Work in Progress

Current Status and Way Forward for eGovernance in Bangladesh

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The paper reviews the progress of eGovenance in Bangladesh covering three vital milestones of eGovernance evolution-development of country wide connectivity infrastructure; technological readiness of Government offices to carry out ICT enabled reforms in service delivery and human capability to design and implement eGovernance projects. The assessment has been made on the basis of secondary sources.

Deployment of ICT within the public and private sector has a long history with a policy framework being put in place. The paper also reviews the status of ICT enabled services to various stake holders. Projects that have the potential to improve governance and quality of service delivery are discussed in some detail. Finally, taking cues from the evolution of eGovernance in some South Asian countries, a few suggestions are put forth on how Bangladesh can move forward.

This draft is work in progress. Ideally a visit to Bangladesh and discussions with a few champions of eGovernance can validate some of the information collected from a number of separate documents and papers.

1. Introduction

The People's Republic of Bangladesh with an area of 144000 square Kilo meters and an estimated population of 163 million is located on the fertile Bengal delta. It is a parliamentary democracy. The country is divided into 7 administrative divisions which are subdivided into 64 districts (zila). The lowest rung of administration is an upazila or thana (sub-districts). The official language of Bangladesh is Bengali.

Agriculture is the largest sector of the economy contributing 18.6% to the Gross Domestic Product and employs around 45% of the total labour force. The performance of this sector is very important for employment generation, poverty alleviation, human resources development and food security[1]. Even though the performance of Bangladesh on MDG indicators is better than its Asian neighbours, child malnutrition is amongst the highest in the world. The number of midwives per 1,000 live births is 8 and the lifetime risk of death for pregnant women 1 in 110. Bangladesh has a low literacy rate, of 61.3% for males and 52.2% for females. The unemployment rate is only 5% but about 40% of the population is underemployed. Population below the poverty line is 31.5%[2] .

2. Policy Framework for ICT and e-governance in Bangladesh

Bangladesh recognized the potential of ICTs for development ahead of many other countries when it automated the railway ticketing system in mid 1990s. It focused on developing a software export industry as well as an employment-generating ICT sector to boost economic growth[3]. Another early project was the e-birth registration project in Rajshahi City Corporation. Another experiment with

[1] http://en.wikipedia.org/wiki/Agriculture_in_Bangladesh

[2] http://en.wikipedia.org/wiki/Bangladesh#cite_note-bbs-75

[3] UNDP. Bangladesh: services for all. From connectivity to service delivery. Case studies in e-governance. Retrieved September 2013 from https://www.undpegov.org/featured/Bangladesh

sophisticated tools included GIS mapping of all schools and detailed information regarding them (including logistics, teachers, etc.), enabling efficiency in education planning[4].

The National ICT Task force was formed in 2000 and headed by the Prime Minister which led to Bangladesh's first National ICT Policy in 2002. It was housed in the Planning Commission and played a key role in infrastructure building and process automation. The formation of the Support to ICT (SICT) Task Force Project in 2002-3 (a publicly funded implementation arm) provided to push to the process. The SICT functioned like an internal facilitator and was involved in conceptualizing, planning and prioritizing projects, and providing funding and technical assistance to line ministries to implement them. Another public entity, the Bangladesh Computer Council (BCC), provided support with respect to infrastructure development, technical assistance and capacity building for various e-Government initiatives. However, many of the projects initiated by the SICT or the line ministries on their own during this period did not sustain in the long run[5].

Then in 2006, UNDP launched the Access to Information Programme (A2I); two years later (2008), a national vision for Digital Bangladesh was developed as a long-term development platform for the country with the following objectives[6]:

- Ensure new initiatives and programmes on e-governance operate within the context of national development priorities and mainstream ICT for Development (ICTD) into national development plans.
- Support the development of innovative ICTD programmes and provide technical assistance for monitoring and evaluation.
- Develop a national e-governance vision and strategy to harness digital opportunities for development in close consultation with stakeholders.

Since 2006, with the caretaker government taking over, the approach to e- Government has shifted gradually from a top-down approach to a more participatory approach. It was realized that without internal ownership the extensive change management that is needed will not be achieved. In early 2009, the innovative Digital Bangladesh agenda of the newly elected government provided a new momentum. The vision for Digital Bangladesh focused on both increasing Bangladesh's ability to compete more effectively in the global economy, and on building a responsive and effective government capable of delivering services to the poor and marginalized. A structured policy and regulatory environment, was put in place with the passage of ICT Policy 2009 and the ICT Act 2009.

3. Current Readiness for eGovernance in Terms of ICT infrastructure

The Table 1 below summarizes comparative performance of Bangladesh on development of eGovernance in 2012. The eGovernance Development Index (EGDI) reflects a country's status on offering of online services, telecommunication infrastructure and human capital and an index of participation by citizens in the process of governance. The quality of online services is assessed in terms of the extent of interactivity and the degree to which all steps in a transaction for getting a service can be completed on line. Telecom infrastructure reflects the penetration of Internet, mobiles and fixed line telephony in the population. E-participation measures the extent of interaction and consultation with the citizens. EGDI is a weighted average of normalized scores of the country on the

4 "SNS Search in Developing Countries: Linking the People to End Digital Division in Information Retrieval", Hasan Shahid Ferdous, Saif Ahmed, Md. Tanvir Alam Anik, Mashrura Tasnim, In Proc. 5th Int Conference on Computational Intelligence, Communication Systems and Networks (CICSyN), IEEE, Spain, 2013.

5Bangladesh Enterprise Institute, 2010, Realising the Vision of Digital Bangladesh, retrieved 2013 from http://www.bei-bd.org/images/publication/whc4f4b6fd3c20ed.pdf

6UNDP website providing an overview of the development of digital Bangladesh https://www.undpegov.org/featured/Bangladesh

above dimension. Indices reported have values from 0 to 1 and therefore may be difficult to interpret. However, the ranks give an idea of the progress of a nation. Bangladesh ranks 150 out of 190 countries. In comparison India was ranked 125, Sri Lanka 115 and Pakistan 156. All these countriesslipped by a few ranks from the previous year but Bangladesh slipped by 26 positions.

Table 1 Comparative Performance of Asian Countries on eGovernment Development Index

Country	e-government development index		World EGDI Ranking	
	2012	2010	2012	2010
Maldives	0.4994	0.4392	95	92
Iran	0.4876	0.4234	100	102
Srilanka	0.4357	0.3995	115	111
India	0.3829	0.3567	125	119
Bangladesh	0.2991	0.3028	150	134
Bhutan	0.2942	0.2598	152	152
Pakistan	0.2823	0.2755	156	146
Nepal	0.2664	0.2568	164	153
Afghanistan	0.1701	0.2098	184	168
Sub-regional average	0.3464	0.3248		
World average	0.4882	0.4406		

Source: United Nations. Department of economic and social affairs. (2012). United Nations E-Government survey 2012.E-Government for the people. Retrieved September 2013 from http://unpan1.un.org/intradoc/groups/public/documents/un/unpan048065.pdf

In terms of absolute number of users the internet users for Bangladesh are 8 million as against 137 million in India. Table 2 below provides the penetration of Internet users, fixed line users, mobile users. Although India is ranked low amongst all countries on these parameters, Bangladesh is still lower and would have to double its penetration to reach India's levels. The task therefore is large and urgent.

Table 2 Telecom Penetration, and Other EGDI components for Bangladesh and India

Indicators	Bangladesh	India
e-government development index		
Rank	150	125

Index value	0.2991	0.3829
Online service index		
Index value	0.4444	0.5359
Telecommunication infrastructure index		
Index value	0.0641	0.1102
Estimated internet users per 100 inhabitants.	3.70	7.50
Main fixed phone lines per 100 inhabitants	0.61	2.87
Mobile subscribers per 100 inhabitants	46.17	61.42
Fixed internet subscriptions per 100 inhabitants	0.11	1.53
Fixed broadband per 100 inhabitants	0.04	0.90
Human capital index		
Index value	0.3889	0.5025
Adult literacy (%)	55.90	62.75
Enrolment (%)	48.70	62.61
e-participation index		
Rank	29	25
Index value	0.0789	0.1842
Environment index		
Index value	0.7059	0.6471

The World Economic Forum's (WEF) Networked Readiness Index (NRI) is another measure to assess the propensity of a country to exploit the opportunities offered by ICTs for enhancing competitiveness. The Index is a composite of three components: the environment for ICT in a given country (market, political and regulatory, infrastructure environment), the readiness of the community's key stakeholders (individuals, businesses, and governments) to use ICT, and finally the usage of ICT amongst these stakeholders. The table 3 below presents comparative ranks for 4 South Asian countries out of the 142 countries that were surveyed.

Table 3 Rankings in the Networked Readiness Index (NRI 2012)

Country	NRI	SUB INDICES		
		Environment	Readiness	Usage
Bangladesh	113	123	103	108
India	69	78	64	78
Sri-lanka	71	71	67	71
Pakistan	102	112	97	107

Source: http://www3.weforum.org/docs/WEF_GITR_Report_2011.pdf
and World Economic Forum. Living in a hyper-connected world. Retrieved September 2013 from http://www3.weforum.org/docs/Global_IT_Report_2012.pdf]

In comparison to India and Sri Lanka, Bangladesh needs to improve significantly on all dimensions. It should be mentioned that in comparison to 2011 which had a smaller set of countries, Bangladesh has improved on the readiness (104 to 103), and usage (122 to 108), whereas the other countries have slipped on all dimensions in one year.

However, the most recent achievements of Bangladesh are encouraging. Bangladesh's mobile market stood at 112 million subscribers in early 2013 as penetration reached 67%. In the preceding five-year period the mobile subscriber numbers grew almost 20 times. Of the mobile operators, Grameen Phone was far and away the leader, with 41% of the total mobile subscriber base. In 2013 the internet user penetration still remained low (0.5 million subscribers) and internet subscription rates were even lower. Although broadband internet remains almost non-existent in Bangladesh, with the grant of a number of WiMAX licences, there are early signs that the market could change as the new WiMAX services are rolled out. Currently mobile internet is playing a major role in providing online access, as mobile operators offer 2.5G-based services for connecting to the internet[7].

4. Assessment of Human capacity and ICT infrastructure in Government Offices

In a study undertaken by the SICT of the ministry of planning, a survey of 608 representative government offices (Ministries and Divisions, departments, corporations, commissions and academic institutions), was conducted during April-May 2008.

According to this study, 12% of the government offices have minimum one ICT professional like a Programmer, Network Administrator, Web Developer, Database Expert, Web Administrator, System Analyst or a Computer Trainer. Around 32% of the government offices have Computer Operator for their day to day secretarial and data entry services and 30% of employees in government offices use PCs. About 80% of government offices have minimum one PC. The PC-employee ratio of the government offices is 28 PCs for 100 employees. Around 80% of government offices have minimum one printer, however the printer-employee ratio is 15 printers for 100 employees.

[7] Bangladesh - Telecoms, Mobile, Broadband and Forecasts.18th edition. Retrieved September 2013 http://www.budde.com.au/Research/Bangladesh-Telecoms-Mobile-Broadband-and-Forecasts.html

About 73% of the offices of the Ministries and Divisions have LAN where around 81% of PCs are connected with network. More than 96% offices of the Ministries and Divisions have Internet connection where around 65% of the PCs have access to the Internet. Around 36% of the officers are now using e-mails either through direct or indirect network connectivity. The number of e-mail users has been found the highest in Ministries and Divisions and the lowest in Departments, Corporations and Commissions. The survey has also revealed that 47% of the officers of Ministries and Divisions use e-mail directly or indirectly whereas only 22% of the officers use e-mail in Departments, Corporations and Commissions.

All the Ministries and Divisions have their own websites. Around 22% of offices use customized software to conduct their daily activities and about 14% of offices have internal ICT training facilities[8].

For implementing Digital Bangladesh, training was imparted at different stages to elected representatives and officers of field administration. During April-July, 2010, 481 Upazila Chairmen received training on Digital Bangladesh. It was expected that the training program would enable the emergence of e-leaders at the field level. In addition, 1500 government officials at the Divisional level were trained. Besides, a laptop with internet connection was distributed to all district and upazila offices[9].

ICT infrastructure: It is found that the government's ICT infrastructure at the Ministry/Division level has significantly improved over the last few years. Specially, Deputy Secretary and above level position are having access with PCs facilities. However, at the lower level position and district or sub-district (Upazila) offices are having shortage of ICT facilities. Where the LAN and WAN is almost absent at work station to connect with all offices[10].

5. Achievements in terms of ICT Enabled Service Delivery

Even though Bangladesh ranks low amongst global comparisons on ICT infrastructure, yet given the extensive plans and policy frameworks and reasonable level of ICT infrastructure in some government offices, a number of services could be delivered through ICT enablement. This section reviews the plans and achievements in actual delivery of services.

Most countries begin with quick wins, which are applications that have large number of citizens accessing the service and are not too complex to implement. Sometimes services where there is high corruption and great inconvenience to the citizens may also be selected.

[8] Support to ICT task force Program project (SICT). (2008). e-Government initiatives in Bangladesh. A sample survey 2008. Retrieved September 2013 from http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan040894.pdf

[9] Finance division , Ministry of Finance. Government of the People's republic of Bangladesh. (2011). Journey towards a Digital Bangladesh. Retrieved September 2013 from http://www.mof.gov.bd/en/budget/11_12/digital_bd/digital_bangladesh_en.pdf

[10] Md. Zohurul Islam and RizwanKhair. (2012). Preparation of e-government in bangladesh: An exploratory analysis .JU Journal of information technology. Vol.1. retrieved September 2013 from http://www.juniv.edu/jujit/files/2012/09/4.pdf

Table 4 List of major public eservices identified in Bangladesh

Agricultural information dissemination	Polling centre information through SMS
Birth certificate	Postal charge calculation
Business : application for trade license	Postal: prize bond result search
Complaint and help desk	Postal: tracking and tracing
Disaster management : cell broadcasting system	Public procurement
Disaster management : DMIN Portal	Service information
Education: application for MPO	Taxation: income tax return
Education : application for university admission	Taxation : LTU tax return
Education: course registration	Transport : application for driving license
Education : result publication	Transport: application for route permit
Education: survey questionnaire online	Transport: e-ticketing for train
Health monitor: diabetic patient	Transport : train information
Health monitor : for pregnant mother	Transport: vehicle registration
Health service	Application for telephone connection
Health : telemedicine	Utility service: electricity bill payment
ICT training information	Utility service: bill payment through GP: gas
Information dissemination	Bill payment for telephone and water bill
Job search/e-recruitment	Utility service: electricity bill monthly updated
National ID and passport	Daily water production online information
National ID and passport: application for travel agent	Utility service: load shedding schedule online
National ID info: correction through website	Utility service: telephone bill online
Police: police clearance certificate	
Police: submission of general diary (GD)	

Source: M. Shakhawat Hossain Bhuiyan. (2010). Final thesis. Public sector e-service development in Bangladesh: Status, prospects and challenges. Retrieved September 2013 from https://spidercenter.org/sites/default/files/master_theses_sponsored/Shakhawat.pdf]

In an initiative to identify the quick wins in delivery of public services using information technology, as many as 650 services were identified. Out of these 50 different services were taken up, and 44 initiatives are still in the proposal state. In terms of implementation, 31 initiatives are under development and only 12 are completed.

According to a survey of 44 public officials, the contents of most of the websites are in English while only 27% have Bengali content. None of the sites supports usage by visually impaired people. The survey reported that 70% of eServices were developed for citizens while 12% were for businesses and the remaining 18% were developed for both citizens as well as businesses. There is no service fee required for 34% of the eservices, 28% eServices require cash payment at the service counter, and 14% require cash payment at the bank. One of the important observations is that 13% public eServices have provision of paying service fee through mobile phone SMS[11].

6. A Review of Large Scope eGovernance Projects in Bangladesh

To understand the extent to which some of the large initiatives have delivered value to different stakeholders (Citizens, Businesses and Government Departments) four specific projects were studies in some detail. Other than the eProcurement project which can have a high impact on corruption, lower the cost of procurement for the Government and provide convenience and equal opportunities to suppliers, rest of the project studied are focussed on delivering services to citizens. A study of these projects allows one to understand the extent of success and also to learn success/failure factors.

Application of ICT In Public Procurement

Initially, e-Procurement was introduced in 4 government agencies: Local Government Engineering Department, Roads and Highways Directorate, Bangladesh Water Development Board and Rural Electrification Board. Web portal for the e-GP system was designed. Steps were taken to monitor compliance by using web based Procurement Management Information System (PROMIS). The e-GP and PROMIS hardware and software were installed in nearly 308 locations in 64 districts and internet connectivity was provided. e-GP allows vendors to submit tender documents from home. e-Tendering helps perform automatic bid/proposal evaluation, contract management, e-payment and much more in an easy and coordinated way and in lesser time. Besides, more firms can participate in the bidding process, enlarging competition. Since the launch of the e-tendering process in 2011, 350 government procuring entities have been registered with the system, along with 1,000 tenders or contractors, according to Central Procurement Technical Unit. Some 450 tenders have already been processed through the system of which 250 have been awarded and the rest are in process. In similar applications elsewhere, criminal offences like snatching away tender documents or influencing the process unlawfully has been reduced[12].
Source: http://www.eprocure.gov.bd/help/regflowcharts/eGP_userregflowchart.pdf
http://www.eprocure.gov.bd/Index.jsp

Digital System for Land Survey, Record and Preservation Programme

Digital land management system has been introduced in order to make land administration and management transparent and accountable by making land records available online, conducting

[11] M. Shakhawat Hossain Bhuiyan. (2010). Final thesis . Public sector e-service development in Bangladesh: Status, prospects and challenges. Retrieved September 2013 from https://spidercenter.org/sites/default/files/master_theses_sponsored/Shakhawat.pdf

[12] See E-procurement experience from different countries in Subhash Bhatnagar, Unlocking E-Government Potential-Concepts, cases and practical insights, Sage Publications India Ltd, April 2009, pp.236-258

satellite technology based digital survey, preparation of digital maps and ledgers and introduction of Certificate of Land Ownership (CLO) instead of owner based land record (Khatiyan). Directorate of Land Records and Survey (DLRS) initiated surveys in 2009. Digitisation of 400 thousand land records and 4,089 map sheets has been completed on the basis of survey conducted in 191 Mouzas. These records are being published on the websites.

Several pilots are underway to digitize land records using different technologies like scanning, digitisation, geo-referencing and aerial photography. Once the data bases are created, a copy of land records can be distributed through service centres. The pilots done so far represent a very small fraction of the total task. The Government proses to implement the roll out through private sector organization on BOT basis retaining overall control in the hands of the Government. Many private sector organizations would be involved.

Source: A Journey Towards Digital Bangladesh, June 2011, retrieved from http://www.mof.gov.bd/en/budget/11_12/digital_bd/digital_bangladesh_en.pdf

District E-service Centre for all the Services of District Administration

Nearly 4500 District E-service Centre have been established across the country for providing many services available from District Administration easily and in a corruption- free manner. E-service centre is just like a one stop service centre, where citizens go to a designated counter to receive the required services. District administration web sites can be accessed to apply online. Some of the other transparency features of the new system are: applicants are given an acknowledgement receipt; it is possible to track the status of the service through SMS; and the certificates are issued within a specified time.

This is perhaps the most important project for the citizens, but in its current state the scope is very limited. Extensive back end computerization of district offices is needed to deliver the list of services in Table 4. Moreover, the access points have to be moved to sub-district levels to reduce the cost of citizens for accessing the services.

Source: UNDP, Bangladesh access to Information, 2011, last retrieved from http://a2i.pmo.gov.bd/content/district-e-service-centres

The National ID Card

The 9th parliamentary election was supposed to be held in 2007 after the dissolution of the parliament in Bangladesh in 2006. In preparation the Bangladesh Election Commission (BEC) initiated a 'preparation of the electoral roll with photographs' PERP project. Many countries and the UNDP provided financial and technical support to the project. The operations team of the project coordinated with 508 Upazila election officers on the Upazila level data collection offices. Help from the Bangladesh Armed forces was also used to contribute for management and technical support and ad hoc surge staffing[13].

[13] Akram, S., Das, S. (n.d) *Bangladesh Election Commission: A Diagnostic Study*. Transparency International Bangladesh is the accredited National Chapter of Transparency International, Berlin.[ONLINE]Available at:

Nearly 81.3 million cards were issued in 11 months through a large set up consisting of 90,000 fixed and 10,000 mobile enrollment centers employing nearly 0.3 million enumerators. These voter ID cards got translated to national ID cards following a government order in 2010 establishing a National Identity registration authority (NIRA).

Registration process of the National ID card requires the citizen to produce a number of documents as proof of age and address for enrollment. These include SSC or equivalent certificate, Birth Certificate, Passport/driving license, Proof of Address, Citizenship certificate and Spouse's ID card.

Data from these documents is captured in a pre-enrollment form. A mobile enrollment kit consisting of a web cam, laptop, fingerprint scanner is used to collect biometric data. The compiled data is stored in an XML format and saved on local servers. Later it is transferred to the data base of the central ID management system through compact discs. Next, the data is validated by the AFIS (Automated fingerprint identification system). This information is then sent to the content management system for printing ID cards[14].

The ID card carries the following details: Name, Date of Birth, Blood Group, ID Number, Address, Photograph, and a secure 2D barcode consisting of the fingerprint. The NID is treated as a valid proof of identity by a number of services providers. If this mass repository of information about citizens can be stored in a data base which can be electronically accessed through an authorization process, it could be utilized by agencies such as the police, mobile phone operators, private and public banks and the passport office.

The example of NID illustrates that even very large projects can be implemented successfully if these are taken in a mission mode involving agencies like the military which have strong project management skills beside the technical skills.

Information Sharing Initiatives

A variety of initiatives were started for sharing information with citizens. For example Union Information and Service Centres have been opened, where rural population can have easy access to all government forms, notices, passport/ visa related information, national e-information cell, information relating to agriculture, education, health and law, job news, nationality certificates, public examination's results as well as other government services. Union Information and Service Centre. Another example is the use of SMS to send information relevant to sugar cane farmers.

In this backdrop, a number of public and private sector services are provided through mobile phones:

- Payment of different types of utility bills: About 6.7 million mobile subscribers have been brought under this facility;

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http://www.tibangladesh.org/research/ES_ElectionCommission.pdf. [Accessed 21 September 2013].

[14] Details taken from a presentation on Bangladesh Voter and ID Registration Program. (2008) Available[ONLINE] http://biometrics.org/bc2008/presentations/145.pdf. [Accessed 24 September 2013].

- Purchasing railway tickets: About 45,000 railway tickets have been sold through mobile phones;
- Mobile remittances have been introduced for easy transfers of money across borders;
- Results of the public exam in actions are being published through mobile phones;
- A total of 22 public and private universities have introduced registration for admissions through SMS. About 6, 30,000 applicants have applied for admissions through SMS;
- The Postal Department has introduced mobile money order across the country for easy, safe, fast and cheap money transfer;
- Complaints (not of serious nature) can now be lodged with the police stations online and through SMS.

7. eGovernance Challenges and Way Forward for Bangladesh

E-governance in the Bangladesh context is intended to be an effective tool for e-service delivery and information dissemination. According to most researches Bangladesh does not face interoperability, technical or financial issues. Regardless of the 103 policy directives of 2002, only 8 were fully accomplished, 61 were partially accomplished and 34 still remain unaddressed. There are many government websites but with limited information. According to some reports, only on 15% of these sites there is a two way interaction with citizens, whilst 51% of the sites have only a one way interaction. There is redundancy in most government infrastructure systems lacking a central e-governance coordinating and monitoring entity. At this point, various public private partnerships are being envisaged to induct the technical knowhow and project management skills in design and implementation of projects15.

E-governance in Bangladesh is still at a nascent stage. Budgets do not seem to be a major problem in public eService development but top-level management initiatives are a key barrier in public eService development. There are legal issues and power interruption that act as key barriers and Internet access is a moderate barrier. Lack of internal political desire, inadequate technological infrastructure and lack of focus in the overall vision/strategy contribute to the slow progress. These issues may need to be addressed at the bureaucratic level to move forward.

With all the weaknesses, a survey revealed that nearly all respondents believed that more manual services could be improved through electronic means to ensure better service delivery. Almost all respondents think service quality has been getting better through online systems compare with

[15] Uddin, G. (2012) *E-governance of Bangladesh: Present Scenario, Expectation, Ultimate Target and Recommendation.* International Journal of Scientific & Engineering Research, Volume 3, Issue 11, November-2012 1 ISSN 2229-5518

traditional over-the-counter service systems. Therefore the agenda of eGovernance needs to be pursued with vigour.

Going forward, since there are a large number of projects which are in some ways incomplete, the focus should be on completing these projects rather than taking up new initiatives. For completing these projects many different types of bottlenecks may have to be removed. Some like the National ID Card project may need enabling legislation and executive orders. In case of a very large scope land survey project, more resources may be needed as well as strong project management skills are needed. For enabling the PPP model to work a flexible high powered authority is needed which can also monitor the project.

The district eServices project needs decentralized implementation teams to handle the task of ICT enablement at the back office and the corresponding management of change. This program can be done in a phased manner with clear phasing, definition of mile stones and monitoring of progress. The success of eProcurement requires a robust platform which has been proved successful in usage by a limited set of departments. For wider uptake, compliance of other departments in a phased manner needs to be facilitated and enforced through executive orders. It requires political and administrative will.

Countries like India and Sri Lanka have moved their programs forward by creating a well-staffed project implementation unit at the central level which has hired personnel with design and project management skills from the market. In addition to strong emphasis on training, India has also strengthened the field implementation units by providing skilled personnel hired from the market on a contract basis to work with the field unit. These teams of 4-5 personnel for key project report to the local administrator overseeing the project. India has in fact created a separate company called the National Institute of SMART Governance to work with the government agencies to establish and smoothly operate public private partnerships for implementing major eGovernance projects.

In the literature on eGovernance in Bangladesh, there are hardly any papers which evaluate the impact of whatever projects have been done so far. Without understanding the concrete benefits being delivered to stake holders, it is not possible to improve the existing eGovernance systems. Even statistics on level of usage of different eServices are hard to come by. Rigorous and independent impact assessment studies need to be conducted for mature projects that have operated for 2-3 years. Other countries have benefited from such an exercise. An inventory of mature projects needs to be created. A comprehensive list of all projects underway, responsible agency and the stage of lifecycle at which the projects stand currently can be very useful in prioritizing the future effort. The band width to manage project is very limited in many developing countries because of lack of trained and experience manpower. It is important to utilize such resources in a focussed manner while also making efforts to develop more skilled manpower.