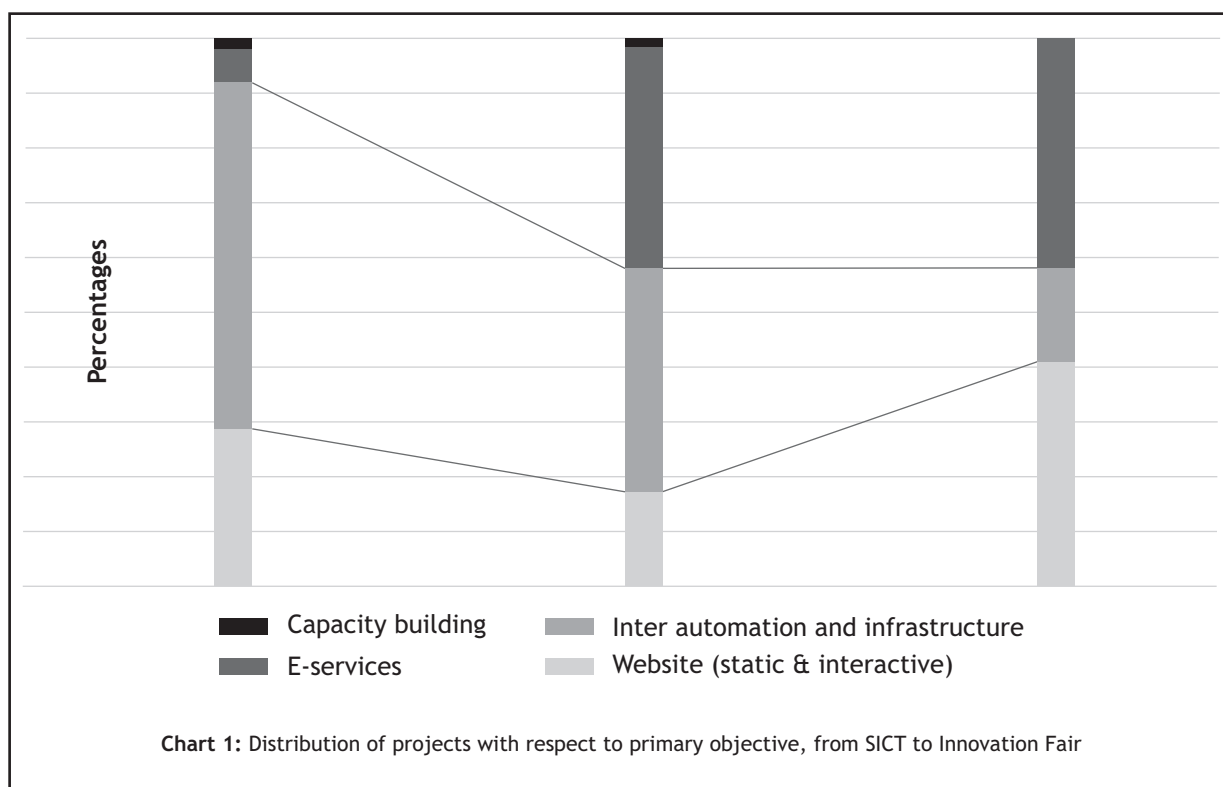
Apart from projects facilitated by the A2I, there have also been an increasing number of projects being initiated by different divisions and ministries themselves, which insinuate a substantial increase of the administration's demand for e-Government. This demand is likely to increase further with recent initiatives like the Digital Innovation Fair, which required ministries and departments to showcase their e-Government projects and e-services, and are likely to create a sense of competition between ministries.

The shift from infrastructure building towards e-citizen services is clear from the following chart, which is a breakdown of the primary objectives of e-Government projects under various umbrellas at different points in time (SICT projects, 53 'quick win' projects identified by Secretaries in the A2I workshop, and the projects showcased at the Digital Innovation Fair in March 2010)<sup>8</sup>:

7. Website link- [http://www.pmo.gov.bd/a2i/index.php?option=com\\_content&task=view&id=398&Itemid=436](http://www.pmo.gov.bd/a2i/index.php?option=com_content&task=view&id=398&Itemid=436)

8. In some cases, one project had multiple main objectives, all of which have been counted. In other cases, perhaps there was some component of the project falling in one of the categories which only had a support role for the achievement of the primary objective. In those cases, only the primary objective has been considered. Therefore, total numbers will not match that of the number of SICT projects.





While only 6% (absolute number: 3) of SICT projects were primarily aimed towards delivering an e-service, the proportion among the Quick Wins increased to 40%, and an even greater percentage among the projects displayed at the March 2010 Digital Innovation Fair. Infrastructural developments (both hard and soft) accounted for a vast majority of SICT projects, but they occupy a relatively minor portion of recent projects. It must be noted, however, that since SICT or A2I were not all-encompassing in themselves, and the Innovation Fair was more likely to showcase e-services than internal automation projects, this chart is only indicative of the underlying trend.

Many of the previous challenges were overcome during this period through various strategies:

- a) Creation of organic demand and bureaucratic commitment: Largely due to the government's emphasis on creating a Digital Bangladesh, internal demand and commitment was created among the bureaucracy in favor of these e-government initiatives.
- b) Focal points at ministry level: A Joint Secretary was assigned the role of focal point in each ministry, to address the lack of a point person in charge of e-Government projects.
- c) New incentives for computer literacy was put in place by the government, such as inclusion in every bureaucrat's ACR evaluation report, motivating focal points in ministries, etc.
- d) Lack of financial resources was addressed by setting aside 5% of the ADP allocation of each ministry for ICT and e-government projects. Also, a block allocation of Taka 100 crore has been made in the budget for FY 2009-2010 as 'emergency fund' for ICT projects.

Despite this welcome trend towards the provision of information and services to citizens, the e-services designed and implemented during this period were hardly adequate. Also, new challenges surfaced along with some previous ones which persisted and were not addressed adequately during this period, particularly with respect to leadership and ownership of e-Government projects. The focal points for e-Government at the ministries were all at the Joint Secretary level, with relatively little decision making power, and insufficient incentives for initiating e-Government projects since they get transferred frequently.

### 2.1.3. 2010 and beyond

Recent developments yield indications that e-Government is moving to the next phase in Bangladesh, away from isolated e-services towards more integrated, connected and transactional e-services. The present government came to power with the pledge of building a "Digital Bangladesh", and has kept consistent focus on this promise thus far. This has resulted in a political climate highly supportive of and conducive to e-government projects. A very recent initiative, the Digital Innovation Fair, born out of the A2I program at the PMO, took this opportunity and showcased the various successful and ongoing projects undertaken by the Ministries, effectively putting government agencies in a competitive environment and giving citizens an unprecedented opportunity to witness what services the Government is providing, thereby creating a demand for these services.

Apart from the political will, which is undoubtedly a critical element for success, several other favorable factors have also propitiously converged in recent times:

- a) The planning and implementation of the 'quick win' projects has possibly led to a fresh and profound understanding within the bureaucracy about the meaning and ultimate aims of e-Government.
- b) A structured policy and regulatory environment, brought about through the creation and passage of the new ICT Policy 2009 and the ICT Act 2009, can play an enabling role for current and new e-government projects.
- c) New opportunities for growth of e-commerce: Bangladesh Bank has recently taken initiative to open up the online e-payment gateway, which was a vital missing link for e-commerce in Bangladesh. A new e-payment system called "MobiTaka" has also been recently started by GrameenPhone, and it is already being used for mobile-based payment for intercity train tickets. This promises to open up the vast territory of e-commerce, and encourage private sector involvement.
- d) Most ministries have undergone extensive internal process automation and infrastructure development projects, which are usually the most resource consuming, and most of these projects have been completed. There have also been demonstrated successes in the creation and deployment of e-services. All this sets the stage for integrating the front-end services with automated backend processes, through holistic planning, and improving the quality and efficiency of e-services.
- e) The modality of private sector involvement is also undergoing a paradigm shift, from vendor-like approaches towards public-private partnerships (PPPs), following demonstrated successes of this new model like the customs house automation project. Private software companies are recognizing the business potential in automating government services and making them more accessible, and the government is also encouraging the private sector to come forward in implementing various projects (not specifically e-government ones as yet) as partners.
- f) The government is in the process of developing a policy document that will highlight the immediate priorities for Digital Bangladesh. This will help detail out the strategic approach and timeline for e-government for the next few years.

Despite these commendable initiatives and positive developments, which have improved the climate and preparedness for e-Government, the following gaps and challenges remain which must be overcome in order to make the most of this opportunity:

- a) There is still need for e-Government champions at the top bureaucratic levels for effective and dynamic decision making regarding e-Government.
- b) A policy and legal framework for implementation of PPP e-government projects is still missing, and needs to be developed in order for effectiveness and sustainability of such projects.
- c) There is still no central coordinating authority for e-government, and tensions between the various parties involved in e-Government implementation often results in suboptimal performance due to lack of collaboration and integration of plans.

## 2.2. Initiatives in Key Development Sectors

### 2.2.1. Health

In health, some notable projects divided into the broad categories are:

Area	Projects
Citizen E services	Mobile phone based medical advice from qualified doctors (from 64 district hospitals and 418 Upazilla hospitals) free of charge on 24/7 basis.
	Remote online telemedicine from Community clinics to Upazilla Hospitals
	Dissemination of health care information via SMS to citizens
	Remote phone consultation with doctors provided by all telecom operators
Internal automation	Logistics Management information systems
	Service statistics
	Personnel information management system

An analysis of the ICT in health sector reveals the following gaps which require attention from both the government and donors:

- ❖ **Lack of coordination between departments under Ministry of Health and Family Welfare:** MoHFW is divided into four Departments - DGHS, DGFP, DDA and DNS. Among them, DGHS and DGFP have elaborate ICT systems that are used for strategic decision making and planning. However, due to a longstanding history of little mutual coordination and cooperation between these two departments, there is little interoperability and integration between the two MIS systems, to the extent that neither department can use data from the other. There is significant scope for donor agencies to ensure more optimal operation, since both the MIS systems enjoy significant donor support.
- ❖ **Dissemination of health content:** A2I has recently taken initiative to develop ICT-based health content and information. As such content are increasingly developed, it opens up significant scope for PPPs with telecenters to disseminate health information and content in rural outposts. Union Information Centers (UICs) of the government can also be utilized for ensuring proper dissemination.
- ❖ **Development of a national Electronic Medical Record (EMR) Database:** Fundamental to ICT in Health is an EMR, which DG Health has recently started developing. However, the creation of the EHR (which covers some very basic data) is extremely resource intensive, and there needs to be a less expensive method for updating the EMR in order to make it truly sustainable. m-Health, a new approach to e-Health using mobile phones, is an emerging field which can help facilitate real time data transfer from the ground at very low operational costs, and can also enable use of EMR for clinical decision making by remote doctors.

## 2.2.2. Education

In education, some notable projects divided into broad categories are:

Area	Projects
Citizen E services	SMS and email based public exam results
	Online students registration for SSC/HS C students
	E-books of all public school books made available online
	Online student admission by some colleges under National University
	SMS based registration for university admission test at Shahjalal University, and SMS based dissemination of exam results
	ICT enabled innovative class room project in collaboration with Microsoft
Internal automation	Development of Self-Learning Multimedia Teachers' Training Materials (SLMTTM), or multimedia content to help teachers deliver lessons.
	Informative and interactive websites of all the entities under Ministry of Education.
	Education GIS - map based software to show density of academic institutions in various regions
	Provision of internet connectivity to 1200 schools by Bangladesh Computer Council
	Establishment of computer labs and multi

An analysis of the ICT in education sector reveals the following gaps which require attention from both the government and donors:

- ❖ **Too much focus on ICT literacy versus ICT-based learning:** Governments, including the present one, have so far focused disproportionately on ICT literacy, i.e. training 'about' computers, as opposed to ICT-based learning, or training 'using' computers. Optimal use of ICT in the education sector should constitute the use ICT tools and content for facilitating the teaching and learning of difficult-to-teach-and-learn subjects like math or science. Donors can play a role in catalyzing a shift in paradigm and bringing national focus on ICT-based learning.
- ❖ **Teacher's training institutes are not ICT enabled:** Although multimedia capacity has been developed in some TTIs across Bangladesh, they are mostly focused on training "computer teachers". For use of ICT-based learning in all disciplines, all teachers need to be trained in the use of ICTs in the classroom. Capacity of these TTIs also needs to be improved, both in terms of ICT infrastructure as well as improvement of the trainers themselves.
- ❖ **Lack of ICT-based (e.g. multimedia) content:** There is a terrible shortage of multimedia and other ICT content for teaching and learning in the classroom and beyond. The government can develop its own content for primary and secondary schools, as well as undertake PPP partnerships with NGOs and the private sector for development of various kinds of educational content.
- ❖ **ICT infrastructure development for tertiary education:** MoEdu has allocated a disproportionate amount of resources to primary schools for development of ICT infrastructure. Developing infrastructure in the numerous primary institutions is not only resource consuming, but also should receive less priority compared to tertiary institutions where a multimedia-enabled classroom environment is all the more crucial. Particularly neglected have been the numerous colleges under National University, which provides tertiary education to more than 70% of the total volume of students each year.

- ❖ Scaling up of good practices in citizen services: There have been quite a few ICT-based citizen services in the education area, such as the online application system of Shahjalal University. Such good case practices need to be replicated to other similar institutions under the sponsorship and initiative of the government. There might also be scope for the government to bring in private entities under PPP arrangements in order to provide these services.

## 2.3. Government's Capacity for e-Government

The government has made some progress over the last few years with respect to developing capacity for e-Government, but there is still scope for significant improvement. The government's capacity can be broadly categorized along the following four main themes:

- 1) Infrastructure
- 2) Human Resource Readiness
- 3) Administrative Structure
- 4) Policy and Regulatory Framework

This section analyzes the government's readiness and capacity in each of the above themes<sup>9</sup>.

### 2.3.1. Infrastructure

The government's ICT infrastructure at the Ministry/ Division level has significantly improved over the years with officers above Joint Secretary level generally having access to individual PCs in their rooms. However, government offices below that level often have shortage of computers. A 2008 study by SICT found that 24% of the Departments, Corporations and Commissions have no PCs in their offices.

Many government offices often lack relevant personnel or enough funds for maintenance. Often, government offices are provided with computers from different donor-funded projects but have no internal budget for maintenance - it is not an uncommon scenario at government offices for broken computers with simple problems to be left unrepaired. Most government offices, which have funds, outsource maintenance to private firms.

The offices at the Ministry/ Division level generally all have Internet access shared over LAN. Internet connectivity at lower levels is sporadic. There is no government wide network yet in place - so government offices have to rely on Internet to relay data and messages.

### 2.3.2. Human Resource Readiness

The government has severe challenges with respect to human resource readiness for operationalizing e-Government initiatives. There are broadly two kinds of capacity building efforts that are required: 1) policy-making, strategy-formulation regarding e-Government with basic understanding of IT issues; 2) technical resources to take care of technological matters regarding e-Government. There has been a significant deficiency in the first category since much of the e-Government training has focused on computer literacy and technical issues, and not enough on the policy and strategic aspects of e-Government. However, more recently, there is a growing trend of training and sensitizing top government officials in decision making capacity.

Some of the government offices have ICT human resources in the form of system analysts and programmers. However, it is hard to attract highly qualified people in these positions because of two reasons: 1) the salary structure is not competitive with respect to the private market; 2) the positions have no strong career path. On top of that, many of the ICT positions in different government offices lay vacant since the government has not allocated funds for these positions yet.

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9. The data presented in this section comes from SICT Survey 2008

In an overall sense, the mentality of government officials need to be shifted more towards recognizing the rights of citizens in getting access to hassle-free efficient service and also in getting information about the government's resource allocation and progress. The fundamental premise of e-Government lies not in technology but in how the government interacts with citizens and government officials need to change their mindset to accommodate for this.

### 2.3.3. Administrative Structure

The Prime Minister's Office is providing high-level leadership with respect to e-Government strategy formulation. The Planning Ministry is also involved with helping with strategy formulation and developing coordinated approach to implementation. The National Digital Task Force, chaired by the Honourable Prime Minister, has the responsibility for monitoring progress of e-Government according to plans. The Principal Secretary to the Prime Minister chairs the Executive Committee of the Digital Task Force and the MoSICT acts as the Task Force's secretariat.

Bangladesh Computer Council (BCC) under MoSICT has led the development of the ICT Policy and the ICT Act and is also responsible for monitoring implementation and progress towards Digital Bangladesh. All line Ministries have responsibilities for delivering specific action items of e-Government. In this regard, each Ministry and Division has an e-Government Focal Point responsible for planning, budgeting, implementing and monitoring of e-service delivery and e-administration initiative and coordination among the subordinate agencies. However, the responsibilities of Focal Points still remain largely theoretical since many of them are not trained or prepared to be undertaking such tasks. There is also no coherent policy or plan to train up the focal points. Another problem is that these focal points get transferred frequently and there is no coherent policy or strategy for transferring knowledge.

### 2.3.4. Policy and Legal Framework

The e-Government policy framework is currently largely being driven by the ICT Policy 2009 and the ICT Act 2009. The Right to Information Act 2009 is also expected to encourage government officials to open up their information regarding their activities, financial and material progress. However, there is no separate policy guideline for e-Government, particularly with regards to the following important issues:

- ❖ Technological standardization, concerning issues of standardized ways of storing government's data and information so that they can be exchanged and shared seamlessly
- ❖ Data privacy, concerning issues of who will get access to what kind of data
- ❖ Data security, concerning issues about secure ways of storing and transferring data that will be followed by all government entities
- ❖ Shared service platforms, concerning issues about re-usability of information systems to avoid duplication of efforts, which is a common phenomenon in government offices since similar systems are built again and again through separate contracts

## 2.4. Donor Mapping

Several donors have been active in supporting the development of e-Government, often in the context of a larger initiative on administrative reform. The table below presents a snapshot of some of the major initiatives by donor agencies. The Access to Information (A2I) project of UNDP is not included in this table since their scopes of involvement is quite wide and has been discussed throughout the rest of the document.

Area	Projects	Donor	Project Initiator	Executing Agency
Energy & Environment	Bangladesh Environmental Institutional Strengthening Project (BEISP)  - The project will create a computer lab in Ministry HQs; develop a web-site for the Ministry; and place all relevant legislation, regulations, and guidelines on the web-site	CIDA	CIDA & MoEF	Cowater Canada
	Sustainable Power Sector Development Program (Program)  ICT components: • Financial management systems • e-procurement; MIS • ICT capacity-building training	ADB	---	PGCB, DESCO, MoPEMR, BPDB, DPDC
	Urban Public and Environmental Health Sector Development Program (Program Loan)  ICT Component: Modernized and computerized accounting systems (IT to enhance financial management, improve tax collection, and expand the tax base to strengthen municipal finances)	ADB	---	LGRD
Agriculture	Strengthening the Resilience of the Water Sector in Khulna to Climate Change  ICT component- GIS mapping	ADB	---	LGRD
Finance & Commerce	Regulatory & Investment Systems for Enterprise Growth in Bangladesh (RISE) - BICF component (Bangladesh Investment Climate Fund)	DFID	DFID	IFC
	Bangladesh Remittances and Payments Partnership (RPP) - ACH component (Automated Clearing House)	DFID	DFID	Data Edge (with Bangladesh Bank)
	Promoting Financial Services for Poverty Reduction in Bangladesh (PROSPER) - CIB component (Credit Information Bureau)	DFID	DFID	CRIF (with Credit Information Bureau)
	Dhaka Custom House Automation	IFC	DCCI, IFC, BICF	Dhaka Custom House, NBR and DataSoft Systems Bangladesh Limited
	Registrar of Joint Stock Companies Automation	IFC	IFC, BICF	RJSC, Ministry of Commerce

Area	Projects	Donor	Project Initiator	Executing Agency
	Automation of BEPZA	IFC	IFC, BICF	BEPZA
	BOI Online Registration System	IFC	IFC, BICF	BOI
	Bangladesh Investment Climate Fund	EU	EU, IFC, DFID	IFC
Transport & Communication	Chittagong Port Trade Facilitation Project  ICT components: <ul style="list-style-type: none"> <li>• Computerized container terminal management system (CTMS)</li> <li>• ASYCUDA++ (an automated system for customs data management)s</li> <li>• Container scanners</li> </ul>	ADB	---	Roads and Highways Department, Customs House of Chittagong, Chittagong Port Authority
	Telecommunications Technical Assistance Project	WB	GoB	MoPT, BTRC
	Telecommunication Network Development Project	JICA	JICA, GoB	BTTB
	Preparing the Chittagong Port Trade Facilitation Project (PPTA to Loan 2147) ICT Components: Electronic Data Interchange (EDI)	ADB	---	---
Legal	Legal Reform Project (LRP) - The project created a web-site for the Ministry and placed all relevant legislation, regulations, and guidelines on the web-site	CIDA	CIDA / MoLaw	Justice Canada
	E-registry of rules-regulations and license	IFC	IFC, BICF	BOI
	Intellectual Property Rights Project	EU	EU, Ministry of Industries	DPTD (GOB), WIPO
ICT	IT Upgrade	EU	UNIVERSITAT BREMEN UNI-BREMEN	UNIVERSITAT BREMEN UNI-BREMEN / Bangladesh Association for Software and Information Services
	Bangladesh Technology Information Programme (BITMAP)	EU	The Danish Federation of Small and Medium Sized Enterprises	Bangladesh Association for Software and Information Services/ The Danish Federation of Small and Medium Sized Enterprises



Area	Projects	Donor	Project Initiator	Executing Agency
	Pilot project for Software export to Japan	JICA	JICA	Economic Relations Division of GoB and BASIS
	South Asia Subregional Economic Cooperation (SASEC) Information Highway Project  ICT components: • Network infrastructure • ICT research and training	ADB	ADB	ADB
Education	Technical and Vocational Education and Training (TVET) Reform	EU	EU/ILO/ Bangladesh Ministry of Education	ILO/ Directorate of Technical Education of GoB
	Capacity Development for Madrasah Education ICT Components: • MIS • system of networking, links, and online sharing of madrasah data • design of an information technology-based monitoring and evaluation system	ADB	---	MoEdu
	Secondary Education Sector Development Program  ICT components: • GIS • National Secondary EMIS • Network Infrastructure • ICT curriculum • Teaching training and facilities	ADB	---	MoEdu
	Preparing the Secondary Education Sector Improvement Project II  ICT components: • MIS • ICT plan and strategy	ADB	---	Directorate of Secondary and Higher Education
	Post-literacy and Continuing Education Project  CT components: • MIS • Website	ADB	---	Directorate of Non-formal Education, Bureau of Non-formal Education
	Teaching Quality Improvement in Secondary Education Project  ICT components: • ICT skills training • Hardware and software package	ADB	---	MoEdu

Area	Projects	Donor	Project Initiator	Executing Agency
Quality Control/ M&E	Bangladesh Quality Support Programme	EU	EU/ Ministry of Industries	UNIDO, ITC
	Strengthening Results-Based Monitoring and Evaluation Project ICT component: Web-Based Online M&E System	ADB	---	Implementation Monitoring and Evaluation Division
Infrastructure Development	Second Rural Infrastructure Improvement ICT components: • MIS • Network infrastructure • Website	ADB	---	LGED

From the above table and some interviews and surveys, the following observations have emerged:

- ❖ There is currently not a lot of coordination between donors with regards to providing support for Digital Bangladesh - part of that is because there is no clear delineation from the government regarding the priorities of Digital Bangladesh. While UNDP through its A2I Program is directly involved with Digital Bangladesh both at the policy and implementation level, there is yet to be strong partnerships with other development partners.
- ❖ While some donors have been active in promoting the development of the software industry, there have been relatively little efforts to promote local capacity in the software industry in the context of private sector partnership in e-Governance. The preferred mode seems to be outsourcing to a local software company as opposed to exploring possibilities of a long-term partnership and scope for shared investment and revenues. One reason cited for that is that the Bangladesh government still has somewhat of a 'socialist' mindset and has deep mistrust regarding the private sector.
- ❖ There are some donors which have been funding capacity building and training programs to build ICT literacy of government officials. However, there is almost no focus on developing e-Governance leadership and the capacity to take decisions regarding e-Government projects. Only ICT literacy does not prepare government officials to take executive decisions.

## 3. PPP IN e-GOVERNMENT

With Bangladesh placed at the crossroads of a highly potent e-Government revolution, various innovative approaches and strategies need to be taken in order to overcome the challenges that were identified in previous sections. Private sector involvement through PPPs can be one such arrangement which can be transported from other sectors and adapted to the needs of e-government projects to particularly address the managerial and financial challenges involved in sustaining these initiatives.

Due to the noticeable increase in GoB focus towards e-citizen services, it can even be argued that the expertise of private players - who have greater experience and efficiency in service delivery, marketing, customer relationship management and innovative distribution systems - is critical to realize e-Government projects successfully and take services to customers, i.e. the citizens.

### 3.1. Defining PPPs in e-Government

While there can be various ways of defining PPPs, and significant ambiguity as to what does and does not constitute a PPP<sup>10</sup>, UNESCO defines public-private partnerships as "a cooperative venture between public [government] and private [business or NGO] sectors built upon the strengths of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks and awards" <sup>11</sup>. Through PPPs, services traditionally delivered by the public entity are provided largely by private entity under a set of terms and conditions well defined at the outset<sup>12</sup>. This can be a sufficient definition for PPPs in e-Government, whereby PPPs can enable provision of government e-citizen services by a private partner, often in return for a service fee. It is important to note that in most cases, internal process automations of public sector entities are not appropriate for PPP projects due to a lack of external sources of revenue. Various forms of PPPs have been utilized globally in providing traditional government services and are being explored for e-Government.

### 3.2. Benefits of PPPs in e-Government

One key feature that distinguishes PPPs is that the private entity does not have a guaranteed profit from a project, and shares some of the risks of implementing the project, rather than getting paid regardless of project success as in the case of ordinary procurement<sup>13</sup>. This attribute is particularly well-suited to e-government projects, which are typically avoided by governments because they are deemed to be riskier than traditional development projects. With the private sector undertaking much of the risk burden, and having a financial stake in making the project sustainable, governments can be more confident to undertake such projects.

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10. "Public-Private Partnerships" International Monetary Fund (Prepared by Fiscal Affairs Department & Approved by Teresa Ter-Minassian), 12 March 2004.

11. "E-government toolkit for developing countries" UNESCO Office New Delhi and Regional Bureau for Communication and Information in Asia and the Pacific; National Informatics Centre (India), 2005.

12. "Public-Private Partnerships (PPPs) in e-Government: Handbook" infoDev.  
<<http://www.infodev.org/en/Publication.822.html>>

13. "Public-Private Partnerships (PPPs) in e-Government: Handbook" infoDev.  
< <http://www.infodev.org/en/Publication.822.html>>

Governments can also make up for their typical deficiencies through partnership with private and non-government entities. First of all, governments can achieve the efficiency characterized by the private business sector, which is generally much more innovative because of its exposure to much greater levels of risk and competition. Also, the customer orientation of the private sector can be a valuable asset to help the traditional government service superstructures become more citizen oriented<sup>14</sup>, and their marketing acumen critical in making services recognized and more popular, which is often a significant barrier to success. Private sector partners with e-commerce experience may also have skills in online/mobile based service delivery not available within the civil service<sup>15</sup>.

Similarly, e-Government can be made equitable and accessible in the remotest regions of the country and serving the underserved through partnerships with NGOs, because of their close connections with the grassroots and their experience in serving disadvantaged populations. In all these cases, the government can forgo tasks that it is typically inefficient at (i.e. operations and management), and instead use its strength in planning and designing these projects, monitoring the implementation of its partners, and creating regulatory frameworks. PPPs serve this purpose much better than traditional software vendor (outsourcing) models - the latter often fail in the long run because handovers are impeded by lack of IT skilled people and resources in the government.

Traditionally, sustaining citizen services require significant continual investment on behalf of the government. In case of PPPs, private partners can often develop innovative revenue generating models which can help sustain the services in the long run and expand without dependence on government funds. Private partners may also be more efficient in raising funds quickly for initial planning, procurement and implementation.

In summary, PPP based e-government projects are likely to be sustainable for various reasons. First of all, PPPs imply sharing of management control, and impose local, as opposed to distant accountability. Secondly, service quality and output is much better in PPPs, since private sector rewards and incentivizes efficiencies. Therefore, projects get executed faster, and are maintained better, given a good contractual relationship. Third, PPP based projects are much likely to be sustainable because there is an inherent incentive for the private partner to make the project successful enough to be worthy of a large-scale rollout, and also because in most cases PPP projects try and tend to recoup investment through a revenue model.

So far, PPPs' main charm has seemed to be in leveraging private capital as a supplement to public funding in developing infrastructure. In e-Government projects, however, where financial limitations are often not the most critical bottlenecks, the above reasons make PPPs worthwhile despite public funding availability or lack thereof.

Some of the most successful international PPP initiatives in e-government are described in Appendix 5.

### 3.3. Challenges of implementing PPP in e-Government projects

PPPs, while potent tools in facilitating e-Government implementation, are complex to implement because they represent a non-traditional way of procuring goods, services, expertise and capacity building. Some of the major challenges involved with implementing PPPs in developing countries can be summed up in the following points<sup>16</sup>:

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14. "E-government toolkit for developing countries" UNESCO Office New Delhi and Regional Bureau for Communication and Information in Asia and the Pacific; National Informatics Centre (India), 2005.
  15. "Public-Private Partnerships (PPPs) in e-Government: Handbook" infoDev. < <http://www.infodev.org/en/Publication.822.html>>
  16. "Public-Private Partnerships (PPPs) in e-Government: Handbook" infoDev. < <http://www.infodev.org/en/Publication.822.html>>

- a) **Legal and regulatory frameworks:** Because of the special arrangement that PPPs entail, there needs to be concrete and comprehensive frameworks to regulate and guide PPPs in national policy and law. For example, the basic issue of partner selection should have a pre-defined selection process with specific criteria to rank potential partners and prioritize them (including relative priority given to local and international partners, etc.).
- b) **Security and privacy concerns:** Due to the integral involvement of private players, some of who might have a financial interest in revealing and/or exploiting personal information of citizens, security and privacy are of utmost concern for most governments initiating PPP e-Government projects. Foolproof measures need to be taken to ensure privacy and data security, and also for mitigation if such leakages do happen.
- c) **Revenue models:** Building a solid revenue model for sustainability of PPP projects are a crucial part of the project planning process, and a challenge in itself. Extensive studies of willingness to pay might be required, and government entities are often not adequately equipped for conducting such exercises.
- d) **Methods for short- and long-term impact assessment:** Because multiple parties are involved, it is easy to get into a trap of blaming each other if the project fails to deliver as expected. For this reason, role definitions along with clear deliverables and impact assessment criteria needs to be defined at the onset of the project.
- e) **Intellectual Property Rights:** Private partners are most interested in e-Government projects when their innovations, a key component of such projects which is also often expensive, are rewarded with security measures under IPR laws. The shelter from competition and compensation plans for violation that this guarantees can encourage private entities to undertake such projects.

### 3.4. Cases of PPP in e-Government in Bangladesh

In Bangladesh, PPPs have been used since the 1990s as a means to finance large infrastructure projects. Since the adoption of IPP policy in 1996, about 50 initiatives in telecommunication, power plants, land port and other physical infrastructure projects have been successfully implemented till date. Surprisingly, one of the very first PPP projects was in the ICT sector, the Railway Reservation and Ticketing system which was initiated in 1993-94. First developed by Technohaven and later (currently) managed by Daffodil, the project was a major success, increasing revenues by more than 130% in eight years, cutting staff by half, and increasing productivity by 200%.

Despite the success of this project, however, no other e-government project was initiated in the PPP model for a long time until the utility bill payment systems developed by telecom operators in 2008. The most significant recent success has been the Customs House Automation Project in Chittagong in 2008 (case study in Box 1). Another project called Dhaka Custom House Automation Project has also been undertaken by DCCI and DataSoftLtd., which promises to double the revenue in two years, reduce cost of doing business by at least 70%, save customs processing time by 80%, enable precise monitoring of international and domestic price, and ensure accountability and transparency, auditability, etc.

#### Box 1: Case Study of Chittagong Custom House Automation Project

The Chittagong Custom House is one of the main revenue earning sources of Bangladesh government. Automation of the House, launched in October 2008, is the largest automation initiative in Bangladeshi Software industry to date, and was done in the Public Private Partnership (PPP) model with the expertise of DataSoft Ltd. The modality of this PPP project was Build-Own-Operate and Transfer (BOOT), and the private partners financed the whole project.

Through the project, the efficiency of the House has been increased tremendously - the previously 42-steps lengthy process has been curtailed to only 5. Bill of entry cost has been reduced from BDT 180 to BDT 50. Cost of doing business has been reduced by 70%, custom processing time reduced by 80%, and transparency has been established. At least BDT 3.5 billion in revenue which was previously evaded can now be checked.

*Source: Chittagong Custom House Automation Project*

*[http://www.datasoft-bd.com/index.php?option=com\\_content&view=article&id=162:chittagong-custom-house-automation-project&catid=57:success-stories&Itemid=45](http://www.datasoft-bd.com/index.php?option=com_content&view=article&id=162:chittagong-custom-house-automation-project&catid=57:success-stories&Itemid=45)*

Another case study of a successful PPP project "Union Information Center", which has been initiated in 2008, is given in Box 2.

#### Box 2: Case Study of Union Information Center

UIC is another successful PPP modeled project implementing by Local Government Division (LGD) under the Ministry of Local Government, Rural Development and Cooperatives, and in affiliation with the Access to Information (A2I) programme at the Prime Minister's Office (funded by UNDP) with a key objective to provide information services to the doorstep of grassroots people in a socially and economically sustainable way. The UICs are normally located at the union parishad premises, and run by local entrepreneurs and various service providers at private sector. Local entrepreneurs manage the UICs, while Union Parishads (UPs) ensure social security of the centre, LGD helps for capacity building and mobilization, and A2I provides the technical support and livelihood digital content. The whole management of the UISC is being run by a committee headed by the UP chairman. Teachers, doctors, farmers, students, women, government and non-government field workers and UP members have also been included in the committee.

Earlier, more than 4 million of union parishad and community people had no options for getting free information on various livelihood related subjects and government services or rules and regulations. So, they had to go upazila headquarter for different government forms like passport and driving license, which they can now collect from the UICs, which has given the people of the union a new lease of life. Moreover, the unemployed youths are visiting the centre to know about job vacancies, students are browsing internet while women are also frequent here to know about their rights related marriage and maternal health.



Community people are using computers for getting necessary information

### 3.5. PPP in GoB Policy and Budget

The present government has put emphasis on building a "Digital Bangladesh", and also demonstrated its intention to pursue PPP projects widely during its 5 year tenure. The FY 2009-10 budget gives due importance to PPP (creating three new expenditure heads focused on PPPs with about 3% of the total budget allocation), although not explicitly in the e-Government sector.

A major step forward in the quest for digitized government has also come recently in the form of the National ICT Policy 2009, which has also mentioned PPP as a mode for providing e-services to citizens. The ICT policy 2009 and the ICT Roadmap, however, have failed to shed specific directions regarding the possibilities of PPP in e-Government implementation. The policy has noted the importance of encouraging public private partnerships, promising to "wholeheartedly encourage use of PPP for new e-citizen service initiatives" in the short term, and to "develop PPP as an appropriate model for e-Citizen service delivery" in the medium term. However, these policy statements are yet to be realized through specific initiatives.

PPPs have so far been governed by the Bangladesh Private Sector Infrastructure Guidelines (BPSIG), which is the de-facto PPP policy. However, these guidelines did not cover ICT sector or e-Government projects, although e-Government is a vast sector and ICT component is integrated with many developmental activities. Recognizing the importance of having a new standard PPP policy, the GoB is now preparing a national PPP policy which will replace the existing BPSIG. The Board of Investment (BOI) of the Prime Minister's Office (PMO) has finalized this draft PPP policy in March 2010, entitled "Bangladesh Public-Private Partnership Policy & Guidelines" which has been sent to the Cabinet Division for further approval. This PPP policy is being designed to attract both local and foreign investors and partners (including NGOs) in ten explicitly mentioned development sectors, which includes Information Technology (IT). However, it is not clear whether e-government projects are subsumed under the IT sector or considered to be an inseparable component of each development sector.

According to the draft policy, a PPP Cell will be established in the Board of Investment, under the PMO; and line ministries and executing agencies will encourage local investors through awareness creation and motivation to participate in various projects. The draft policy has included 16 modalities for implementation of PPP related projects which are Build-Operate-Transfer, Build-Own-Operate, Build-Own-Operate-Transfer, Capitalization, Design-Build-Finance-Operate, Securitization, Build-Transfer, Build-Lease-Transfer, Build-Transfer-Operate, Lease Management Agreement, Management Contract, Rehabilitate-Operate-Transfer, Rehabilitate-Operate-Maintain, Service Contract, Supply-Operate-Transfer and Joint Venture Agreement [a brief information on popular PPP mode is given in Appendix 3]. It remains to be seen whether this new policy adequately covers the area of e-Government, and how well the government can define a regulatory and legal framework for the operationalization of PPPs.

### 3.6. Identifying potential PPP opportunities in Bangladesh

Since PPPs promise a fast track (and a more effective and efficient one) to the implementation of e-Government projects, this study briefly tries to provide some direction for the government and private sector with regards to the services which are most apposite for PPP-based implementation models. Through a relatively simple and non-exhaustive methodology, this study prioritizes a few citizen-centric government services with high potential for PPPs, and suggests feasible PPP models for these e-services.

For this exercise, the first 80 government services for citizens were listed, and rated on the basis of the following criteria [service list is given in Appendix 2]:

1. Degree of Corruption (High/Not High)
2. Security and privacy concerns (High/Medium/Low)
3. Degree of hassle faced by public (High/Medium/Low)
4. Annual Frequency of Use (Less than once/Once/Several times/Monthly/More than 12 times)
5. Portion of total citizens who use the service (High/Medium/Low)
6. Revenue generation source (Citizens/Govt./3rd party)
7. Revenue Generation opportunity/ Volume of transaction (High/Medium/Low)
8. Possibility of Cost savings (High/Medium/Low)
9. Existence of PPP model from other countries

The services were then shortlisted to 30 services on the basis of these characteristics, keeping those most amenable for PPPs (e.g. high possibility of revenue generation or cost savings, low corruption, no security or privacy concerns, etc.). Finally, in order to produce cost effective bundles of services, certain flexibility was kept in bringing together those services which could be delivered by simple partnerships between public and private partners. This resulted in 5 bundles:

1. Utility services (utility bills, line connection and complain management)
2. Transport (bus-train tickets, vehicle registration, licensing, renewals, collection of fees and taxes, etc.)
3. Security and Civil services (general diary, case filing and status checking, immigration support, car tickets, etc.)
4. Educational services (online registrations, applications and admissions, certificate requests, information for higher education, e-learning, etc.)
5. Land records digitization& management

These bundles are possibly the 'low hanging fruits', i.e. services which have the highest potential for successful and sustainable implementation of PPPs, and have highest value addition in terms of citizen services improvement. Models can thereby be created which can be replicable in other sectors. In the following table, the bundles along with their unit services, the responsible public entities and ministries, and potential private partners and possible PPP models are summarized. [Appendix 4 discusses the modes of possible partnership in greater detail.]

General Category	Potential Services	Responsible Entity	Ministry	PPP Model	Potential private partners	
Utility Services	Electricity- Line connection & maintenance	DESA, DESCO & REB (all are under BPDB)	MoPEMR	BOT/ DBFO	Telecom operators, IT companies, Banks	
	Electricity- Bill payment					
	Gas - Line connection & maintenance	Titas Gas, BGSL, JGTDSL (all are under BOGC/ Petrobangla)				
	Gas- Bill payment					
	Telephone - Line connection & maintenance	BTCL				MoPT
	Telephone - Bill payment					
	Water & Sewerage - Line connection & maintenance	DWASA & Local Municipality				MoWR
	Water & Sewerage - Bill payment					
Land Management	Land survey	DLRS	MoLand	DBFO	IT companies with GIS expertise, banks	
	Land record					
	Land mapping					
	Land registration	Directorate of Registration				MoLaw
	Land mutation					
Transport	Bus Ticket Booking and Selling	BRTA & BRTC (both are under Roads & Railways Division), BBTOA	MoCommunications / MoPT	DBFO/ BOT	Telecom operators, private contractors, banks	
	Train Ticket Booking and Selling	Bangladesh Railway (under Roads & Railways Division)				
	Vehicle Registration	BRTA (under Roads & Railways Division)				
	Issue and Renew motor driving licenses					
	Issue and Renew route permits of commercial motor vehicles					
	Fitness certificates					
	Collection of fees and taxes	Postal Department only collect money, main agency BRTA (under Roads & Railways Division)				



General Category	Potential Services	Responsible Entity	Ministry	PPP Model	Potential private partners
Security & Civil Services	Entry of general diary & case filling	Crime and Operations Division of DMP/ Police Headquarter	MoHA	BOT	Private contractors, Software developers
	Filing of civil cases	District Judge Court	MoLaw		
	Issuance/Renewal or arms and ammunitions licenses	DC Offices	Cabinet Division		
	Immigration support (e.g. No Objection Certificate)	Police Headquarter	MoHA		
	Certified copy of court cases & complaints	Chief Metropolitan Magistrate's Office, Supreme Court, High Courts, District courts	Cabinet Division, MoLaw, MoHA		
	Car Tickets	Traffic Division of DMP/ Police Headquarter	MoHA		
Educational Services	Registration for admission, Issuance of admit card and Publication of exam result	DPE, DSHE	MoPME, MoEdu	DBFO	IT companies, educational content developers, NGOs, telecom operators
	Online certificate				
	Payment of stipend to the student	BCC, BRDB	MoSCIT, LGRD		
	e-Learning tool kits and training materials				
Information and registration for higher education, scholarship & research opportunities etc.	DSHE	MoEdu			

BEI organized a roundtable discussion with private and public partners on Land Records digitization, in order to bring relevant stakeholders together and devise a strategy to implement a PPP-based e-government project for this purpose. The proceedings of the discussion are given in Appendix 9.

## 4. KEY RECOMMENDATIONS AND CONCLUSION

e-Government is a fundamental component of the Awami League government's promise of Digital Bangladesh. It cannot be achieved through quick fixes but will require a very comprehensive intervention strategy that has to be based on consultations and advice from relevant stakeholders. However, there are some steps that may be undertaken to build an environment where e-Government can achieve its desired goals. The government is the key driver of e-Government but will need active participation and cooperation from other relevant stakeholders. Some key recommendations for the government, the private sector and the development partners regarding this issue are given below.

### 4.1. Recommendations for the Government

Some of the key recommendations for the government include:

***e-Government should be better integrated with civil service reform:*** e-Government is often regarded as a technical matter and is treated separately. There should be explicit efforts to think of e-Government as an integral part of civil service reform initiatives to make the administration more responsive and accountable and provide services to the doorsteps of citizens as much as possible. e-Government training is often limited to computer literacy and fundamentals of networking and other technical matters. There should be explicit training efforts to create policy leadership for e-Government at the Joint Secretary level and above.

***Better coordination of e-Government strategy and planning:*** There is no single coordination point in the government for coordination of planning of e-Government to develop a roadmap for e-Government. Different responsibilities for e-Government are scattered across different government entities, which sometimes hampers centralized strategic planning, something which is quite critical in early stages of e-Government. Sometimes there are software applications which may be re-used that gets re-built, sometimes there can be shared data storage that is not used, sometimes optimal network designs to connect different offices are not undertaken. A coordination point could have largely avoided these issues. There was a plan to develop a high-powered e-Government Cell at the Prime Minister's Office - however, this plan has never been executed. Such a cell can also have a few high-level strategists and software architects who can help different government entities develop an e-Government plans, tender documents etc.

***Government's internal team for technical assistance:*** Many of the key government entities have IT staff but often it is very difficult to attract highly skilled people in these positions for two main reasons: (i) the salary scale is not competitive compared to private sector rates; (ii) there is no lucrative career path, since the IT staffs are not part of the government's cadre system. The senior IT staffs have to be in the same position for 15 years or more after reaching the Senior Systems Analyst position. The government should take steps to offer more lucrative offers to attract and retain talent to make e-Government a reality. A separate cadre for the IT staff may be considered; also, increased levels of salary may also be considered.

***Build on past achievements and ... failures:*** Numerous e-Government projects have been taken in the last 15 years - some have focused on software applications, some on networking offices, some on building hardware infrastructure. It may not be denied that many of them have failed to reach desired outcomes - however, that in itself, is not necessarily a negative point. These projects have built infrastructures, trained people, taught people how not to go about doing things in e-Government. The government should systematically be looking at the readiness of different government entities and areas of governance with respect to these past achievements and also failures to push the country into the next level of e-Government.

**Develop better communication/ marketing for e-Government services:** Individual government entities do not often have money or resources for publicizing its services. The government's communications department is also not very well-endowed with resources. The government may be able to partner up with various private entities to publicize its services. One such entity may be the telecenters, which have access to citizens in remote locations.

**Avoid adhoc funding for e-Government:** The government's internal funding mechanism for e-Government is still not well developed. There are allocations for ICT development in the budget but nothing specifically for e-Government. The process of how a government entity seeks funds for e-Government is also not very clearly defined. In order to facilitate e-Government, the government has to create a separate fund with clear processes for different entities to tap into that fund.

**Build infrastructure for payment of e-Government services:** e-Government can flourish when citizens can easily pay for different government services electronically through the computer or the mobile phone. For this to be realized, citizens must have a unique digital identity. There are efforts in the right direction to move from the Voter ID to the National ID, which can form the basis for such electronic identity. Also, the government has to create an online payment gateway, something that is long overdue, for monetary transactions to take place online. This allows citizens to pay for many government services sitting at home or at the nearest telecenter or cyber-café, reducing a significant hassle.

**Create policy and legal framework for PPP in e-Government:** Although the current government is giving a very significant emphasis on PPP - perhaps more so than any other previous governments - the issue of PPP in e-Government is still left relatively untouched. The policies and frameworks that govern PPP in large-scale infrastructure projects are not fully suitable for PPP in the case of e-Government. There are issues of intellectual property, issues of sharing revenue, issues of borders as to what kinds of services the private sector can provide.

## 4.2. Recommendations for the Private Sector

Some of the key areas where the private sector can get involved include:

**Aggressive approach to partnering up with the government:** The government by its very nature is conservative when it comes to partnership. Hence the software companies should take an aggressive approach to partnering up with the government. Most of the successful PPP initiatives in e-Government in Bangladesh have been the result of aggressive efforts by the private sector. The current government is more favorable to PPP than any other government - hence this trend of approaching the government pro-actively with innovative partnership and revenue-generating opportunities should be enhanced.

**Marketing and promotion of e-Government Services:** Different private sector entities and NGOs working at the grassroots level can contribute towards marketing and promotion of e-Government services and also sensitizing the citizens to be more demanding when it comes to government's accountability and transparency through the use of ICT-enabled means. Political and bureaucratic machineries sometimes respond when there is a popular demand for a particular service or openness.

**Innovating on new channels to disseminate information and services:** Government-provided information and services often do not reach citizens in marginalized communities. Hence, innovative mechanisms often need to be devised to reach the hard-to-reach areas. New opportunities such as community radio may be utilized for this purpose.

## 4.3. Recommendations for the Development Partners

Some of the key areas where development partners can get involved include:

**Data standardization and inter-operability:** Standardization is often an issue that is ignored until issues become serious and organizations end up spending an unnecessary amount of resources for making sure that their databases can interact with each other. The development partners can put some particular emphasis on ensuring that data standardization issues are streamlined across different government agencies.

**Stress on sustainability:** e-Government projects funded by donor agencies often fail since the related government entity often does not have plans to own the e-Government initiatives by the time the funding runs out. There should be clear guidelines to ensure a plan for the government to take over ownership of the project in a gradual phase. Often, during the process of implementation of projects, only project progress is tracked but the government's readiness for owning the project is not tracked. Hence, the government's unpreparedness is not flagged early enough.

**Encourage private sector participation:** One of the key tenets of this document is that private sector participation in realizing e-Government is critical in certain cases. The government inherently is often biased against private sector participation. Hence the development partners have an important role to play in sensitizing the government and also encouraging them to be more open towards private sector participation and partnership.

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# APPENDICES

## Appendix 1: e-Government initiatives from government entities

The following list on the e-Government initiatives taken from different ministries and departments is taken from key interviews and websites:

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
1.	<b>Ministry of Education</b>	<ol style="list-style-type: none"> <li>1. Online Public Exams Results &amp; Education Statistics under Ministry</li> <li>• Provision of online results of board exams (SSC and HSC)</li> <li>• Availability of registration related information.</li> <li>• Availability of education related downloadable forms</li> <li>• Provision of data interchangeability between relevant offices, such as Ministry of Education, BANBEIS and Education Boards.</li> <li>• Computerization of all District Educational Office's (DEO) for entry of education-related data to district levels.</li> <li>• Supply and Installation of necessary hardware to Education Boards, BANBEIS and DEO's offices.</li> <li>• Training for Technology transfer.</li> </ol>	<ol style="list-style-type: none"> <li>1. ICT enabled teachers' training.</li> <li>2. Online fees collection</li> <li>3. Online education institution information</li> </ol>	<ol style="list-style-type: none"> <li>1. Text book publication through website (upload underway)</li> <li>2. Online /electronic student registration (piloting will start by Dec)</li> <li>3. Public exam results through website, sms and email (piloting done)</li> <li>4. Digital content development (decision taken)</li> <li>5. Electronic draft collection for education board (decision taken)</li> <li>6. Digital content development for secondary level (Dec 2009, 2 yrs)</li> </ol>

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
2.	Ministry of Law, Justice and Parliamentary Affairs	---	<ol style="list-style-type: none"> <li>1. Interactive Website and Process Automation at Supreme Court</li> <li>• Development of interactive website of the Supreme Court, including the following features: <ul style="list-style-type: none"> <li>- Relevant information about the history, responsibilities and activities of the Supreme Court and other courts</li> <li>- The Constitution of Bangladesh in an easily searchable format</li> <li>- Organogram and Key Personnel information</li> <li>- Service Charter of both divisions</li> <li>- Short biography of judges</li> <li>- Cause list of both divisions</li> <li>- Daily important orders of both divisions</li> <li>- Judgments of both divisions</li> </ul> </li> <li>• Features of Web based Application <ul style="list-style-type: none"> <li>- Court Case Management System</li> <li>- Content Management System</li> </ul> </li> <li>• Supply of necessary Hardware and software</li> <li>• Establishment of LAN</li> </ol>	---

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No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
3.	Ministry of Land	<ol style="list-style-type: none"> <li>1. Interactive Website of the Ministry of Land <ul style="list-style-type: none"> <li>• Development of Interactive Website for the Ministry of Land</li> <li>• Information on the responsibilities and activities of the Ministry of Land.</li> <li>• Database of Officers</li> <li>• Annual reports, strategic plans, portfolio budget statements, important speeches by the Honorable Minister</li> <li>• Land related laws and regulations</li> <li>• Dynamic calculation of Land Distribution based on existing Inheritance Law for different religious and ethnic groups</li> <li>• Availability of downloadable forms</li> <li>• Tribal Land Management</li> <li>• Dynamic Land Tax Calculation</li> <li>• Supply and Installation of necessary hardware and Local Area Network.</li> <li>• Training for Technology transfer</li> </ul> </li> <li>2. Land Record Archiving at Manikganj Record Room under the Ministry of Land <ul style="list-style-type: none"> <li>• Development of a customized application software for Imaging, Archiving, Retrieving and Printing of Khatian and Mouza Maps</li> <li>• Digital storage of images of all CS, SA &amp; RS 'Khatian' records and respective CS &amp; RS mouza maps for 3 Upazillas, namely Manikganj, Singair and Sauria. Total Khatians of those Upazillas are about 2,720 volumes containing about 2.72 lakh 'Khatian' records and 550 Mouza maps.</li> <li>• Scanning of 2.75 lakhkhatians in Manikganj</li> <li>• Establishment of LAN</li> <li>• Supply and Installation of necessary hardware and Local Area Network.</li> <li>• Training for Technology transfer.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Computerization of land management system of Dhaka district (July 2009, 1 year)</li> <li>2. Website of Ministry of Land</li> </ol>	<ol style="list-style-type: none"> <li>1. Digitization of all activities of Land Reforms Board and its Divisional offices</li> <li>2. Online land appeal case status checking system (Jan 2010, 6 months)</li> </ol>

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
4.	<b>Ministry of LGRD and Co-operatives</b>	<ol style="list-style-type: none"> <li>Digital Town: e-Rajshahi (Rajshahi City Corporation) <ul style="list-style-type: none"> <li>City Information Services</li> <li>Educational Facilities</li> <li>Health-care Facilities</li> <li>Transportation Facilities</li> <li>Legal Services</li> <li>Business Directory</li> <li>Business Support Services</li> <li>E-Commerce Facilities</li> <li>Banking Facilities</li> <li>Accommodation Facilities</li> <li>Shopping Facilities</li> <li>Tourism Facilities</li> <li>Community Activity Facilities</li> <li>Emergency Service</li> <li>Training Facilities</li> <li>Employment Facilities</li> <li>Downloadable Online Forms</li> <li>Electronic Birth Registration</li> <li>Electronic Death Registration</li> <li>Electronic Immunization Certification</li> <li>Online Ticket Booking</li> <li>Online Utility Bill Payment</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>Union Information Centre (UIC) for Local Govt. Division (pilot started)</li> </ol>	<ol style="list-style-type: none"> <li>Online Trade License Management system for Dhaka City Corporation (start date not set yet, 6 months)</li> <li>Citizen help centre for Dhaka City Corporation (call centre)</li> </ol>
5.	<b>Ministry of Water Resources</b>	<ol style="list-style-type: none"> <li>IT System Development and Interactive Website of River Research Institute <ul style="list-style-type: none"> <li>Development of Interactive website of RRI</li> <li>Purchase of MIKE software for mathematical modeling</li> <li>Online access to research papers and documents</li> <li>Information system to facilitate research and development</li> <li>Establishment of LAN</li> <li>Purchase of licensed software for mathematical modeling</li> <li>Supply and Installation of necessary hardware and Local Area Network</li> <li>Training for Technology transfer</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>A network covering the headquarters and 5 adjacent buildings including MoWR</li> <li>Online procurement management (has started)</li> <li>Hardware and Water Quality database</li> <li>Automation of billing system and formation of help desk and complain centre for Dhaka WASA</li> </ol>	<ol style="list-style-type: none"> <li>Efficient online monitoring of the BWDB projects (web enabled dynamic databases and website), April 2010, 2 years</li> <li>Digitization of file processing and document tracking and (Jan 2010, 0.5 year)</li> <li>Help desk and complain centre for Dhaka WASA (July 2010)</li> </ol>

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
6.	Ministry of Power, Energy and Mineral Resources	<ol style="list-style-type: none"> <li>Electricity bill payment and ledger information on web</li> </ol>	<ol style="list-style-type: none"> <li>BPDP: Electricity Billing system, automatic meter reading system, sms-based bill collection system, pre-payment metering and vending system, static website.</li> <li>DPDC: DPDC's billing system, website</li> <li>SMS based bill payment (BillPay) system through Grameen Phone, BanglaLink and Aktel (has started already in Chittagong, Sylhet and Rajshashi Zone, being launched at Mymensingh and Rangpur zone, preparation for Comilla underway)</li> </ol>	<ol style="list-style-type: none"> <li>Full automation of electricity bill collection through different banks (Dec 2009, 0.5 year)</li> <li>Customer billing and ledger information on the web (Nov 2009, 0.5 year)</li> <li>Web enabled electricity billing system</li> <li>Dynamic and Interactive website</li> <li>E-tender processing</li> <li>Automatic meter reading system</li> <li>Pre-payment metering and vending system</li> <li>File tracking system</li> <li>Customer complain handling and follow up system</li> </ol>
7.	Ministry of Post and Telecom	<ol style="list-style-type: none"> <li>e-Governance application at Sher-e-Bangla Nagar Telephone Exchange <ul style="list-style-type: none"> <li>Development of central database for storing and updating data on telephone numbers.</li> <li>Development of telephone subscribers' record-keeping software with user-friendly interface for queries, sorting and searching</li> <li>Online access to telephone registration information</li> <li>Software application for automating the record-keeping process for new telephone line applications</li> <li>Online access to recent status of application for new telephone lines, including registration number and corresponding demand note number and advice number</li> <li>Supply and Installation of necessary hardware and Local Area Network.</li> <li>Training for Technology transfer.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>ICT enabled teachers' training.</li> <li>Online fees collection</li> </ol>	<ol style="list-style-type: none"> <li>ICT enabled teachers' training.</li> <li>Online fees collection</li> </ol>

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
8.	Ministry of Home Affairs	<ol style="list-style-type: none"> <li>1. e-Governance Application and Interactive Website for RAB <ul style="list-style-type: none"> <li>• Management Information System (MIS) of RAB</li> <li>- Human Resources (HR) Management System</li> <li>- Inventory Management System</li> <li>- Criminal Database</li> <li>- Arms Management System</li> <li>- Operations Management System</li> <li>- Vehicle and Motor Transport Management System</li> <li>- Legal Affairs Management System</li> <li>- Media and Publication Management System</li> <li>- Training Management System</li> <li>- Access Control System</li> <li>- Document Management System</li> <li>- Payroll Management System</li> <li>- Accounting System</li> <li>- Telephone Directory</li> <li>• Interactive Web Site of RAB</li> <li>- History of RAB, Scenario, Organogram, Motto, Mission &amp; Capabilities, About RAB Headquarters</li> <li>- National Activities, Operational Activities, Training Activities, Cultural Activities</li> <li>- Photo Gallery, Latest News, Library &amp; References, Notice, Press Room</li> <li>- RAB Life, RAB in National &amp; International Development</li> <li>- Lost and Found Information, Legal Matters, Messages, Tips</li> <li>- Form Download, Police Form, People, Police Ratio</li> <li>- Crime Control Concept, Command &amp; Control, Crime &amp; Criminal Information</li> <li>- Rank Structure, Battalions, RAB Achievements, Achievement &amp; Awards</li> <li>- Command &amp; Control Structure</li> <li>- Other link of Bangladesh Government</li> <li>- Sit Map, Diff Types of Search Option, Career Information</li> <li>• Web Mail Facilities, Chat Option, Presentation &amp; Improvement plan</li> <li>• Biometric Identification System with Automatic Fingerprint Identification Systems (AFIS) &amp; Photograph Matching.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Backbone Connectivity with AFD Computer Center with PM Office and Allied Support by Armed Forces Division <ul style="list-style-type: none"> <li>• Fiber-optic based connectivity between Armed Forces Division and PMO</li> <li>• 8-seated video-conferencing facilities for taking UN oral exams and other purposes</li> <li>• Capacity building/ training programs for relevant personnel in the AFD</li> <li>• Customized software for automating different internal processes</li> </ul> </li> <li>2. e-Police <ul style="list-style-type: none"> <li>• A WiMAX based Metropolitan Area Network (MAN) connecting 73 units of Bangladesh Police (Bangladesh Police HQ, Detective Branch, Special Branch, Commissioners Office of DMP and Police Stations) in Dhaka City</li> <li>• IT training for Bangladesh Police.</li> <li>• Supply and installation of necessary hardware and equipments.</li> <li>• Development of Local Area Network.</li> </ul> </li> <li>3. Process Automation and Network Connectivity for Department of Jail and 11 Central Jails <ul style="list-style-type: none"> <li>• Automation of different processes in 11 central jails</li> <li>• Prisoner information management system along with names, thumb-prints etc.</li> <li>• Prisoner admission database</li> <li>• Prisoner release database</li> <li>• Visitor information database</li> <li>• Store management system</li> <li>• Kitchen management system</li> <li>• Hospital management system</li> <li>• Human resource management system</li> <li>• Providing necessary hardware and peripherals</li> </ul> </li> <li>4. e-Governance at National Security Intelligence (NSI) <ul style="list-style-type: none"> <li>• Supply of necessary Hardware and software</li> <li>• Establishment of LAN</li> </ul> </li> </ol>	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
9.	Ministry of Industries	<ol style="list-style-type: none"> <li>Tracking service request status in BSTI</li> </ol>	<ol style="list-style-type: none"> <li>Digital Cane Procurement System</li> <li>Bangladesh Sugar and Food Industries Corporation: sms based purjee (Jan, 2009)</li> <li>Bangladesh Steel and Engineering Corporation: Publishing product prices on website (July 2009, 1 year)</li> <li>Department of Patents, Designs and Trademarks: Web portal (Nov 2009, 6 months) &amp; Upload all the forms in web portal (Nov, 2009)</li> </ol>	<ol style="list-style-type: none"> <li>e-Citizen service to all agencies, dealers and related personnel</li> <li>Dynamic website</li> <li>BSTI: Upload all the forms and formats in website (Dec 2009)</li> <li>National Productivity Organization: interactive website (Jan 2010, 6 months)</li> <li>Bangladesh Accreditation Board: website development</li> </ol>
10.	Ministry of Health and Family Welfare	---	<ol style="list-style-type: none"> <li>Provide internet connectivity in about 800 critical health points</li> <li>Online community &amp; MIS database</li> <li>Capacity building- Training &amp; Support</li> <li>m-Health: Mobile phone health service to 482 hospitals and SMS based health services</li> <li>Video conference with doctors</li> <li>Telemedicine</li> <li>GIS</li> <li>Population database</li> <li>Dynamic web portal</li> </ol>	---
11.	Ministry of Expatriate Welfare and Overseas Employment	<ol style="list-style-type: none"> <li>Interactive Website for the Ministry <ul style="list-style-type: none"> <li>Interactive web-site of Ministry of Expatriate Welfare</li> <li>Availability of information about the responsibilities and activities of the Ministry and its subsidiaries</li> <li>Database of Officers</li> <li>Availability of Annual reports, strategic plans, portfolio budget statements, important speeches by the Honorable Minister.</li> <li>Availability of downloadable forms</li> <li>Online forms regarding expatriate statistics that can be submitted by embassies abroad through a secure system</li> <li>Online job search-system</li> <li>Links to international job-portals</li> <li>Supply and Installation of necessary hardware and Local Area Network.</li> <li>Training for Technology transfer.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>Database and website under quick win</li> </ol>	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
12.	Election Commission Secretariat	---	<ol style="list-style-type: none"> <li>1. National ID Card Issuance</li> <li>2. Election Candidate Asset Declaration (National &amp; Upazila election )</li> <li>3. Election Results Declaration (National &amp; Upazila election)</li> <li>4. Center wise election results</li> <li>5. SMS Service at City Corporation Election</li> <li>6. Candidate Election Expense Return</li> <li>7. Election Expense Return from Political Party</li> </ol>	<ol style="list-style-type: none"> <li>1. SMS Service for City Corporation Election (Dhaka &amp; Chittagong)</li> <li>2. Show Voter Information at web site</li> <li>3. Verification of Voter</li> </ol>
13.	Ministry of Primary and Mass Education	---	<ol style="list-style-type: none"> <li>1. ICT in Ministry of Primary and Mass education</li> </ol>	<ol style="list-style-type: none"> <li>1. ICT in primary education</li> <li>2. Digital content development for secondary level</li> </ol>
14.	Ministry of Foreign Affairs	---	---	<ol style="list-style-type: none"> <li>1. Hotline service in Bangladeshi Embassies for people living abroad</li> </ol>
15.	Ministry of Food and Disaster Management	---	<ol style="list-style-type: none"> <li>1. Disaster Management Information Network (DMIN) portal (July 2009, 1.5 years)</li> <li>2. Early Warning Message Dissemination through callboard cast ( Pilot area: Sirajgonj, Cox Bazar)</li> </ol>	<ol style="list-style-type: none"> <li>1. Dynamic website of the Ministry (from 1-12-2009, 1 year)</li> <li>2. Cell broadcasting centre for disaster early warning dissemination (from 1-1-2010, 5 years)</li> </ol>



No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
16.	Ministry of Agriculture	<ol style="list-style-type: none"> <li>1. Online Daily Market Price for the Department of Agriculture (DAM) <ul style="list-style-type: none"> <li>• Online daily market information about 260 agricultural commodities from 42 districts.</li> <li>• Online temporal data from the website on specific the commodity.</li> <li>• Historical data of agricultural products for analysis and research.</li> <li>• Supply and installation of necessary hardware, customized software and internet connectivity to DAM headquarter and district-level offices.</li> <li>• Training for Technology transfer.</li> </ul> </li> <li>2. Setting up GIS Facilities in Agriculture Division and e-Government Survey <ul style="list-style-type: none"> <li>• Establishment of GIS lab at the Bangladesh Planning Commission campus</li> <li>• Expansion of ADP database facilities</li> <li>• Accessibility of ADP database through the Internet</li> <li>• Common administrative and database management system</li> <li>• Supply and Installation of necessary hardware and Local Area Network.</li> <li>• Gathering of GIS-based data and relevant training programs</li> </ul> </li> <li>3. Agricultural TV Shows BTV- "Mati o Manush" (People and Soil) Other TV- "Shyamol Chaya (Green Shadow)", "Hridoye Mati O Manush (People and Soil at Heart)", "Nodi O Jibon (Riven and Life)"</li> <li>4. Agricultural Radio Show Bangladesh Betar- "Desh Amar Mati Amar"</li> <li>5. Web Based Information Repository by DAE: Under the project "The ICT Development of DAE", DAE maintains a website (www.dae.gov.bd) which stores and disseminates field level information from and through extension workers.</li> <li>6. GIS Based Soil Testing by SRDI: The Soil and Land Resource Information System (SOLARIS), another agency of MoA has developed a database of soil data using primary information from 460 districts. SOLARIS is a customized GIS software SOLARIS-GIS maps soil data based on classification (Soil Texture, Land type, Landform, Drainage, Slope, Surface Water Recession) and condition (Crop Suitability, Land Zoning, Nutrient Status and Fertilizer Recommendation). This GIS system can analyze data at the Upazilla level, District level and finally at the national level. Other public organizations like Local Government and Engineering Department (LGED), Bangladesh Agriculture Research Council (BARC), Bangladesh Meteorological Department (BMP), Water Resources Planning Organization (WARPO) are also trying to incorporate Geometrics knowledge in their planning process.</li> </ol>	<ol style="list-style-type: none"> <li>1. Agriculture Information and Communication Centre (AICC): AICCs will be set up as a common access point in the community for getting livelihood information and services using information and communication technology. The members of the club/groups will run the center. DAE extension officials and AIS officials will act as facilitators in conducting trainings, different kind of operations (Computer, multimedia etc.) These centres will provide livelihood-based information (ICT, print and audio-visual contents) on agriculture, fisheries, poultry and livestock, education, non-farm initiatives, appropriate technology, human rights, employment, disaster management etc. The centers are supposed to be registered by the social welfare department.</li> </ol>	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
17.	<b>Ministry of Labour and Employment</b>	<ol style="list-style-type: none"> <li>Interactive Website for the Ministry <ul style="list-style-type: none"> <li>Interactive web-site of M/O Labor and Employment</li> <li>Information and Policy documents related to international Labour laws &amp; regulations</li> <li>Activities of the Ministry</li> <li>Links to other relevant websites such as ILO, different labour-related conferences and research paper repositories</li> <li>Supply and Installation of necessary hardware and Local Area Network.</li> <li>Training for Technology transfer.</li> </ul> </li> </ol>	---	---
18.	<b>Board of Investment</b>	<ol style="list-style-type: none"> <li>Process Automation of Board of Investment <ul style="list-style-type: none"> <li>Information management of investment-related data and statistics</li> <li>Tracking of foreign investment-related files</li> <li>Online access to information and databases needed by foreign and domestic investors</li> <li>Information management of meetings, treaties and other agreements with foreign delegates</li> <li>Online access to rules and regulations regarding investment</li> <li>Supply and Installation of necessary hardware</li> <li>Establishment of Local Area Network.</li> <li>Training for Technology transfer.</li> </ul> </li> </ol>	---	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
19.	Ministry of Fisheries and Livestock	<ol style="list-style-type: none"> <li>1. e-Governance Application and Process Automation at Bangladesh Livestock Research Institute (BLRI) <ul style="list-style-type: none"> <li>• Library Management System automation</li> <li>• Interactive website of BLRI</li> <li>• Online access to research papers and documents</li> <li>• Information system to facilitate research and development</li> <li>• Establishment of LAN</li> <li>• Supply and Installation of necessary hardware and Local Area Network.</li> <li>• Training for Technology transfer.</li> </ul> </li> <li>2. Process Automation and Interactive Website of Fisheries Research Institute <ul style="list-style-type: none"> <li>• Development of interactive website of FRI</li> <li>• Establishment of LAN at different divisions at FRI</li> <li>• Broadband Internet connectivity</li> <li>• Connectivity among 7 sub-stations and headquarter through dial-up</li> <li>• Supply and Installation of necessary hardware and Local Area Network.</li> <li>• Training for Technology transfer.</li> </ul> </li> </ol>	---	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
20.	Ministry of Chittagong Hill Tracts Affairs	<ol style="list-style-type: none"> <li>Interactive Website for the Ministry</li> <li>Development of interactive website of the Ministry of Chittagong Hill Tracts Affairs, including the following features: <ul style="list-style-type: none"> <li>Relevant information about the responsibilities and activities of the Ministry and its subsidiaries</li> <li>Database of key personnel</li> <li>About the different regions in the Hill Tracts areas</li> <li>About the ethnic population and their respective cultures</li> <li>About the Peace Accord and its implementation</li> <li>About the local governance organizations and structure in Hill Tracts areas</li> <li>Annual reports, strategic plans, portfolio budget statements, important speeches by the Honorable Minister</li> <li>Providing necessary hardware and peripherals</li> <li>Establishment of LAN at the Ministry</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>ICT based education centre</li> <li>ICT infrastructure and professional HR development</li> </ol>	<ol style="list-style-type: none"> <li>Create employment opportunity through ICT training for developing local entrepreneurship in CHT, July 2008, 3 years</li> </ol>
21.	Ministry of Planning	<ol style="list-style-type: none"> <li>Modernization of LAN &amp; 3Mbps Internet connection at Planning Commission Campus</li> <li>20 blocks of Planning Commission Campus connected with fiber-optic connectivity</li> <li>Connectivity includes 1000 access points in the Planning Commission, IMED and ERD</li> <li>3 Mbps Speed Internet Connection</li> <li>24 hrs Internet Availability.</li> </ol>	---	<ol style="list-style-type: none"> <li>Industries Division: Development of a proactive database for industries sector (Nov 2009-March 2010)</li> <li>Programming Division: Computer based project planning and resource allocation system (Nov 2009 - March 2010)</li> <li>Agriculture Division: Database access to people for communicating about any project of agriculture division (Nov 2009 - March 2010)</li> <li>Socio-economic and infrastructure division: online status monitoring of projects under the division (Nov 2009 - March 2010)</li> </ol>

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
22.	Ministry of Civil Aviation and Tourism	<ol style="list-style-type: none"> <li>1. Interactive Website for the Ministry</li> <li>• Development of interactive website of the Ministry of Civil Aviation and Tourism, including the following features: <ul style="list-style-type: none"> <li>• Relevant information about the responsibilities and activities of the Ministry and its subsidiaries</li> <li>• Database of key personnel</li> <li>• About the Tourist Spots with photo gallery</li> <li>• Database of authorized Travel Agencies</li> <li>• Database of authorized Tour Operators</li> <li>• Database of hotels and resorts</li> <li>• Annual reports, strategic plans, portfolio budget statements, important speeches by the Honorable Minister</li> <li>• Providing necessary hardware and peripherals</li> <li>• Establishment of LAN at the Ministry</li> </ul> </li> </ol>	---	---

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No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
23.	President's Office	<ol style="list-style-type: none"> <li>1. Hardware, Software and Connectivity for President's Guard Regiment <ul style="list-style-type: none"> <li>• Management Information System (MIS) of PGR</li> <li>- Human Resources (HR) Management System</li> <li>- Inventory Management System</li> <li>- Criminal Database</li> <li>- Arms Management System</li> <li>- Operations Management System</li> <li>- Vehicle and Motor Transport Management System</li> <li>- Legal Affairs Management System</li> <li>- Media and Publication Management System</li> <li>- Training Management System</li> <li>- Access Control System</li> <li>- Document Management System</li> <li>- Payroll Management System</li> <li>- Accounting System</li> <li>- Telephone Directory</li> <li>• Interactive Web Site of PGR</li> <li>- History of PGR, Scenario, Organogram, Motto, Mission &amp; Capabilities, About PGR Headquarters</li> <li>- National Activities, Operational Activities, Training Activities, Cultural Activities</li> <li>- Photo Gallery, Latest News, Library &amp; References, Notice, Press Room</li> <li>- PGR Life, PGR in National &amp; International Development</li> <li>- Lost and Found</li> <li>- Information, Legal Matters, Messages, Tips</li> <li>- Form Download, Police Form, People, Police Ratio</li> <li>- Crime Control Concept, Command &amp; Control, Crime &amp; Criminal Information</li> <li>- Rank Structure, Battalions, PGR Achievements, Achievement &amp; Awards</li> <li>- Command &amp; Control Structure</li> <li>- Other link of Bangladesh Govt</li> <li>- Sit Map, Diff Types of Search Option, Career Information</li> <li>- Web Mail Facilities, Chat Option, Presentation &amp; Improvement plan</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>1. Interactive Website and Process Automation of President's Office <ul style="list-style-type: none"> <li>• Constitutional Responsibilities</li> <li>- Calling of the parliamentary session</li> <li>- Conducting Oath</li> <li>- Ceremonial Activities</li> <li>- Official Messages</li> <li>- Important Programmes of the President</li> <li>- Educational &amp; Cultural Programmes</li> <li>- Donation and Patronization</li> <li>- Bangabhaban Departments &amp; their Responsibilities</li> <li>- Ceremonial Activities</li> <li>• File Tracking System</li> <li>- Identifying file parts</li> <li>- File locations</li> <li>- File requests</li> <li>- File archiving and destruction</li> <li>- File audits and reports</li> <li>• Visitor Management System (VMS)</li> <li>- Provision for storage and use of computerized photo of the visitors</li> <li>- Keep a log of all visitors e.g.: identify, time and date of arrival and departure</li> <li>- Information about those visitors, who are in premises after allowable time</li> <li>- List of visitors inside the premises, whenever, required</li> <li>- Permission for future visitors in advance Daily, Weekly and Monthly report generation of the visitors</li> <li>- Duration of stay of each visitors</li> <li>- Give details of all visitors visited in the past without delays</li> <li>- Details of visitors vehicles like type and registration number</li> <li>- Data backup facility</li> <li>- Messaging facility to send visitor's photographic details from security gate to the concerned employee using existing LAN network. The employee can grant permission to the visitor or deny. Messaging between employee and the Security enables the following: <ul style="list-style-type: none"> <li>- Visitors detail would flash on that particular authorized employee's computer</li> <li>- Visitor can enter the premises only if that concerned employee permits visit of a visitor</li> <li>- if an employee is busy in a meeting and postpones the visit, security would take the action</li> <li>- If an employee is on leave/out of office, security would stop visitor at gate</li> </ul> </li> </ul> </li> </ol>	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
24.	Prime Minister's Office	<ol style="list-style-type: none"> <li>Hardware, Software and Connectivity for Special Security Force <ul style="list-style-type: none"> <li>Secure Intelligence Database (SID)</li> <li>Communication Management System</li> <li>Inventory management System</li> <li>Operations and Protection Management System.</li> <li>Necessary Hardware (Server, Computer, Tablet PC, UPS) has been given</li> <li>Networking Equipments (Net Cache, PIX Firewall, Gb Switch, Gb LAN Card, NAS) have been given</li> <li>Training for Technology transfer</li> </ul> </li> </ol>	---	---
25.	Cabinet Division	<ol style="list-style-type: none"> <li>e-Governance Application and Interactive Website of Cabinet Division <ul style="list-style-type: none"> <li>Database of Officers</li> <li>Generation of annual reports, strategic plans, and portfolio budget statements.</li> <li>Receiving reports from Deputy Commissioners' regarding political, law and order, border, food and other relevant issues.</li> <li>Transmission of notices to Deputy Commissioners, Commissioners and others.</li> <li>Downloading of necessary Government forms.</li> <li>Supply and installation of necessary hardware and equipments.</li> <li>Development of Local Area Network.</li> <li>Training for Technology transfer.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>Process Automation and Website at Dhaka, Comilla, Jamalpur and Sherpur DC Offices <ul style="list-style-type: none"> <li>Process Automation: <ul style="list-style-type: none"> <li>File tracking system for each section</li> <li>Financial management of each section where applicable</li> <li>Vested/Enemy property Management System</li> <li>Arms Management Information System</li> <li>Development Project Management System</li> <li>Personnel Information Management System</li> <li>Daily Schedule Management System</li> <li>Treasury Management System</li> <li>Inventory (Stock Registration) Management System</li> <li>Library Management System</li> <li>Vehicle Management System</li> <li>License management System</li> </ul> </li> <li>Interactive Website</li> <li>Supply of necessary hardware and peripherals and developing LAN</li> <li>Training to personnel at Dhaka, Comilla, Jamalpur and Sherpur DC Offices</li> </ul> </li> <li>LAN Setup and Connectivity among Ministries based at Bangladesh Secretariat <ul style="list-style-type: none"> <li>Set up of fiber backbone connectivity inside the Secretariat to connect the buildings</li> <li>LAN to connect each Ministry</li> <li>LAN to connect all ministries with each other</li> <li>Common network maintenance and management system</li> <li>Common Intranet applications that will be used by all ministries for information storage, access and exchange</li> <li>Common e-Government application software usable by all ministries such as e-mail, file tracking, schedule, net meeting, video-conference etc.</li> <li>Relevant training of officials</li> </ul> </li> </ol>	---

No	Ministry/ Autonomous Institution	e-Gov Initiatives		
		Completed	Ongoing	Future Plans
26.	Bangladesh Public Service Commission	<ol style="list-style-type: none"> <li>1. Automation of Result Processing at Bangladesh Public Service Commission</li> <li>• Automation of results and other internal processes of BPSC, including the following services: <ul style="list-style-type: none"> <li>- Examination Information Management System, including registration, attendance, printing of forms etc.</li> <li>- Automation of result processing, including digital processing of exam marks, quota distribution etc.</li> </ul> </li> <li>• Interactive website for the BPSC, including the following features: <ul style="list-style-type: none"> <li>- Online publishing of results</li> <li>- Online access to information about registration and test centers</li> <li>- Related announcement and news</li> </ul> </li> <li>• Supply and Installation of necessary hardware and Local Area Network.</li> <li>• Training for Technology transfer.</li> </ol>	---	---
27.	Ministry of Information	---	---	<ol style="list-style-type: none"> <li>1. Nation wide video and audio conference system (Jan 2010, 2 years)</li> </ol>
28.	Ministry of Women and Child Affairs	---	---	<ol style="list-style-type: none"> <li>1. Online monitoring of widow allowance system</li> </ol>



## Appendix 2: Comprehensive list of possible e-Government services

This comprehensive list of possible e-Government services is done for identifying some potential e-Government services considering some parameters given in the table:

General Category	Possible Services	Responsible Entity	Ministry	PPP Mode	Public Demand High-Medium-Low	Number of Use Yearly	% of Total Citizens Use High-Medium-Low	Revenue Generation Source Govt./Citizens	Revenue Generation Chance High-Medium-Low
Utility Service - Electricity	Line connection & maintenance	DESA, DESCO & REB (all are under BPDB)	MoPEMR	BOT	High	Unknown	Medium	Citizens	Medium
	Bill payment	DESA, DESCO & REB (all are under BPDB)	MoPEMR	DBFO	High	12	High	High	High
Utility Service - Gas	Line connection & maintenance	Titas Gas, BGSL, JGTDSL (all are under BOGC/Petrobangla )	MoPEMR	BOT	High	Unknown	Medium	Citizens	Medium
	Bill payment	Titas Gas, BGSL, JGTDSL (all are under BOGC/Petrobangla )	MoPEMR	DBFO	High	12	High	High	High
Utility Service - Telephone	Line connection & maintenance	BTCL	MoPT	BOT	High	Unknown	Medium	Citizens	Medium
	Bill payment	BTCL	MoPT	DBFO	High	12	High	High	High
Utility Service - Water & Sewerage	Line connection & maintenance	DWASA & Local Municipality	MoWR	BOT	High	Unknown	Medium	Citizens	Medium
	Bill payment	DWASA & Local Municipality	MoWR	DBFO	High	12	High	High	High
Land Management	Land survey	DLRS	MoLand	DBFO	High	Several times	High	Citizens	High
	Land record	DLRS	MoLand	DBFO	High	Several times	High	Citizens	High
	Land mapping	DLRS	MoLand	DBFO	High	Several times	High	Citizens	High
	Land registration	Directorate of Registration	MoLaw	DBFO	High	Several times	High	Citizens	High
	Land mutation	Directorate of Registration	MoLaw	DBFO	High	Several times	High	Citizens	High
	Tax payment	Directorate of Registration	MoLaw	DBFO	High	Several times	High	Citizens	High
Construction Management	Land Use Permission	RAJUK	LGRD	BOT	Medium	Unknown	Low	Citizens	Low
	Issuance of Clearance Certificate for Building Design	CDA	LGRD	BOT	Medium	Unknown	Low	Citizens	Low
Document Registration & Legislation	Stamp duty	District Registrar and Sub-Registrars (under Directorate of Registration)	MoLaw	BOT	Medium	Unknown	Medium	Citizens	Medium
	Registration fees	District Registrar and Sub-Registrars (under Directorate of Registration)	MoLaw	BOT	Medium	Unknown	Medium	Citizens	Medium
	Affirm the affidavit	District Registrar and Sub-Registrars (under Directorate of Registration)	MoLaw	BOT	Medium	Unknown	Medium	Citizens	Medium
Company/Individual Payment	Income Tax & Return (individual & company)	Postal Department only collect money, main agency Tax Commissioner's Office (under NBR)	MoPT	DBFO	High	1 - 12	High	Citizens	High
	VAT (individual & company)	Tax Commissioner's Office (under NBR)	MoFin	DBFO	High	1 - 12	High	Citizens	High
	Payment of large taxes	LTU	MoF	DBFO	High	1 - 12	High	Citizens	High
	Holding Tax Payment	City corporations, municipalities	LGRD	DBFO	High	1	High	Citizens	High
	Land Tax Payment	DC Offices	Cabinet Division	DBFO	High	1	High	Citizens	High
	Money Order Service	Postal Department	MoPT	DBFO	High	Unknown	High	Citizens	High

Certification	TIN/BIN providing	NBR	MoF	BOT	High	1	Medium	Citizens	High	
	Company Registration & Legislation	Trade license & Renewal	RJSC	Ministry of Commerce	BOT	High	Unknown	Medium	Citizens	Medium
		Company registration & Renewal	RJSC	Ministry of Commerce	BOT	High	Unknown	Medium	Citizens	Medium
		Online audit documents	RJSC	Ministry of Commerce	DBFO	High	Unknown	Medium	Citizens	High
NGO	Registration of Livestock Farms	Department of Livestock	MoFL	BOT	Medium	Unknown	Medium	Citizens	Medium	
	NGO registration & Renewal	NGO Bureau & DoSW	MoSW	BOT	Medium	Unknown	Medium	Citizens	Medium	
	Project approval & Management	NGO Bureau & DoSW	MoSW	BOT	Medium	Unknown	Medium	Citizens	Medium	
BSTI	Online audit documents	NGO Bureau & DoSW	MoSW	DBFO	High	Unknown	Medium	Citizens	High	
	Registration & Quality Certification	BSTI	MoIndustries	DBFO	High	Unknown	Medium	Citizens	High	
Transport - Bus	Various payments	BSTI	MoIndustries	DBFO	High	Unknown	Medium	Citizens	High	
	Bus Ticket Selling and Booking	BRTA & BRTC (both are under Roads & Railways Division), BBTOA	MoCommunications	DBFO	High	Frequently	High	Citizens	High	
Transport - Railway	Train Ticket Selling and Booking	Bangladesh Railway (under Roads & Railways Division)	MoCommunications	DBFO	High	Frequently	High	Citizens	High	
Transport - Motor Vehicle	Registration	BRTA (under Roads & Railways Division)	MoCommunications	BOT	Medium	Unknown	Medium	Citizens	Medium	
	Issue and Renew motor driving licenses	BRTA (under Roads & Railways Division)	MoCommunications	BOT	Medium	Unknown	Medium	Citizens	Medium	
	Issue and Renew route permits of commercial	BRTA (under Roads & Railways Division)	MoCommunications	BOT	Medium	Unknown	Medium	Citizens	Medium	
	Fitness certificates	BRTA (under Roads & Railways Division)	MoCommunications	BOT	High	Unknown	Medium	Citizens	High	
	Collection of fees and taxes	Postal Department only collect money, main agency BRTA (under Roads & Railways Division)	MoCommunications/ MoPT	DBFO	High	Unknown	Medium	Citizens	High	
Population	Telephone Directory	BTRC, BTCL	MoPT	DBFO	High	Several times	High	Citizens	Medium	
	Birth & death registration	City corporations, Local municipalities	LGRD	DBFO	High	Unknown	High	Citizens	High	
Health	Providing blood bank facility	DGHS	MoHFW	DBFO	High	Unknown	High	Citizens	High	
	Health care information and management	Health agencies, NGOs	MoHFW, MoSW	DBFO	High	Frequently	High	Citizens	High	
	Telemedicine	Health agencies, NGOs	MoHFW, MoSW	DBFO	Medium	Frequently	High	Citizens	Medium	
Government's Financial Support/ Social Safety Allowance	Old age allowance	DSS	MoSW	DBFO	High	12	Medium	Citizens	Low	
	VGD and VGF card	DRR	MoFDM	DBFO	High	12	Medium	Citizens	Low	
	Freedom fighters allowance	FFWT	MoLWA	DBFO	High	12	Medium	Citizens	Low	
	Maternity allowance	DWA	MoWCA	DBFO	High	12	Medium	Citizens	Low	
Procurements	e-Procurements	Various agencies	Various ministries	DBFO	High	Unknown	Medium	Citizens	High	

Kiosk/ e-Center	Computer and internet training center for community people (at minimum cost to create and/or meet e-Gov demand)	BTRC, NACTAR	MoPT, MoEdu	DBFO	High	Unknown	High	Citizens	High
Hotline/ Helpdesk	Hotline support or Online helpdesk for various public queries	BTRC	MoPT	DBFO	High	Frequently	Medium	Citizens	Medium
ID & Signature	Digital ID and Signature	BCC	MoSCIT	BOT	High	Unknown	Medium	Citizens	Medium
Agricultural & Livestock Information	Information on market price (crops, livestock, fertilizer & pesticides etc.), product, vaccination for poultry and livestock, new investment, business models, new technologies etc.	BARC, DAM, DAE	MoA, MoFL, MoIndustries,	BOT	High	Several times	Medium	Citizens	Low
Online citizen participation portal	Public participation for Govt.'s performance indication, submission of civil petitions, public proposals, policy discussions, community clubs etc.	BCC	MoSCIT	BOT	Low	Unknown	Low	Citizens	Low
Election	Voter enlistment and renewal	BEC	ECS	BOT	High	Unknown	High	Govt. and/or Citizens	Medium
	Political party registration, Candidate registration	BEC	ECS	BOT	Low	Unknown	Low	Citizens	Low
	Online voting for national and local level elections	BEC	ECS	BOT	Medium	Unknown	High	Govt. and/or Citizens	Medium
Civil notice & service	Certified copy of court cases & complaints	Chief Metropolitan Magistrate's Office, Supreme Court, High Courts, District courts	Cabinet Division, MoLaw, MoHA	BOT	High	Many times	Medium	Citizens	High
	Issuance of Judicial and Non judicial Stamp and Court Fees	DC Offices	Cabinet Division	BOT	Medium	Unknown	Low	Citizens	Low
	Car Tickets	Traffic Division of DMP/ Police Headquarter	MoHA	DBFO	High	Frequently	Medium	Citizens	High
Security	Entry of general diary & case filling	Crime and Operations Division of DMP/ Police Headquarter	MoHA	BOT	High	Unknown	Medium	Citizens	Low
	Filing of civil cases	District Judge Court	MoLaw	BOT	High	Unknown	Medium	Citizens	Medium
	Issuance/ Renewal or arms and ammunitions licenses	DC Offices	Cabinet Division	BOT	Low	Unknown	Low	Citizens	Low
	Immigration support (e.g. No Objection Certificate)	Police Headquarter	MoHA	BOT	Medium	Unknown	Low	Citizens	Low
Passport	Passport Issue	Passport Office	MoHA	BOT	Medium	Unknown	Medium	Citizens	Medium
	Passport Renew & Correction	Passport Office	MoHA	BOT	Medium	Unknown	Medium	Citizens	Medium

VISA	VISA Issue	Consular and Welfare Wing	MoFA	BOT	Medium	Unknown	Low	Citizens	Low
	VISA Extension & Correction	Consular and Welfare Wing	MoFA	BOT	Medium	Unknown	Low	Citizens	Low
Parliamentary Support & Management	Administration (e.g. Keep meeting minutes, online archive, budget of individual departments)	Bangladesh Parliament	MoLaw		Low	Unknown	Low	Govt.	Low
	Operation (e.g. Duties as representatives of the people, monitor and evaluation of MPs work)	Bangladesh Parliament	MoLaw	BOT	Low	Unknown	Low	Govt.	Low
	Services to citizens (e.g. Inform about human rights, democracy development)	Bangladesh Parliament	MoLaw	BOT	High	Unknown	Medium	Govt.	Low
Educational Service	Registration for admission, Issuance of admit card and Publication of exam result	DPE, DSHE	MoPME, MoEdu	DBFO	High	Several times	High	High	High
	Online certificate	DPE, DSHE	MoPME, MoEdu	DBFO	High	Unknown	High	High	High
	e-Learning tool kits and training materials	BCC, BRDB	MoSCIT, LGRD	DBFO	Medium	Several times	Medium	Citizens	Medium
	Information and registration for higher education, scholarship & research opportunities etc.	DSHE	MoEdu	DBFO	High	Several times	High	High	High
	Payment of stipend to the student	DPE, DSHE	MoPME, MoEdu	DBFO	High	Several times	Low	High	Low

## Appendix 3: Models of PPPs in e-Government

The following are the commonly used PPP arrangement, identified by the National Council for Public-Private Partnerships (USA):

- ❖ **Design-Build-Finance-Operate (DBFO)**  
In this PPP, the government specifies the services that it wants the private sector to deliver and the private partner designs and builds a dedicated asset for that purpose, finances its construction, and operates the asset, providing the public services required.
- ❖ **Build-Own-Operate (BOO)**  
The private partner builds and operates a facility/service without transferring ownership to the public sector. Throughout the process, the private sector partner owns the facility.
- ❖ **Build-Operate-Transfer (BOT)**  
The private partner builds a facility to the specifications agreed to with the public agency and operates (but never owns) the facility for a specified time period under a contract or franchise agreement with the agency. At the end of the franchise period, the public partner, which always retains ownership, can assume operating responsibility for the facility, contract the operations to the original franchise holder, or award a new operating contract or franchise to a new private partner.
- ❖ **Build-Own-Operate and Transfer (BOOT)**  
The private partner owns the project, invests resources, undertakes its development, owns and operates it for some time, and then transfers the assets to a public agency.

## Appendix 4: Possible avenues for partnership

The partnership with the various stakeholders for e-Government initiatives can be in many areas such as the following:

- ❖ Financial Investment
- ❖ Infrastructure Setup
- ❖ Solution Architecture and Technology Selection
- ❖ Content Development and Management
- ❖ Rendering Front-end services to the citizens
- ❖ Citizen Relationship Management (CIRM)
- ❖ Roll-out of e-government projects (nationwide/region wide)
- ❖ Software Development
- ❖ Project Management and Assessment
- ❖ Capacity Building

The above list is only suggestive, but not complete by any means. Different countries are building such partnerships in many different ways.

- a. **Extended partnership:** NGOs and development partner can be invited as partner, who can bring in any or more than one of the following: financial resources, innovation, project implementation skill, outreach of the intended services.
- b. **Additional model:** There are three established models of PPP: BOO, BOT, and BOOT. For the ICT sector an additional model can be considered - Build Operate Transfer and Maintain (BOTM).
- c. **Key rationale for partnership:** innovation, project management and outreach.
- d. **Special Characteristics and Possible Financial Arrangements of E-Government Service and ICT-based services:** The major motivation for any investors is ensured and adequate return on investment (ROI). In infrastructure projects, such return is generally ensured, as there is ready-demand for the services to be offered. However, in case of e-government services, scope for return is not similar. As the revenue generation potential varies for services projects, the level of financial participation by the private sector will vary accordingly. The variation of financial participation will be a key factor in launching PPP projects in ICT sector.

Through consultation with private sector and expert consultation the potential projects may be grouped into four categories three types of e-government and other ICT projects may be identified according to scope for cost recovery:

- ❖ Services with potential for full cost recovery and some profits
- ❖ Services with potential for partial cost recovery
- ❖ Services with very limited or no scope for cost recovery and are deemed as public goods (citizens' entitlement)

## Appendix 5: Successful PPP initiatives in e-Government (international)

The following are some of the successful international example of PPP initiatives in e-Government:

### i. Bhoomi- Online Land Management Project, Karnataka, India

To reduce corruption, state governments in India has web-enabled land records search functions and property tax statements to improve transaction transparency and increase revenues to the state governments. 'Bhoomi' started in the year 2000 with the aim of establishing an accurate and genuine land record system built with an efficient database for periodic updating of land records. The objective of the project was to eradicate the exploitation of farmers by making the process of delivery of land records online and transparent. The Bhoomi has computerized 20 million records of land ownership of 6.7 million farmers in the state. At present, computerized land record kiosk popularly called "Bhoomi Center" is functional in all the 177 talukas in the state. These kiosks are used to provide RTC on line to farmers at a fee of Rs. 15. The expansion phase of Bhoomi is a public private partnership between the government and a consortium led by 3i Infotech. The other parties involved with this project are- The Revenue Department, Government of Karnataka and Comat Technologies Pvt. Ltd.; whereas the project costs were INR 185 million in the first phase and more than INR 200 million in phase II.

*Source: Bhoomi website*<<http://bhoomi.karnataka.gov.in/>>; and

*Country Assessments for Identifying Potential Public Private Partnerships in e-Government, Country Assessment Report for the World Bank - Bangladesh, April 13, 2007.*

### ii. Information digitalizing and management in USA and Asia

The US Government and the Adobe Systems Incorporated has made an agreement for digitizing of documents for ready and immediate access (Adobe Document Server for Reader Extension) gives the process of completing, data basing, emailing, and editing documents a significantly increased efficiency and cost savings. Similar type of PPP arrangements are set to expand into countries such as Malaysia, Japan, and India in 2003.

*Source: White, Tommy, and Shawn Ames. "E-Government Services and Public-Private Partnership Modeling" IP3. Web. 25 October 2009.*

< [http://www.ip3.org/pub/publication2002\\_019.htm](http://www.ip3.org/pub/publication2002_019.htm)>

### iii. e-Learning for Life in Malaysia

The project is a joint collaboration between UNDP and Coca Cola Malaysia. It is an endeavor to support the Malaysian Government in its effort to expand and strengthen the K-Society and the K-Economy and to revamp the educational system to respond to the knowledge-driven demands of the new economy. The Project envisages the facility set up at selected schools will serve as a school/community "ICT hub" providing access to ICT training to other schools as well as communities in the vicinity. The primary beneficiaries are Students and teachers within selected schools, parents of students and general citizens within surrounding communities, various community associations including PTA, student and teachers from nearby schools with limited access or no ICT facilities. The other beneficiaries are Schools Division under the Ministry and State Department of Education

*Source: e-Learning for Life- A Malaysian Initiative*

<<http://www.apdip.net/projects/e-learning/resources/06032002/mahathir>>

#### iv. MCA21 by Ministry of Company Affairs (MCA), Government of India

The Ministry of Company Affairs (MCA), controls various functions of the corporate sector in India, comprises 20 Registrar of Companies (RoC) offices that have handled more than 45 million documents belonging to about 0.6 million corporate entities. So, complete automation of all processes of MCA was very essential. The MCA21 project was taken in March 2006 with two main goals: 1) digitization of all physical records and 2) complete automation of all processes related to the enforcement of and compliance with legal requirements for companies registered in India. The main objective of the project was to ensure easy and secure online access to all the services provided by the MCA and to set up a transparent and effective compliance management system. The parties involved with this project are MCA, Government of India and Consortium led by TATA Consultancy Services (TCS), where as the PPP model was BOOT (Build, Own, Operate, and Transfer) and the project cost was USD 71 million (INR 3.14 billion).

#### v. e-Procurement in USA and Chile

Many developed countries have digitalized the e-Procurement system to make it easier for the clients, and themselves. For example, Fedbid.com, a private company, has saved the U.S. government over \$68.7 million dollars due to its specialty of web-based reverse auctions. These auctions allow government agencies and departments to obtain supplies at lower costs while spending less manpower on negotiating complex contracts and finding vendors. Many governments worldwide will adopt this procurement process in 2003.

ChileCompra, the Digital Agenda's electronic procurement portal of Chile, was established in 1999 to consolidate government contracting into a single, online portal for smooth and equitable business contracting between the government and private enterprise which was facilitate by Microsoft® Partnerships for Technology Access (PTA).

*Source: White, Tommy, and Shawn Ames. "E-Government Services and Public-Private Partnership Modeling" IP3. Web. 25 October 2009.*

< [http://www.ip3.org/pub/publication2002\\_019.htm](http://www.ip3.org/pub/publication2002_019.htm) >

## Appendix 6: e-Government survey questionnaire on preparedness for 'Digital Bangladesh' for ministries

### Government Survey on Preparedness for Digital Bangladesh

Conducted by Bangladesh Enterprise Institute

1) In the table below, please give us information about the citizen-centric services that are provided NOW using information and communication technologies (ICTs):

Name/ Title of e-Governance Project	Started which year?	Executing Agency	Mode of Implementation: Outsource to software company/ internally developed / PPP?	Source of Funding - Govt or Donor? If donor, please mention name of donor.

2) In the table below, please give us information about the citizen-centric services that your Ministry has plans to provide in the near-future using information and communication technologies (ICTs) as part of your e-Governance strategy:

(i) \_\_\_\_\_

(ii) \_\_\_\_\_

(iii) \_\_\_\_\_

3) What mode of implementation does your ministry have in mind for your future e-Governance projects? Please tick whichever is relevant?

- Outsourcing to a software company to develop the IT system
- Ministry's internal IT team
- Public-private partnership in a investment/ revenue sharing model
- Not decided yet

4) Upto which level do officers in your Ministry have computers?

- Secretary only
- Additional Secretary and above
- Joint Secretary and above
- Deputy Secretary and above
- Assistant Secretary and above
- All officers
- Any other situation - please explain \_\_\_\_\_

5) Upto which level do officers in your Ministry have access to the Internet from their computers?

- Secretary only
- Additional Secretary and above
- Joint Secretary and above
- Deputy Secretary and above
- Assistant Secretary and above
- All officers
- Any other situation - please explain \_\_\_\_\_

6) For official correspondence within the government, is use of email in your Ministry:

- Quite common
- Occasional
- Very rare

7) For external official communication with citizens and businesses, is use of email in your Ministry:

- Quite common
- Occasional
- Very rare

7) With respect to computer literacy (i.e. email, Internet browsing, text editing etc.), the officers in your Ministry are:

- Almost all computer literate
- Some are computer literate
- Very few are computer literate



# Appendix 7: Donor mapping exercise questionnaire

**Donor Mapping Questionnaire**  
 Conducted by Bangladesh Enterprise Institute

**1. Donor name:**

Name of the Project enabled by Information and Communication Technologies (ICTs)	Duration		Project Initiator	Executing Agency
	From	To		

2. Please give us information about the e-Government Project(s) that your organization has plans to fund or implement in the near-future:

- (iv) \_\_\_\_\_
- (v) \_\_\_\_\_
- (vi) \_\_\_\_\_
- (vii) \_\_\_\_\_

3. What Mode of Implementation does your organization have in mind for future e-Government projects? Please tick whichever is relevant.

- Only donation to government initiated projects
- Outsourcing to a software company to develop the IT system
- Execute by government's internal IT team
- Public-private partnership in a investment/ revenue sharing model
- Not decided yet
- Other (Please specify here \_\_\_\_\_)

## Appendix 8: List of interviewed people from government and donors

### Ministries & Divisions in GoB

**Mr. M. Nazrul Islam**, Joint Secretary  
Ministry of Posts and Telecommunications

**Md. Mohsinul Alam**, Director (T&T)  
Ministry of Posts and Telecommunications

**Mr. Muhammad Ali Sorcars**, Director General (A & P)  
Ministry of Foreign Affairs

**Mr. A. K. M. Shahidul Karim**, Director (ICT)  
Ministry of Foreign Affairs

**Professor Dr. Abul Kalam Azad**, Director (MIS)  
Directorate General of Health Services  
Ministry of Health and Family Welfare

**Mr. Rafiqul Islam**, Additional Secretary  
Election Commission

### Donors

**Ms. Tenzin Dolma Norbhu**, Senior ICT Policy Specialist  
Global ICT Department, World Bank

**Mr. Siou Chew Kuek**, Policy Division (CITPO)  
Global ICT Department, World Bank

**Mr. Alan Leber**, First Secretary (Development)  
Canadian High Commission in Bangladesh

**Mr. Jean-Claude Malongo**, Economic Development and Trade  
Delegation of the European Union to Bangladesh

**Dr. Masrur Reaz**, Private Sector Development Adviser  
Department for International Development (DFID), Bangladesh

**Md. Azad Rahman**, Investment Policy Analyst, BICF  
IFC Advisory Services in South Asia

**Mr. Sayedul Arefin**, Senior Program Manager  
Japan International Cooperation Agency (JICA) Bangladesh Office

## Appendix 9: Overview of 1st round-table discussion on “Scope of PPP in Land Related Citizen Services using ICT”

### Background of the Round-table:

As it is mentioned in the upper part, some citizen centric government services have been prioritized; where ICT can be used broadly and public-private partnerships can make it sustainable. Land is one of the potential sectors where using of ICT can solve many conventional problems and faster the documentation and service delivery system. So, BE organized a round-table discussion on “Scope of PPP in Land Related Citizen Services using ICT”, with key stockholders to understand the issue and discuss the promising future initiatives towards a digital land administration and management system which can possibly solve many land related problems of governments and citizens.

### Objectives:

The major objectives of the workshop were as follows:

- ❖ Discuss the present status of land management system in Bangladesh
- ❖ Find out the potential land services for automation
- ❖ Explore the scopes of PPP to develop a sustainable system
- ❖ Design & initiate a replicable ICT based land administration project

### Discussants:

The Government officials, land experts, ICT experts, eminent economists, policy makers, media personalities, representatives of international NGOs, and civil society representatives joined in this discussion.

### Current Status of Land Administration & Relevance of ICT:

Appropriate and effective administration of land related services is still a big challenge for Bangladesh to overcome. Both the government and citizens are having problems for the manual scripts and conventional system which have been practices for the last few decades. But, land is such a potential sector which has direct and significant impacts on country's economic grows and develops. The present Government has also declared in their election manifesto (Digital Bangladesh) that “All land records will be computerized and a land reform commission will be formed to ensure increased production and social justice in the distribution of land and water bodies.” So, importance of ICT in land management and administration is very crucial and a public demand.

### Major Past Projects:

The land ministry, in associate with other stockholders, took some ICT related pilot projects over the last decade which produced mixed results based on which useful lessons were learnt. Some major projects were:

- ❖ Modernization of Land Administration (TA project supported by ADB), 1995
- ❖ Demra Pilot: Computerized Land Management System (CLMS), 2005
- ❖ Digital survey pilot program at Savar Upazila, 2009

### Lessons from Past Projects:

The objectives of the pilot projects were successful, but, there were some failures too. The major findings from the past initiatives are:

- ❖ No donation based projects sustained longer due to limitation of project fund.
- ❖ Government's capacity building is very important for managing any projects in a long run
- ❖ Legal reform is very important to develop a full ICT based land administration and registration system.
- ❖ Private entities can finance to the Government projects in a proper business model to generate revenue from that.
- ❖ Private entities can share their information and communication technologies with Government to meet the IT gap.

### **Characteristics of a well-functioning Land Administration System:**

A well-functioning land administration system should include, but not limited to, the following:

- ❖ Well defined and enforceable land rights
- ❖ Accessible and efficient dispute resolution mechanisms
- ❖ Efficient and secure processes for the operation of sales and lease markets, as well as other transfers of rights
- ❖ Confidence in the system by users, particularly the public
- ❖ Regulation of land use in the public interest
- ❖ Effective management of public lands
- ❖ Equitable valuation and taxation of property
- ❖ Equitable access to land information

### **PPP- a possible solution:**

Attaining and maintaining such a system requires an appropriate legal and regulatory framework, adequate institutional capacity combined with clear mandate of institutional roles and institutional coordination, investment in a full and reliable property database, and appropriate system management and oversight to ensure that quality standards are maintained over time. So, public-private partnerships can be a possible solution to meet all kinds of resource gaps and to develop the land management system more viable and efficient.

### **Major Findings:**

From this round-table discussion, we got some promises to take initiatives to design and execute a replicable model of ICT based land management services through PPP model in an ideal place of Bangladesh thus we can solve the existing problems and shape the manual system to a new ICT based system to assist the present government to build a real Digital Bangladesh. The major findings from this discussion were:

- i. Land is the toughest sector for accomplishing the Digital Bangladesh.
- ii. There are three main stream of activities- Land Survey, Land Record and Land Registration.
- iii. Digitalization in government's service process will help to reduce the corruption, faster the service delivery and replace the manual complicity.
- iv. The responsible authority should evaluate the past land automation projects, and recommend some policy instruments to make the land automation projects sustains.
- v. In the last few land automation projects, the IT companies were taken as vendors or technology partners, not as private partner.
- vi. In the Demra Land Automation project, the technology partner designed and operated the IT programs initially and the outputs were fabulous. But, it became a problem when they transformed the whole system to responsible Government bodies. Because of not having enough IT background people and logistical resources to manage the new type of operation; the projects did not sustain.
- vii. There are lack of internal-coordination between ministries and departments which are adding new types of problems and creating more & more complicity into the system.
- viii. The private partners can be involved to create some innovative ways for revenue generating options.
- ix. Risk analysis should be done before designing and implementing any new projects.
- x. If the private companies get involve with Government as partner, they can share the financial risks involved with any projects which can reduce Government's tension for taking any new ICT based initiatives.
- xi. If Government can digitize the land management and administration system, many khash land and water bodies can be identified and managed easily.
- xii. If land management and administration system can be digitized, maximum land disputes and related problems will be solved very easily.
- xiii. The present Government's political commitment can leverage the digital land management system into reality. So, responsible Government bodies and private sectors should utilize the opportunities and jointly take part to digitalize the land related systems.

**Full List of Discussants:**

- 1. Dr. Abul Barakat**  
Chairman, Janata Bank and  
Professor, Department of Economics, Dhaka University
  
- 2. Dr. M. Aslam Alam**  
Director General  
Directorate of Land Records & Surveys (DLRS)
  
- 3. Mr. Alan Leber**  
First Secretary (Development)  
Canadian High Commission
  
- 4. Mr. Mahfuzur Rahman**  
Executive Director  
Bangladesh Computer Council (BCC)
  
- 5. Mr. Moslehuddin**  
Retired Secretary (Land)
  
- 6. Mr. Anir Chowdhury**  
Policy Advisor  
Access to Information (A2I) Programme, Prime Minister's Office
  
- 7. Mr. Abu Reza Khan**  
Executive Member Foreign Investment  
Board of Investment
  
- 8. Mr. Fayazuddin Ahmad**  
Access to Information (A2I) Programme, Prime Minister's Office
  
- 9. Mr. T. I. M. Nurul Kabir**  
Vice President  
Dhaka Chamber of Commerce and Industries
  
- 10. Md. Rezaul Karim**  
Project Manager  
Spectrum Engineering Consortium Ltd.
  
- 11. Mr. Mahbub Zaman**  
Chairman  
TerraTech Ltd.
  
- 12. Mr. Mahmudur Rahman**  
Vice Chairman  
TerraTech Ltd.
  
- 13. Mr. Sheikh Kabir Ahmed**  
Managing Director  
TerraTech Ltd.

**14. Mr. Jahidul Hasan Mitul**

Deputy Managing Director  
TerraTech Ltd.

**15. Mr. Mushfiqur Rahman**

TerraTech Ltd.

**16. Mr. Navidul Huq**

TerraTech Ltd.

**17. Mr. M Manjur Mahmud**

TerraTech Ltd.

**18. Ms. Farhana Rahman**

TerraTech Ltd.

**19. Mr. Shameem Ahsan**

TerraTech Ltd.

**20. Mr. M Afsarul Qader**

Vice President  
Bangladesh Enterprise Institute

**21. Md. Abu Tareque**

IBCS-PRIMAX Software (Bangladesh) Ltd

**22. Mr. Mozammel Babu**

Journalist

# Appendix 10: Overview of 2nd round-table discussion "Future of eHealth in Bangladesh"

## Background of the round-table:

Bangladesh has made significant progress in health sector and in achieving the MDGs (goal 4, 5 and 6). It also became a role model in developing countries with respect to incorporating information systems in the health sector (the national ICT policy has also recommended the use of ICT in health sector). However, with rapid change of technologies and the emerging potential of eHealth and mobile telemedicine, there are scopes for significant improvement using innovative approaches. So, BEI organized another round-table discussion on "Future of eHealth in Bangladesh" to discuss the future opportunities of eHealth to provide better and affordable health care by using optimal utilization of limited resources.

## Objectives:

The major objectives of this round-table were to:

- ❖ Understand the current status of eHealth in Bangladesh,
- ❖ Find out the challenges in eHealth, and
- ❖ Find out the future opportunities for Bangladesh.

## Discussants:

Hon'ble Minister Prof. A. F. M. Ruhul Haque M.P., Ministry of Health & Family Welfare was present in this round-table as the Chief Guest, while a keynote presentation was made by Professor Dr. Abul Kalam Azad, Director (MIS), Directorate General of Health Services (DGHS). Apart from them, stakeholders from the government, development partners, domestic and international health institutes and telemedicine organizations attended the program.

## Major Findings:

### 1. Brief status of eHealth

Along with the Government, some private entities have also introduced some of the eHealth components in Bangladesh which are indeed helping to gradually improve the eHealth infrastructure and capacity for providing a better health care nationwide. The government's eHealth initiatives includes administration and management of health services, collection and exchange of health service data, performance analysis of vertical programmes, population surveys, professional communication, supporting medical education and research, telemedicine, e-records, etc.

A major initiative from the MIS division of DGHS was distributing computers and Internet connections to about 800 points of Government Health Services of Bangladesh. They have also given mobile phones to all district and upazila hospitals for conducting Mobile Phone Health Services, and web cameras to all civil surgeons.

They have also provided an eHealth Guide Book to help the end users on these gadgets and services.

Amongst the private enterprises, the mobile companies (i.e. Grameenphone, Banglalink) are more visual providing tele-consultation where anyone can call on a single mobile number and can consult with doctors directly. Some telemedicine and mHealth (mobile health) companies are also experimenting mobile technology based health solutions for community people at a low-cost.

### 2. Potential services under eHealth

Some of the potential eHealth services, which can be initiated in Bangladesh are as follows:

- ❖ Electronic Health Record (eHR)
- ❖ Patient Information System (PIS) or Electronic Medical Record (EMR)
- ❖ Hospital Information System (HIS)
- ❖ Tele-consultation with doctors
- ❖ Tele-health education
- ❖ Tele-lab services

### 3. Major challenges in eHealth

- ❖ IT infrastructure development and capacity building for expansion of eHealth services
- ❖ Unavailability of adequate number of computer-literate employees to implement e-health
- ❖ Long-prevailing weaknesses in quality record-keeping, as well as inertia for improving
- ❖ Weaknesses in conceptualization of the e-health framework (data need, hardware, software, analysis technique, transmission, utilization, etc.)
- ❖ Nationwide internet coverage with faster network speed at a lowest cost
- ❖ Protection of privacy of patient data- is still remains as an unsolved ethical debate
- ❖ Trust building amongst patients, and mostly in the illiterate communities
- ❖ Budget constraints and financial sustainability
- ❖ Social and legal issues

### 4. Future prospect

There is no doubt that, eHealth will help to efficient the health delivery system in Bangladesh. Along with the public bodies, private entities are also moving forward to invest on this new health service sector, which will possibly bring some visual outcomes, including:

- a) Patient treatment in a more targeted approach
- b) Personnel managers will be able to make decisions more quickly with respect to personnel placement
- c) Better monitoring of the progress of health programmes and achievements of health MDGs
- d) Increasing understanding of the importance of e-health by the policy-makers

But, there are many factors influencing the future prospects of eHealth. The successful expansion of eHealth fully depends on the improvement of information and telecommunication structure of this country. Moreover, since telemedicine practicing is increasing day by day, it is very much needed to provide structured laws and regulations about physician provided service, patients' issues, licensing of physician and telemedicine providers. Government should also encourage private sectors to invest on and implement eHealth projects thus grassroots peoples' accessibility of affordable health care become a real success.



**Full List of Discussants:**

- 1. Prof. A. F. M. Ruhul Haque M.P.**  
Hon'ble Minister  
Ministry of Health & Family Welfare
  
- 2. Professor Dr Abul Kalam Azad**  
Director (MIS)  
Directorate General of Health Services
  
- 3. Dr. A M Zakir Hussain**  
Public Health Specialist
  
- 4. Prof. Abul Hussain Khan Chowdhury**  
Director of National Institute of Cardiovascular Diseases (NICVD) and  
Vice President of Bangladesh Society for Telemedicine & eHealth (BSTeH)
  
- 5. Mr. Tanvir Hasan**  
Lecturer  
James P Grant School of Public Health  
BRAC University
  
- 6. Ms. Mahrukh Mohiuddin**  
Consultant  
Access to Information (A2I) Programme, Prime Minister's Office
  
- 7. Professor Khondkar Siddique-e Rabbani**  
Chairperson  
Department of Biomedical Physics & Technology  
Dhaka University
  
- 8. Mr. Sikder M. Zakir**  
Managing Director  
Telemedicine Reference Center Ltd.(TRCL)
  
- 9. Dr. Ranjit Kumar Dey**  
National Professional Official  
WHO
  
- 10. Dr. Momena Khatun**  
Health Advisor  
CIDA
  
- 11. Mr. Alen Leber**  
First Secretary (Development)  
Canadian High Commission
  
- 12. Dr. Nizamuddin Ahmed**  
Director  
Health, Population & Nutrition Sector  
Save the Children - USA

**13. Dr. Jahangir Hossain**  
Program Director - Health  
CARE

**14. Dr. Iqbal Kabir**  
Associated Professor  
NIPSOM

**15. Dr. Nasreen Khan**  
Lecturer, Occupational & Environmental Health  
NIPSOM

**16. Dr. Mizanur Rahman**  
Associated Professor

**17. Mr. ASM Mainuddin Monem**  
Deputy Managing Director  
Abdul Monem Ltd.

**18. Ms. Naila Chowdhury**  
Teleconsult Group

**19. Dr. Kazi S. Bennoor**  
Medinova Telemedicine BD



