

e-Government Master Plan for Digital Bangladesh



August 2019



Digital Bangladesh - a story of transformation

The Digital Bangladesh program was launched in 2009. It aims to be at the forefront of achieving Honorable Prime Minister Sheikh Hasina's vision of transforming Bangladesh to a digital economy by 2021 and a knowledge-based economy by 2041. The four pillars of Digital Bangladesh - Human Resource Development, Connecting citizens, Digital Government, and Promotion of ICT Industry - are playing a central role in aiding this fantastic growth story. Today more than 120 Bangladeshi companies are exporting ICT products worth nearly USD 1 Billion Dollars to 35 countries. We plan to take this to USD 5 Billion by 2023.

The First pillar is about Human Resource Development. The Government aims to position Bangladesh as the gateway for the digital world and have taken multiple initiatives to develop a skilled, equipped, and digital ready pool of talent. Our Education system produces more than 500,000 university graduates each year. The government has introduced multiple dedicated training programs to get the talent pool ready to deliver value on a global scale –we have trained over 65,000 IT / ITES professionals in the past year. As per Oxford Internet Institute, Bangladesh has the second largest pool of online workers in the world. To enhance the skills further, we have established specialized labs in all 130 universities. We are investing in frontier tech Centers of Excellence with global tech partners, such as IBM. We have a strong focus on training professionals on emerging technologies – IoT, Blockchain, Artificial Intelligence, Big Data and Analytics.



The next pillar is about connecting citizens by developing a strong enabling environment. We are committed to ensure 100% Internet connectivity by 2021. We have already made good progress with over 93 million internet subscribers, and 160 million mobile subscriptions throughout the nation – making Bangladesh the fifth largest mobile market in Asia Pacific, and the ninth largest in the world. We have ensured seamless connectivity through 2 submarine cable connections with 1,700 Gbps and 7 ITC connections with 400 Gbps. We plan to further enhance this by being an early adopter of 5g. By the end of 2019, we will have fiber optic connectivity up to our Union level, providing high speed Internet connectivity

even to the remote villages. In order to ensure cost-effective space for companies interested in investing in Bangladesh, we are building 28 Hi-Tech Parks around the country, with a plan to expand this to 64 soon. There is a focus on developing a thriving ecosystem for partners and investors who are keen on the Bangladesh opportunity.

Next lever to drive the Digital Bangladesh engine forward is through e-Governance or Digital Governance. The Government has been proactively pursuing the digital penetration of all of the government portals by the year 2023. We have developed the National Portal back in 2014, which now houses over 45,000 websites and services of different Government Offices. We have developed over 5000 Digital Centers across the country to help provide the various Digital services to the citizens at the last mile, addressing the issue of Digital Divide. To ensure interoperability, we have developed the Bangladesh National Digital Architecture, for which we have also won the WSIS Award this year. We have been recognized by WSIS for our different e-Government or Digital Government initiatives for the past six years in a row. We have issued over 100 million digital IDs to our citizens, which is one of the highest in the world. We have established a Digital Service Accelerator, to expedite and facilitate the e-Services of all Ministries. We are very carefully designing the services to ensure that it is relevant for all three groups of Bangladeshi citizens: -Digital natives: younger, tech-savvy, generations growing up with technology, Digital adapters: middle-aged individuals who have adopted technology and Outliers: the minority who stay away from technology. The scale of digital governance in Bangladesh is tremendous in transforming our nation.

The fourth pillar is the vibrant **ICT Industry** in Bangladesh. Our software and service (IT / ITES) industry is a billion-dollar market and is expected to grow to USD 5 Billion by 2023. We are serving clients in the array of domains –Financial Services, Telecom companies, Healthcare – We are driving the IT/ITES engine behind some of the global companies worldwide. The four pillars behind the Digital Bangladesh is strengthened by Strong government commitment and support. Government has been updating policies to augment the ease of doing business for prospective investors/partners. Updated policies include Digital Security Act, RTI, IPR, Broadband, PPP, Alternative Investment, Telecom among others, and have recently started developing an AI strategy.

Bangladesh has experienced tremendous growth in the last decade under the leadership of our Honorable Prime Minister Sheikh Hasina and her Honorable ICT Adviser Sajeeb Wazed. Today, we experience nearly 8 percent GDP growth, as one of the fastest growing economies in the World. We are #34 in the WEF Inclusive Development Index, ahead of many established nations, and by 2030, we will be the 24th largest economy in the world. The key ingredient behind this growth has been smartly utilizing ICT to spur growth in all sectors.

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Preface

Information & Communication Technologies changed the way we work – as Government and Citizens. Government must evolve to improve their service experience, push new boundaries and open new opportunities to survive digital transformation in the era of Internet. In a bid to fulfill the aim to transform Bangladesh into a technologically advanced nation by 2021, the country has come a long way.

The digital revolution will facilitate new partnership models with businesses, non-governmental organizations, communities and individuals at multiple levels, beyond basic service delivery and internal integration. The Government must continue to leverage and adapt to the changes in technologies and demographics to provide the best possible public service to our people and customers.

Generally, implementing e-Government leads holistic improvement on nations. It will directly affect the quality of public service, and it will affect whole nations with broader use of digital technology for overall.

Awami League has rolled out their manifesto for the national election 2018. Party chief and Prime Minister, Sheikh Hasina, read out the 21-point polls manifesto. The party has picked ‘Bangladesh at the forefront of prosperity’ as the slogan in their manifesto. Inside the manifesto, the prime minister announced, “Speedy implementation of mega projects ensuring optimum standard” and “Broader use of digital technology for overall”.

E-Government Master Plan for Digital Bangladesh provide a strategic guideline of government innovation using ICT and the implementation plan. Through the guidance of this report, we hope that Bangladesh government achieves the efficiently digitized decision-making mechanism using ICT system to accomplish the manifesto, “Speedy implementation of mega project ensuring optimum standard”. Through the implementation of e-Government, we hope Bangladesh changes into Digital Bangladesh with broader use of digital technology which will make citizens’ lives easier, businesses more competitive and the government innovative.



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Terminology

Annual Performance Agreement
Annual Performance Agreement Management System
Bangladesh Computer Council
Bangladesh Economic Zone Authority
Bangladesh e-Government Computer Incident Response Team
Bangladesh Export Processing Zone Authority
Bangladesh Hi-Tech Park Authority
Bangladesh Investment Development Authority
Bangladesh National Digital Architecture
Bangladesh Bureau of Statistics
Controller of Certifying Authorities
e-Government Development Index
e-Government Procurement
e-Government Security Center
Governance Innovation Unit
Government Network
Grievance Redress System
ICT Development Index
Implementation Monitoring & Evaluation Division
Information Technology-Enabled Services
Leveraging ICT for Growth, Employment and Governance project
Local Government Division
Ministry of Education
Ministry of Finance

Abbreviation

APA
APAMS
BCC
BEZA
e-Gov CIRT
BEPZA
BHTPA
BIDA
BNDA
BBS
CCA
EGDI
e-GP
e-GSC
GIU
GovNet
GRS
IDI
IMED
ITES
LICT project
LGD
MoE
MoF

Ministry of Home Affair	MoHA
Ministry of Law, Justice and Parliamentary Affairs	MoLJPA
Ministry of Local Government, Rural Development and Co-operatives	MoLGRD
Ministry of Planning	MoP
Ministry of Posts, Telecommunications and Information Technology	MoPTIT
Ministry of Primary and Mass Education	MoPME
Ministry of Public Administration	MoPA
National Data Center	NDC
National Disaster Management Information System	NDMIS
National Economic Council	NEC
National Identification	NID
National Implementation Committee for Administrative Reforms/ Reorganization	NICAR
National Security Intelligence	NSI
Personnel Management Information System	PMIS
Prime Minister's Office	PMO
Private Export Processing Zone	PEPZ
Right to Information Act	RTI Act
Statistics and Informatics Division	SID
Sub-regional Cooperation Cell	SRCC
Time, Cost, number of Visit	TCV
Union Digital Center	UDC
United Nations Development Programme	UNDP
United States Agency for International Development	USAID

Executive Summary

The Bangladesh government is working to achieve Digital Bangladesh Vision 2021 by establishing the Seventh Five-Year Plan (2016-2020) and the National ICT Policy 2018. The Bangladesh government recognizes that the development of information and communication technology is an indispensable factor for the mid- to long-term growth of Bangladesh and is making efforts to improve the budget execution efficiency, mid- to long-term growth potential and administrative efficiency through e-Government.

The role of ICT Division is to ensure universal access to ICT for all through research, development, successful utilization and digital management of ICT.

National ICT Policy 2018 is the national strategy to implement Digital Bangladesh with vision “To expand and diversify the use of ICTs to establish a transparent, responsive and accountable government; develop skilled human resources; enhance social equity; ensure cost-effective delivery of citizen-services through public-private partnerships; and support the national goal of becoming a middle-income country within 2021 and join the ranks of the developed countries by 2041.”

The ICT Policy 2018 was a robust and well-designed plan that aided the transformation of the Bangladesh government to provide efficient, convenient and transparent services to people and businesses through ICT. Aligned with Digital Bangladesh, Government of Bangladesh has a strong willingness to establish e-Government.

However, due to the absence of e-Government Master Plan, each Ministry/Division has sporadically conducted ICT-related projects, resulting in problems such as lack of information sharing and delays in implementation. Establishment of e-Government Master Plan is expected to enhance efficiency and consistency for formulating e-Government. **In this report followings are covered:**

- a) **The vision, Strategies and desired goals of e-Government in Bangladesh.**
The vision is “e-Government for Digital Bangladesh”.

The strategies are “Establish Legal Framework and Governance for e-Government”, “Develop effective Government Work Environment”, “Improve e-Services to be convenient and helpful to all” and “Build Infrastructure for secure e-Services”. Through the accomplishment of e-Government, the goals are “Make Citizens’ Lives Easier”, “Make Businesses Competitive”, and “Make Government Innovative”.

b) An assessment of the current status of e-Government readiness in Bangladesh.

Policies, e-Government related legal framework and governance are reviewed. E-Government Services and Infrastructure are assessed.

c) Strategic suggestions as To-Be model for formulating e-Government

Establish the vision and goals of e-Government. Provide strategy and identified initiatives for e-Government. Recommend to institute e-Government act as a dedicated legal framework for formulating e-Government. Introduce the governance structure for e-Government. Comment the needs to perform business process re-engineering activities prior to develop e-services.

d) Implementation plan

Establish roadmap for holistic e-Government implementation. Provide institutional plan for e-Government act and plan for formulating governance for e-Government. Identify e-services to be developed and their estimated duration for implementation with prioritization order.

e) Digital Service Accelerator

This master plan also reflects the findings of 53 Ministries and Divisions “Digital Service Implementation Plan 2021” which was supported by Digital Service Accelerator, a combined support unit of Cabinet Division and a2i, ICT Division.

f) Blueprint of prioritized initiatives

Introduce five prioritized initiatives: Digital Municipality Services System, Customs Modernization & Single Window System, Investment Single Window, e-Immigration Information System and National Statistics Data Warehouse and Big Data Analysis Platform.



Overview

I. Overview

1. Background

“Bangladesh Vision 2021” was announced in December 2008. The main goal is to become a middle-income country by 2021. Before the 2008 general elections, the Bangladesh Awami League (BAL) proposed Digital Bangladesh as action plans for the Bangladesh Vision 2021. The central government in turn developed the National ICT Policy 2009 which includes goals and action items required for realizing Digital Bangladesh.

The country decided to utilize ICT to accomplish the national vision. With aids and support from the UN and donor agencies, the government is now implementing projects to realize Digital Bangladesh.

As part of such effort, the government started the Access to Information (a2i) program in 2007 with support of the UNDP and USAID. The program aims at improving public services through informatization and reducing inefficiencies in their delivery in terms of TCV - time, cost, and number of visits associated with obtaining government services.

While running many ICT-related projects, the government agencies are facing obstacles such as insufficient information sharing and delayed implementation. This seems to be attributed to a lack of strategic approaches based on a comprehensive plan for the informatization of public services.

The objectives of e-Government are to enhance efficiency of government agencies and ultimately, increase national competitiveness. As Bangladesh introduces e-Government systems, we believe that Korea’s experience in developing e-Government systems and technology can help Bangladesh build their own e-Government and foster the ICT industry.

Bangladesh is focused on using and developing ICT for the implementation of its national vision. This project will help the country draw up an e-Government master plan and strategies for realizing Digital Bangladesh, implement e-Government in a more efficient, consistent way, contributing to the achievement of the national vision.

2. Outline of the Project

2.1. Project name

- Formation of the e-Government Master Plan for Digital Bangladesh.

2.2. Project period

- From December 23, 2015 to December 30, 2019 in South Korea part
- February 2016 to December 2019 in Bangladesh part (TAPP)

2.3. Objective

The project's short-term objectives are to develop strategies for implementing e-Government and change the Bangladesh government's perception towards it. The project is also designed to follow the strategies for Digital Bangladesh in a middle term and reduce government corruption and improve public services as well as national competitiveness in a long term.

Issues were prioritized and ones with highest priority were selected as a pilot project. Also, competency building activities will be continuously provided to improve the understanding of e-Government implementation and disseminate latest ICT trends.

This project is expected to help Bangladesh successfully deploy e-Government based on the strategies and implementation agendas of the master plan. Furthermore, it will empower the government to achieve the vision of Digital Bangladesh and become a middle-income country.



2.4. Project team

The project was initiated as one of KOICA's International Aid Cooperation Programs after the organization concluded the Record of Discussion with the ICT Division under Bangladesh's Ministry of Posts, Telecommunications & Information Technology. The working groups include the Bangladesh Computer Council and the KITC Consortium.



[Figure I.2-1] Project team

2.5. Scope

The project is composed of four sub-areas.

- Development of e-Government Master Plan
 - Evaluate the situation in Bangladesh and identify requirements for e-Government implementation
 - Propose improvements in laws and regulations
 - Identify areas of improvements and formulate action plans
- Progress check
 - Check the progress in executing the master plan and improving legal systems.
 - Hold a briefing session to facilitate the implementation of priority projects
 - Promote the Bangladesh e-Government master plan
- Planning and managing pilot projects
 - Conduct a feasibility study for 5 priority projects
 - Draw up a plan for the pilot project and their Requests for Proposal (RFPs)
 - Manage and monitor pilot project

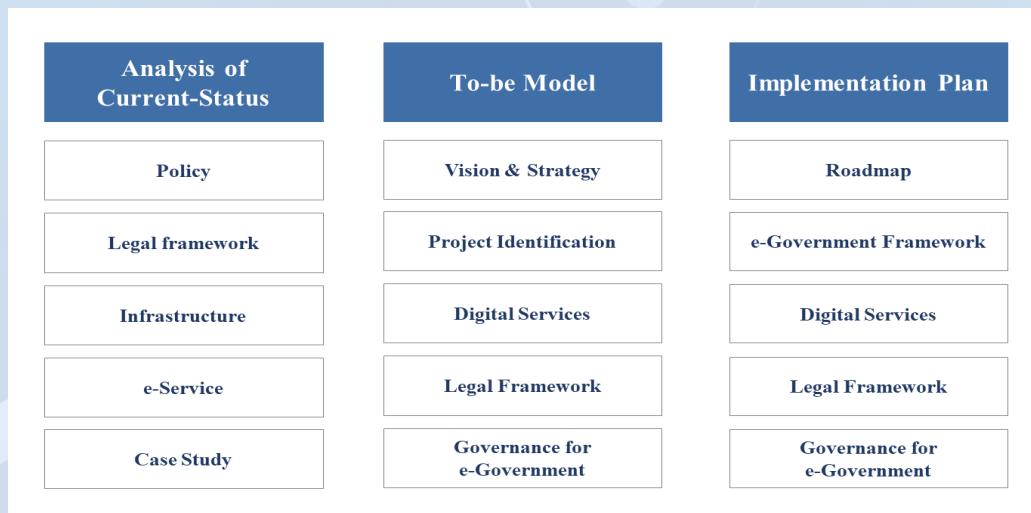
- Invitational training in Korea and promotional activities
 - Arrange a workshop to raise awareness and establish a vision
 - Invite officers for policy discussion and officers for practical training

2.6. Progress & Schedule

December 2015	Concluded the project contract with KITC
January 2016	Preliminary study for e-Government Master Plan
April 2016	Conducted a survey and interviews
October 2016	Analysis of Current-status for e-Government Master Plan
January 2017	Develop Strategic direction
February 2017	Developed e-Government implementation strategies
May 2017	Identified Candidate initiatives and conducted a feasibility study on Priority initiatives
May 2017	Select pilot project and formulate RFP
August 2017	Placed an order for a pilot project
October 2017	Prepared for the launching environment of the pilot project
November 2017	Selected a project contractor for the pilot project
December 2017	Launching ceremony for the pilot project
February 2018	Baseline survey for the pilot project
April 2018	Submit draft version of e-Government Master Plan
October 2018	Review & update e-Government Master Plan
March 2019	Check the progress of the pilot project
June 2019	Final report of the master plan
September 2019	Install/test/stabilize the systems of the pilot project
December 2019	Closing the project

3. Outline of e-Government Master Plan

E-Government Master Plan for Digital Bangladesh is to provide middle- to long-term strategies and implementation agendas for improving public services. The development of the master plan is executed in the following three stages - Analysis of Current-Status, Strategy, and Implementation Plan.



[Figure I.3-1] Outline of the report

- **Analysis of Current-Status**

- General Environment of Bangladesh
- ICT and e-Government Policies
- e-Government-related Legal Framework and Governance
- e-Government Infrastructure
- e-Government Services
- Case Study

- **To-be Model**

- Visions and Strategy
- Project Identification
- Digital Services
- Legal Framework and Governance for e-Government

- **Implementation Plan**

- Roadmap
- Digital Services
- Legal Framework and Governance for e-Government

Analysis of Current-Status



II. Analysis of Current-Status

1. Outline of Current-Status

1.1. Objective

The analysis of the current-status will help review the progress of the Bangladesh government's e-Government implementation effort and propose a future direction for implementation.

1.2. Scope

The scope of the project is (1) to discover the environment of Bangladesh for establishing e-Government in Bangladesh, (2) to analyze ICT related laws and policy, (3) to identify the governance structure of Bangladesh for e-Government related work, and (4) to determine the needs of Bangladesh by measuring current status of ICT infrastructure and Digital Services. Also, references in other countries such as Korea and India will be explored to find a future direction for e-Government implementation.

The status analysis will include the followings:

- **General Environment of Bangladesh**
 - The economic, demographics and ICT status of Bangladesh
- **ICT and e-Government Policies**
 - Bangladesh Vision 2021
 - Digital Bangladesh
 - National ICT Policy
 - Awami League's Manifesto 2018
- **e-Government-related Legal Framework and Governance**
 - e-Government-related Legal Framework
 - Governance of ICT Activities
- **e-Government Infrastructure**
 - Government Network
 - National Data Center (NDC)
 - Union Digital Center (UDC)
 - Bangladesh National Digital Architecture (BNDA)



- **e-Government Services**

- Shared Services
- Services by Agencies

- **Case Studies**

- Korean e-Government
- India e-Government

- **Interview & Survey**

- Findings from Interview
- Findings from Survey

- **Key findings**

- Key findings



Women are using digital technology for service delivery at workplace.

2. General Environment of Bangladesh

2.1. Overview of Bangladesh

Bangladesh is a country located in the South-East Asia. The country shares its borders with India and Myanmar (Burma). It is one of the most densely populated countries in the world (ranked 12th) - it has the world's 8th largest population of 163,882,000 and the total area of 147,570 km² (ranked 92nd). Its capital Dhaka is nearly 75% more dense than Hong Kong. The extremely overcrowded population even creates various issues such as traffic congestion and social safety issues.

Bangladesh is predominantly rich fertile land, meaning it is good, arable land, and also has many rivers. Over 90% of the country is 10 m or less above sea level. It also struggles with sea level rise, typhoon, cyclone, flooding and droughts every year. With an annual average temperature of around 28 Degree Celsius, the country is tropical and humid. But recently, its temperature dropped to 3.2 Degree Celsius due to climate change, causing cold-ailment related deaths.

After achieving independence from Pakistan in 1971, a parliamentary system was established. The Parliament of Bangladesh is a unicameral legislature consisting of 350 members elected for five-years term. The new government was launched with Prime Minister Sheikh Hasina's Awami League winning a landslide victory in the general election held on 30th December 2018.

2.2. Economy

Despite the global economic recession, Bangladesh continues to record a relatively high growth rate of around 7% and the number has been increasing since 2015-16. Its agriculture & manufacturing production and remittances from Bangladeshi working abroad are rising. Since the second half of 2015, the country's domestic demand as well as new investment has been growing. Bangladesh was ranked 99th in the Global Competitive Index announced by the World Economic Forum (WEF).¹

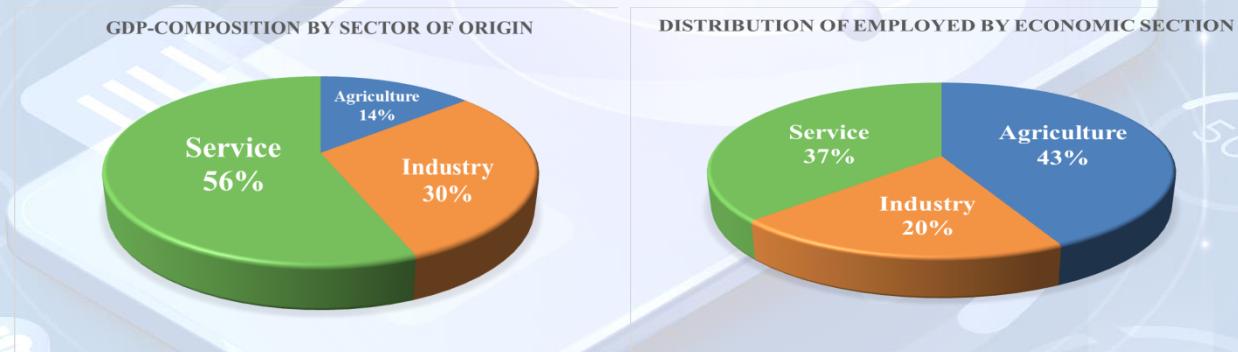
GDP	USD 172.9 bill (2013-14) / 195.2 bill (2014-15) / 221.4 bill (2015-16) / 249.7 bill (2016-17) / 274.19 (2017-18) (nominal, annual, BBS)
GDP Growth Rate	6.06% (2013-14) / 6.55% (2014-15) / 7.11% (2015-16) / 7.28% (2016-17) / 7.86% (2017-18)
Per Capita GDP	USD 1,110 (2013-14) / 1,236 (2014-15) / 1,385 (2015-16) / 1,544 (2016-17) / 1675 (2017-18) (nominal, BBS)
Unemployment Rate	4.18% (FY 2015-16), 4.2% (FY 2016-17)

¹ The Global Competitiveness Report 2017-2018

Inflation (CPI)	7.35% (2013-14) / 6.41% (2014-15) / 5.92% (2015-16) / 5.44% (2016-17) / 5.78% (2017-18)
Currency	Taka (TK), BDT
Exchange Rate	USD 1 = BDT 82.99 (April 2018) *floating exchange rate
Foreign Bond	USD 24.6 bill (2013, WORLD BANK)
Foreign Exchange Reserves	USD 32.4 bill (at the end of March 2018, Bangladesh Bank)
Industries (%)	Agriculture and forest/fisheries (13.82%), mining (1.83%), manufacturing (18.99%), electricity/water/gas (1.38%), construction and services (63.98%) (FY 2018 estimates, Bangladesh Bureau of Statistics)

[Table II.2-1] Bangladesh's major economic indicators²

According to the statistics by the Bangladesh Bureau of Statistics (BBS), in 2017-18, the tertiary (service) sector accounted for 56% of the country's GDP while the shares of the secondary (manufacturing) and primary (agriculture and fisheries) sectors were 30.17% and 13.82%, respectively. The BBS also reported in the Quarterly Labour Force Survey 2015-2016 that 43% of the employees in the country were active in the primary sector while 37% and 20% were involved in the tertiary and secondary sectors, respectively.

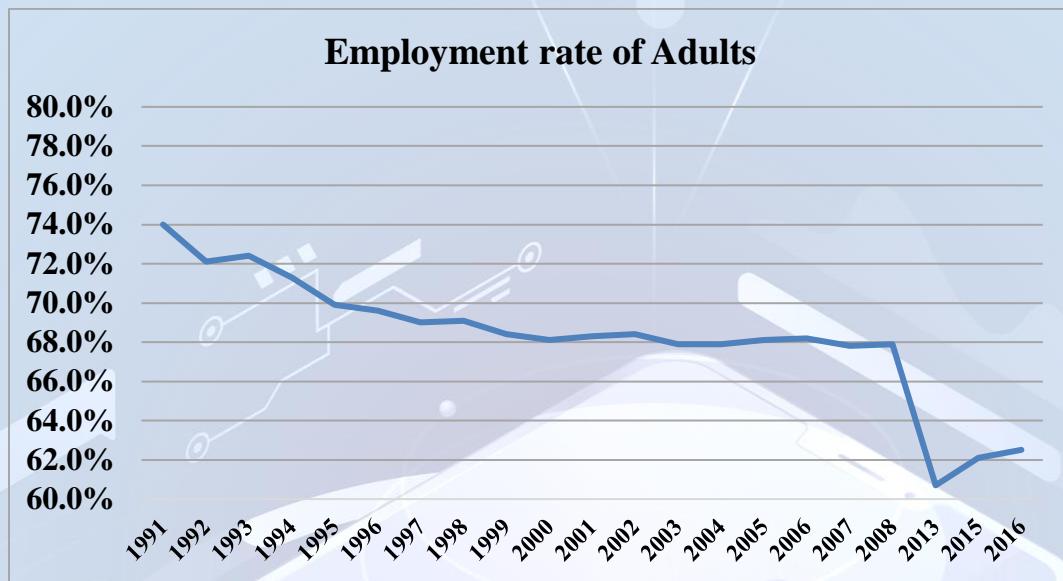


[Figure II.2-1] Economic sectors of Bangladesh³

² Report on the Bangladesh's Economy and Trade with Korea, KOTRA, January 2016

³ GDP of Bangladesh 2014-2015 (Base: 2005-06) (As on 20-02-2016), Quarterly Labour Force Survey 2015-2016

Around 40,000 to 50,000 Bangladeshi migrate to foreign countries for employment. Remittances contribute 8 to 9% of the GDP. The World Bank estimates that the country's unemployment at around 37.5%. The employment rate of those aged 15 and over has been on the decline since 1991, implying that creating more jobs and increasing employment is a pressing issue for the country.



[Figure II.2-2] Bangladesh's employment rate⁴

2.3. Demographics

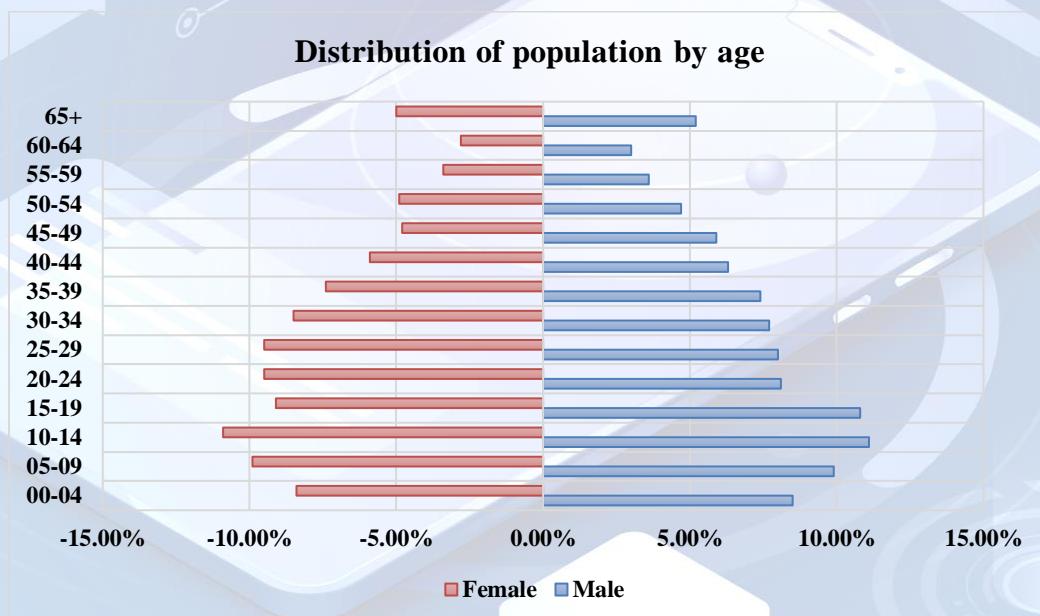
Bangladesh has a fairly young population with those aged 24 and younger heavily outnumbering the remaining age groups. Almost half of the population consists of infants, children, adolescents and youth (under age 24). 48% of the population is under age 24. 43.9% of the population is between age 25 to 59. Only 8% is over 60. The proportion of male and female are evenly divided. The largest proportion of the population is a group of age 10 to 14 (11%).

Age Group	Male	Female	Total
0 – 4	8.5 %	8.4 %	8.5 %
5 – 9	9.9 %	9.9 %	9.9 %
10 – 14	11.1 %	10.9 %	11.0 %
15 – 19	10.8 %	9.1 %	9.9 %

⁴ <http://www.worldbank.org/>

20 – 24	8.1 %	9.5 %	8.7 %
25 – 29	8.0 %	9.5 %	8.7 %
30 – 34	7.7 %	8.5 %	8.1 %
35 – 39	7.4 %	7.4 %	7.4 %
40 – 44	6.3 %	5.9 %	6.1 %
45 – 49	5.9 %	4.8 %	5.3 %
50 – 54	4.7 %	4.9 %	4.8 %
55 – 59	3.6 %	3.4 %	3.5 %
60 – 64	3.0 %	2.8 %	2.9 %
65+	5.2 %	5.0 %	5.1 %

[Table II.2-2] Distribution of population by age and sex SVRS 2017

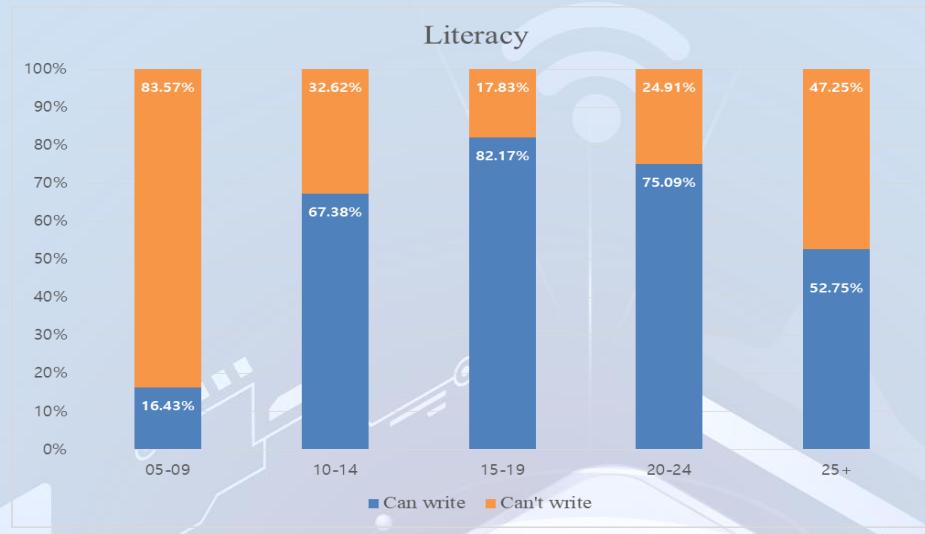


[Figure II.2-3] Distribution of Bangladeshi population⁵

The BBS found that the literacy rate of those aged 10 to 14 years was 67.38%. The country boasts the literacy rate of 82.17% for those aged 15 to 19 years and 75.09% for those aged 20 to 24 years, showing a high literacy rate for the school-age population except for infants and toddlers compared to other age groups.

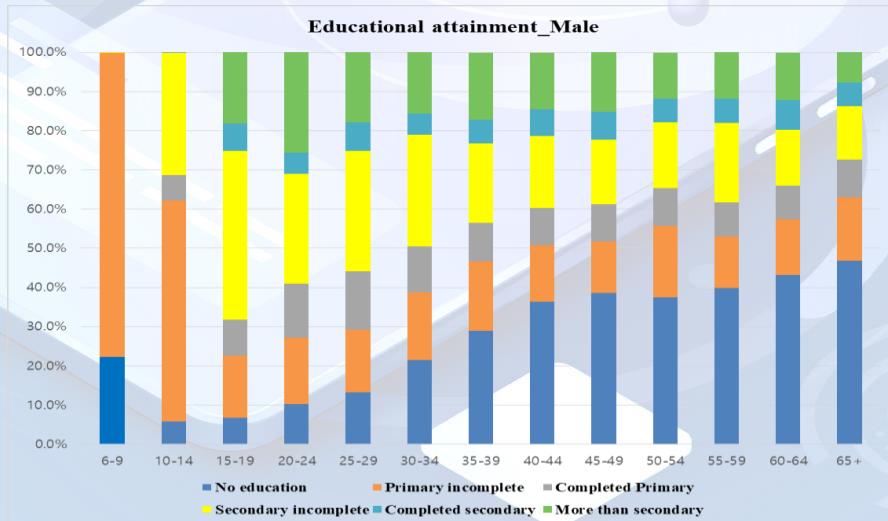
⁵ Data provided by Bangladesh Bureau of Statistics

But, the literacy rate of those aged 25 and over is relatively low - 52.75%.



[Figure II.2-4] Bangladesh's literacy rate⁶

The proportion with no schooling increased with age – just 10.2 % of the population aged between 20 and 24 had no education and the number jumps to 46.8% for the population aged over 65 and over.



[Figure II.2-5] Bangladesh's educational attainment⁷

⁶ Bangladesh Bureau of Statistics

⁷ Data provided by Bangladesh Bureau of Statistics

The education system includes 10 years of primary and secondary schools and two years of higher secondary school. All citizens must undertake five years of compulsory primary education. Although the enrolment rate reached 95% in 2000, pushing up the literacy rate, the dropout rate was still running high at 30%.

2.4. ICT

2.4.1. ICT Development Index (IDI)

Bangladesh ranked 147th among 176 countries in the ITU ICT Development Index (ITU IDI) 2017, maintaining a similar position as last year in the medium and low IDI groups.

Country	IDI 2017 Rank	IDI 2017 Value	IDI 2016 Rank	IDI 2016 Value
Sri Lanka	117/176	3.91	116/176	3.77
India	134/176	3.03	138/176	2.65
Bangladesh	147/176	2.53	146/176	2.37
Pakistan	148/176	2.42	148/176	2.21

[Table II.2-3] ICT Development Index 2017⁸

The penetration rate of fixed landline phones was a mere 0.5% in 2016 while the mobile industry boasted a penetration rate of 81.8%, 10% higher than Pakistan. But as of 2016, over 99% of the mobile service was based on 2G networks. The number of 3G service subscribers has been increasing since 2013. The government is in the process to award spectrum for mobile LTE with tech neutrality. Existing Broadband Wireless Access (BWA) or WiMAX operators BANGLALION, BIEL and QUBEE are in process to deploy LTE technology. The number of the population with Internet access increased from 14.4% in 2015 to 18.2% in 2016.

⁸ <http://www.itu.int/>

Country	Year 2016	Year 2015
Sri Lanka	11.4	15.2
India	1.9	2.0
Pakistan	1.6	1.9
Bangladesh	0.5	0.5

[Table II.2-4] Fixed telephone subscriptions per 100 inhabitants⁹

Country	Year 2016	Year 2015
Sri Lanka	118.5	110.6
India	87.0	78.1
Bangladesh	77.9	81.9
Pakistan	71.4	66.9

[Table II.2-5] Mobile-cellular subscription per 100 inhabitants¹⁰

Country	Year 2016	Year 2015
Sri Lanka	32.1	30.0
India	29.5	26.0
Bangladesh	18.2	14.4
Pakistan	15.5	14.0

[Table II.2-6] Percentage of individuals using the Internet¹¹

⁹ <http://www.itu.int/>

¹⁰ <http://www.itu.int/>

¹¹ <http://www.itu.int/>

2.4.2. UN E-Government Survey

To produce the UN e-Government survey, researchers of the United Nations Department of Economic and Social Affairs (DESA) visit websites of individual government agencies and comprehensively analyze their services. They assess 190 UN member states using three indexes – Online Service Index (OSI), Telecommunication Infrastructure Index (TSI), and Human Capital Index (HCI). The UN's assessment can help find Bangladesh a future direction for developing e-Government and understand the country's current development level while attracting nation-wide interest in e-Government.



The cover features the title "UNITED NATIONS E-GOVERNMENT SURVEY 2018" in large, bold, sans-serif font. Below it, a subtitle reads "GEARING E-GOVERNMENT TO SUPPORT TRANSFORMATION TOWARDS SUSTAINABLE AND RESILIENT SOCIETIES". A decorative graphic of colored segments (blue, red, yellow, green) is positioned at the bottom left. On the right side, vertical text reads "Economic & Social Affairs".

E-Government Development Index	E-Participation Index
<ul style="list-style-type: none"> - Online Service Index - Telecommunication Infrastructure Index - Human Capital Index 	<ul style="list-style-type: none"> - E-Information - E-Consultation - E-Decision Making

[Table II.2-7]The structure of the UN E-Government Survey

E-Government Development Index: Bangladesh ranked 115th out of 193 countries with its E-Government Development Index value of 0.4862, remaining in the medium and low score groups. It scored lower in TII than in OSI and HCI, requiring much improvement in the relevant sector.

- Online Service Index (OSI)
 - Evaluates the government's capacity of providing necessary services to its people,

- Focuses on the government's representative portal or official websites and conduct quantitative analysis based on the availability of certain relevant features on the sites
- Assesses each country's national portal and websites of the related ministries of health, education, social welfare, labor, and finance to see whether they provide relevant online services.
- Human Capital Index (HCI)
 - Assesses the general intelligence level of the public which can use e-Government to measure the public's acceptance of e-Government services, and
 - Is a weighted average composite of four indicators (adult literacy rate, the combined primary, secondary, and tertiary gross enrolment ratio, expected years of schooling, and average years of schooling).
- Telecommunication Infrastructure Index (TII)
 - Assesses the level of telecommunication-related infrastructure, a prerequisite for the deployment of e-Government, and
 - Is a weighted average composite of four indicators (i. estimated internet users per 100 inhabitants, ii. number of main fixed telephone line per 100 inhabitants, iii. number of wireless broadband internet subscriptions per 100 inhabitants, iv. number of fixed broadband subscriptions per 100 habitants).

Country	OSI	HCI	TII
Sri Lanka	0.6667	0.7451	0.3136
India	0.9514	0.5484	0.2009
Bangladesh	0.7847	0.4763	0.1976
Pakistan	0.5486	0.3682	0.1529

[Table II.2-8] UN e-Government Survey 2018

Country	Year 2018	Year 2016	Year 2014
Sri Lanka	94/193	79/193	74/193
India	96/193	107/193	118/193
Bangladesh	115/193	124/193	148/193
Pakistan	148/193	159/193	158/193

[Table II.2-9] E-Government Development Index (EGDI)¹²

¹² UN E-Government Survey 2018, 2016, 2014

E-Participation Index (EPI): Although it received higher scores in the e-participation index than in the E-Government Development Index, Bangladesh primarily use online websites to provide information. The use of online services to encourage citizens' deliberation on public policies and engagement in decision-making processes is not active yet, meaning that the Bangladesh government needs to make necessary preparations in these areas.

※ The EPI is a quantitative assessment based on the availability of relevant services and information on government websites that promote citizen engagement in designing policies. Each country's service level of three components - e-information, e-consultation and e-decision making – is measured using a five-point scale to calculate a total of standardized scores on the three dimensions.

- E-Information
 - Providing citizens with easy access to information on government websites.
- E-Consultation
 - Using government websites as a platform to promote the direct communication between the government and citizens and providing relevant features on the sites
- E-Decision Making
 - Engaging citizens in the process of deciding policies on the websites

Country	2018	2016	2014
India	15/193	27/193	40/193
Sri Lanka	16/193	50/193	33/193
Bangladesh	51/193	84/193	84/193
Pakistan	115/193	114/193	97/193

[Table II.2-10] E-Participation Index¹³

¹³ UN E-Government Survey 2018, 2016, 2014

3. ICT and e-Government Policies

3.1. Bangladesh Vision 2021

The present Prime Minister of Bangladesh announced Bangladesh Vision 2021 in December 2008 to facilitate a participatory democracy, have an efficient, transparent system of governance, and become a middle-income country by 2021, the 50th anniversary of the country's independence. The vision includes eight inter-linked goals and 85 activities and standards for achieving the goals.

- To become a participatory democracy
- To have an efficient, accountable, transparent and decentralized system of governance
- To become a poverty-free middle-income country
- To have a nation of healthy citizens
- To develop a skilled and creative human resource
- To become a globally integrated regional economic and commercial hub
- To be environmentally sustainable
- To be a more inclusive and equitable society

3.2. Digital Bangladesh

As a strategic direction to achieve Bangladesh Vision 2021, the Bangladesh Awami League announced Digital Bangladesh before the 2008 general elections, emphasizing the importance of ICT-based development as a core element for establishing foundation for a knowledge-based society

Digital Bangladesh is a political pledge to use modern technology to impact every aspect of public and personal lives. The transformative vision proposes the use of ICT to reduce poverty and develop human resources. It also emphasizes that ICT is essential to overcome economic, cultural and social issues the country is experiencing. It outlines the following four key priorities for achieving Digital Bangladesh.

-
- Digital Government
ICT in Business
Connecting Citizens
Human Resource Development
-

Human resource development and connecting citizens form a foundation to implement a digital government composed of e-public services and e-administration and introduce ICT in businesses, which will enable better access to markets through the use of ICT, promotion of ICT business, and ICT export expansion.

The digital government aspires to leverage ICT to provide affordable, transparent public services to the poor and the underprivileged. Main target areas are **agriculture, education, administration of land and water resources, social safety nets, disaster management, environmental changes, law enforcement and local governments**.

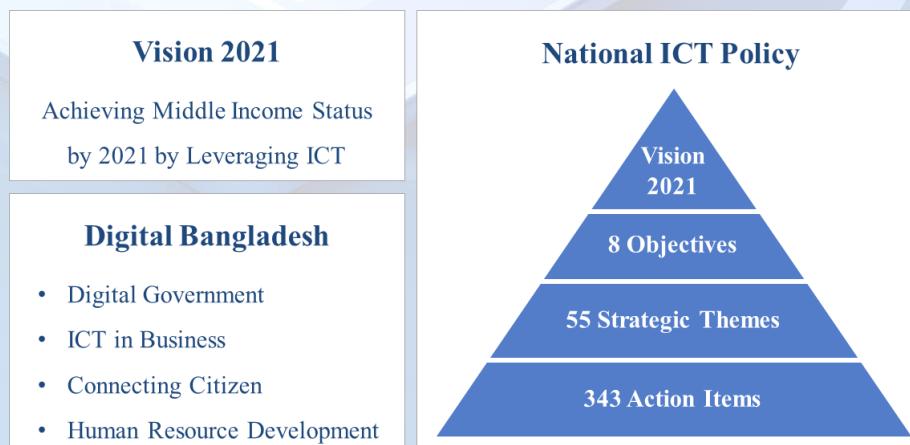
3.3. National ICT Policy

The Bangladesh government developed the National ICT Policy in 2009 and amended in 2015 & 2018 to realize Digital Bangladesh by 2021.

The Bangladesh government defined a single vision, 8 objectives, 55 strategic themes and 343 action items in the National ICT Policy 2018. The progress of the action plans should be checked at least once a year while strategic themes should be reviewed every three years along with strategic objectives. The entire policy should be reviewed every six years.

The National ICT Policy was formulated based on the Article 19 of the Constitution of the People's Republic of Bangladesh. The constitution clearly states that ICT is the best mean to ensure equality of opportunity to all citizens, remove social and economic inequality between men and women, and ensure the equitable distribution of wealth among citizens, and of opportunities in order to attain a uniform level of economic development throughout the Republic.

The government amended the National ICT Policy and adopted National ICT Policy 2018 after examining the progress and reviewing the sixth five-year plan.



[Figure II.3-1] Vision & National ICT Policy 2018



The Vision of the National ICT Policy is “Expand and diversify the use of ICTs to establish a transparent, responsive and accountable government; develop skilled human resources; enhance social equity; ensure cost-effective delivery of citizen-services through public-private partnerships; and support the national goal of becoming a middle-income country within 2021 and join the ranks of the developed countries of the world within thirty years”.

The structure of National ICT Policy 2018 is as a hierarchical pyramid with a single vision, 8 objectives, 55 strategic themes. Individual strategic themes have action items which are either middle-term or long-term.



The government has emphasised on utilizing ICT as a tool for development and sustainability.

National ICT Policy – 2018 (8 Objectives & 55 Themes)



[Figure II.3-2] National ICT Policy 2018 – 8 Objectives

Digital Government: Ensuring Government services to citizen's doorstep through use of ICT in all government activities and developing technical & effective information management system.

Digital Security: Use of secured & threat free use of ICT in all sectors

Social Equity and Universal Access: Establishing Social Equity in all spheres of the society and ensuring Universal Access in all Government information stream

Education, Research and Innovation: Effective application of ICT in Education and Research to create a knowledge-based society and Promoting & Providing incentives to innovative initiatives

Skill Development and Employment Generation: Building Skilled ICT manpower through training and creating employment opportunity

Strengthening Domestic Capability: Establishing local IT industry and increasing capability of providing IT Services and Creating Business friendly IT business environment to attract investors

Environment, Climate & Disaster Management: Providing emphasis on Green/ECO Technology, proper management of electronic waste & use of ICT in climate change & disaster management

Enhancing Productivity: Using ICT in Agriculture, Health, Roads & Highway, Industry and Financial sectors to increase productivity and facilitating digital entrepreneurship



3.4. Awami league manifesto 2018

Awami league rolled out their manifesto for the national election 2018. Party chief and Prime Minister, Sheikh Hasina, read out the 21-point polls manifesto. The party has picked ‘Bangladesh at the forefront of prosperity’ as the slogan in their manifesto.



The Delta Plan, Blue-economy, youth empowerment and zero tolerance against corruption are the key issues that the Awami league has given importance in their manifest.

-
- 01 **My Village, My Town**
Expansion of modern city facilities to every village of the country.
 - 02 **Strength of youth, Property of Bangladesh**
Transforming the youth into skilled manpower and ensuring employment.
 - 03 **Zero tolerance policy for corruption**
 - 04 **Women empowerment, parity between sexes and children**
 - 05 **Nutritious and safe food security**
 - 06 **Abolishing terrorism, communalism, terrorism and drugs**
 - 07 **Speedy implementation of mega projects ensuring optimum standard**
 - 08 **Strengthening democracy and rule of law**
 - 09 **Poverty eradication**
-

-
- 10 **Increasing the quality of education at all levels**
 - 11 **Quality Health Care coverage for all**
 - 12 **Broader use of digital technology for overall**
 - 13 **Ensuring electricity and energy security**
 - 14 **Modern agricultural system-incorporating automation**
 - 15 **Efficient and service-focused public administration**
 - 16 **People-friendly law enforcement agencies**
 - 17 **Blue Economy-Development of sea resources**
 - 18 **Ensuring safer roads**
 - 19 **Welfare for elderly, disabled and autism**
 - 20 **Prosperous Bangladesh with sustainable and inclusive development**
 - 21 **Increasing public and private investment**
-

[Table II.3-1] Awami league manifesto 2018

ICT related manifesto is 12th manifesto, “Broader use of digital technology for overall”. Through development of e-Government in Bangladesh, direct expected outcome will be “Efficient and service-focused public administration”. “Speedy implementation of mega projects” can be achieved as e-Government is adopted with optimum standard and improvement of efficient project management process using ICT. Multiple manifesto can be reach as successful since e-Government implemented:

“My Village, My Town”, “Strength of youth, Prosperity of Bangladesh”, “Zero tolerance policy for corruption”, “Women empowerment, parity between sexes and children”, “Nutritious and safe food security”, “Increasing the quality of education at all levels”, “Quality Health Care coverage for all”, “Ensuring electricity and energy security”, “Modern agricultural system-incorporating automation”, “People-friendly law enforcement agencies”, “Ensuring safer roads”, “Prosperous Bangladesh with sustainable and inclusive development” and “Increasing public and private investment”.

4. e-Government-related Legal Frameworks and Governance

4.1. e-Government-related Legal Frameworks

4.1.1. Overview

Major ICT/e-Government-related laws of Bangladesh are as follows.

Category		Law
Foundation for Information Society		<ul style="list-style-type: none"> Information & Communication Technology Act, 2009
Information Service Promotion	e-Government (Administration)	<ul style="list-style-type: none"> Right to Information Act, 2009
	Promotion for informatization environment	<ul style="list-style-type: none"> Bangladesh High-tech Park Authority Act BCC Act, 1990
Adverse Effect Protection		<ul style="list-style-type: none"> Information & Communication Technology Act, 2009 Telecommunication Act, 2001 Digital Security Act, 2018
ICT Industry Development		<ul style="list-style-type: none"> Information & Communication Technology Act, 2009 Telecommunication Act, 2001

[Table II.4-1] Bangladesh's laws in ICT and e-Government

Important e-Government-related laws are the Information & Communication Technology Act and the Right to Information Act. Recognizing the necessity of legal frameworks for cyber security and e-Government, Bangladesh has been pursuing the enactment of e-Government Service Act and Digital Security Act. But the proposed laws are either thrown out or pending.

4.1.2. Information and Communication Technology (ICT) Act

The ICT Act regulates the security of digital signatures and electronic records and defines related responsibilities. It contains provisions related to the legal authority of an electronically issued certificate, related responsibilities and penalties to be imposed when the law is violated.

ICT Act was enacted in 2006 based on the United Nations Commission on International Trade Law, Singapore's Electronic Transaction Act, and the Indian Information Technology Act.

In 2009, section 18 was complimented and amended to define the roles and responsibilities of the Controller of Certifying Authority.

The law provides a legal basis for digital signatures and electronic documents, which serve as a starting point of electronic transactions. It also stipulates penalties for violations related to the certification of digital signatures and electronic documents.

4.1.3. Right to Information Act

Enacted in 2009, the Right to Information Act deals with laws related to information disclosure. The Act provides standards of information disclosure to the citizens of Bangladesh in order to enhance the transparency and accountability in public administration.

The law defines the organizational structure and roles of the Information Commission which develops and monitors policies for disclosing information to the public. The Commission also handles pleas and complaints.

The Right to Information Act is supported by the Information Commission and the local Selection Committee. Policies related to information disclosure will be decided by the Information Commission. The Chief Information Commissioner may exercise powers of a civil court.

The Selection Committee consists of five members with a judge acting as the chairman. The presence of a minimum of three members will constitute a quorum for its meetings. As it is funded by the government, the committee needs to submit an annual budget for the next year at the end of the year.

One Responsible Officer must be nominated within 60 days from the notification of the Act by each authority. In case a request for information is received by a Responsible Officer, a decision about whether to disclose the information or not should be made within 30 working days from the date of application.

4.1.4. Digital Security Act (2018)

While drawing up the ICT (Amendment) Bill in 2013, the name of the law was changed to the Digital Security Act. The Bill was passed in the parliament, 19th September 2018. The bill includes provisions regarding defamation and human rights violations using electronic media.

Digital Security Agency: The Digital Security Agency will be established to prevent cybercrimes using computers and digital devices. The head office of the Director General will be located in Dhaka and branch offices can be set up in any place of the country. One or more digital forensic labs will be set up under the control of the Director General. The Director General of the agency should be an officer of 2nd grade or higher.

National Digital Security Council: A National Digital Security Council will be formed to be headed by the prime minister to discuss digital security issues.

**Offences and Penalties:**

- If anyone commits any offences against essential information infrastructure, he or she will be punished by imprisonment for a minimum of two years and a maximum of 10 years and a fine not exceeding 10 lac Taka.
- If anyone commits any forgery or fraudulence using a computer, he or she will be sentenced to imprisonment for a minimum period of one year up to a maximum of five years and a fine not exceeding three lac Taka.
- If anyone commits cyber terrorist activities, he or she will be punished by imprisonment for a minimum of two years and a maximum of 14 years and a fine not less than one crore Taka. If the chief of the company commits such offences, he or she will be punished by the same imprisonment and a fine not exceeding three crore taka.
- If anyone commits any pornography and child pornography offences, he or she will be sentenced to imprisonment for not more than two years and a fine not exceeding two lac Taka and imprisonment for not more than five years and a fine, respectively.

Investigation and Search: The draft also defines the police officer with authority to investigate into offences, the period of investigation, the expansion of the investigation period, and reporting procedures. It also specifies the access and observation rights of an investigator, the procedure of warrant application, seizure without warrant, and the confidentiality of the information found in the investigation.

International and regional assistance: In question of the international and regional assistance, all provisions of the Mutual Assistance Act (Act 01 of Law No.4) will be applicable. The government can formulate rules by the gazette notification and additionally in the electronic gazette notification.



4.2. Governance of ICT Activities

Led by the Prime Minister, Bangladesh's ICT activities are being promoted under the cooperation of multiple government agencies with a goal of realizing the impact of Digital Bangladesh.

All relevant agencies are required to include their informatization plans in the Annual Performance Agreement reports and submit them to Cabinet Division. The Ministry of Planning and the Ministry of Finance work together to make business and budget plans. The Cabinet Division reports the Annual Performance Agreement reports and budget plans of individual agencies to the Prime Minister. The Ministry of Local Government, Rural Development and Cooperatives is in charge of managing administrative policies and businesses of local governments. The Ministry of Public Administration oversees public administrative policies and human resources. The ministry is also in charge of standardizing administrative work and streamlining business processes.

Cabinet Division, ICT Division including a2i Programme, an informatization initiative of the Prime Minister's Office, lead ICT activities.

Cabinet Division functions as a coordinator maintaining a good working relationship among organizations when a project requires cooperation of multiple agencies. As a coordinator organization, Cabinet Division is involved in many Digital Service projects.

The ICT Division is an organization under the Ministry of Posts, Telecommunications and Information Technology. The ICT Division is indeed one of the major agencies contributing to the establishment of e-Government. It runs the Leveraging ICT for Growth, Employment and Governance project¹⁴¹⁵ supported by the World Bank Fund and formation of the e-Government Master Plan for Digital Bangladesh project, funded by grants from KOICA. BCC also operated and maintained the BanglaGovNet¹⁶. The development program was jointly implemented by BCC and the Export-Import Bank of Korea (KO-EXIM Bank) and was funded by loans from KO-EXIM Bank.

a2i (sub-organization of ICT division)¹⁷ has found many business opportunities to improve public services and introduced them to relevant agencies to carry out the Digital Service business in cooperation with them.

Since individual ministries and agencies run ICT activities independently and, in most cases, they don't share related information with each other, they often have similar businesses or make similar mistakes

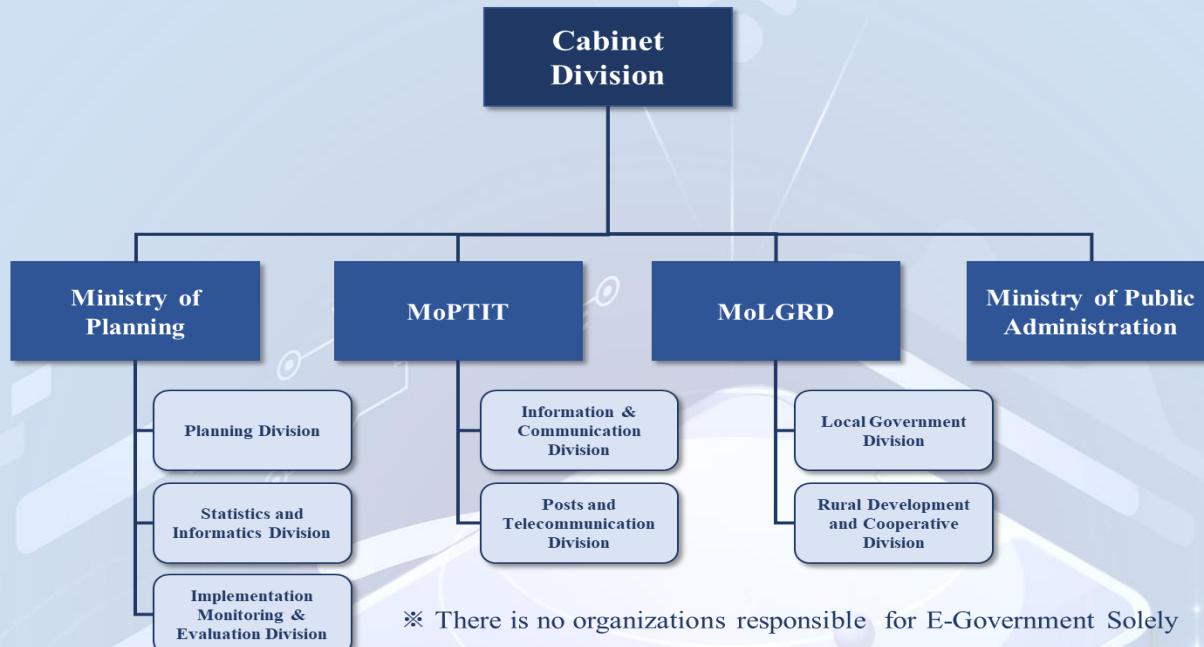
¹⁴ <http://www.bcc.gov.bd/site/page/fa24498f-60e3-4f4d-bff8-d65521572c65/LEVERAGING-ICT>

¹⁵ The project aims to develop strategies and initiatives to boost the IT /ITES industries.

¹⁶ <https://bgnp.wordpress.com/>

¹⁷ <https://a2i.gov.bd/>

repeatedly. To utilize limited resources efficiently and develop systematic Digital Services, a team exclusively responsible for e-Government implementation is required. But there is no organization that is officially designated to play such a role.



[Figure II.4-1] E-Government related Government organizations

4.2.1. Cabinet Division

The Cabinet Division is responsible for Bangladesh's administration and facilitates the work of ministries and government agencies. Its main roles are as follows:¹⁸

- Secretarial work for the Cabinet and its Committees
- Custody of papers and documents of the Cabinet and Committees and their decisions
- Review of progress and implementation of Cabinet and Committee decisions
- Remuneration and Privileges of the President, Prime Minister and other Ministers
- Immunity of the President
- Administration of Oath of the President and Resignation of the President
- Rules of Business and Allocation of Business among the Ministries and Divisions
- Toshakhana

¹⁸ <https://cabinet.gov.bd/>

- Flag Rules, National Anthem Rules and National Emblem Rules
- Observance of National Mourning Day on the 15th August
- Appointment and resignation of the Prime Minister, Ministers, Ministers of State and Deputy Ministers and administration of their Oath
- Common services relating to the Prime Minister, Ministers, Ministers of State and Deputy Ministers excluding T.A. and D.A.
- All matters relating to Anti-Corruption Commission
- Declaration of War
- Secretaries Committee and Sub-Committees
- General administration in Upazila (Sub-District), Districts and Divisions
- Warrant of Precedence
- Monitoring of Criminal Justice
- Nomination for International Awards
- National Implementation Committee for Administrative Reforms/Reorganization (NICAR)
- Administration including financial matters of this Division
- Administration and supervision of subordinate offices and organizations under this Division
- Liaison with International Organizations and matters relating to treaties and agreements with other countries and world bodies relating to subjects allotted to this Division
- All laws on subjects allotted to this Division
- Inquires and statistics on any of the subject allotted to this Division
- Fees in respect of any of the subjects allotted to this Division except Fees taken in courts
- National Awards and Award giving ceremonies
- Inter-Ministerial Co-ordination

4.2.2. Ministry of Planning

The Ministry of Planning formulates middle- to long-term national development strategies, reviews budget plans, and manages public projects. Its main functions by division are as follows:

Planning Division:¹⁹

- Coordinates development activities of individual ministries, divisions and agencies,
- Oversees economic policies related to multiple ministries and agencies,
- Acts as a coordinator when it comes to the management and development of energy resources at the national level,
- Publishes guidelines for national/regional development projects,
- Coordinates investments by industry, personal investments, and other related matters,

¹⁹ <https://plandiv.gov.bd/>

- Cooperates with foreign and international organizations on matters related to the operations of the Planning Division,
- Reviews budget plans of individual ministries and agencies, and
- Manages the Bangladesh Development Research Institute (BIDS), the Social Science Research Council (SSRC) and National Academy for Planning & Development (NAPD)

Implementation Monitoring and Evaluation Division:²⁰

- Collects and analyzes the information on the results of projects and programs from relevant organizations to monitor and assess their profitability and development outcomes,
- Analyzes the project performance of different ministries and agencies and provides the findings to the Executive Committee of the National Economic Council, and
- Provides the analysis results of a project whose objectives were not met to the relevant ministries and organizations.

Statistics and Informatics Division:²¹

- Proposes drafts of statistics law, guidelines, and enforcement decrees,
- Conducts agricultural and economic censuses and provides, processes, analyzes, and distributes demographics and environmental statistics,
- Examines, processes, analyzes, distributes economic, pricing and trade indices,
- Develops and distributes statistical standards and survey methods,
- Builds a national information assessment system, a data bank, and an electronic data processing system in accordance with relevant international standards and provides statistical data upon the user's request,
- Maintains and manages the National Population Register while managing and enhancing the networks dedicated to statistical data to facilitate a statistical survey,
- Increases the capabilities of the survey team and conducts joint research programs,
- Launch international exchange programs to promote the standardization of statistics and nurture experts in statistics, and
- Deploys and operates the Geographical Information System (GIS).

²⁰ <https://imed.gov.bd/>

²¹ <https://sid.gov.bd/>

4.2.3. Ministry of Local Government, Rural Development and Co-operatives²²²

- Deals with administrative work related to local governments and agencies,
- Secures, regulates, and audits budgets of local governments and agencies,
- Manages the Local Government Engineering Department (LGED), the Department of Public Health Engineering (DPHE), the Water Supply and Sewerage Authorities (WASA) and the National Institute of Local Government (NILG),
- Manages water resources,
- Supplies agricultural water, oversees sanitary control, and develops a sewage system,
- Maintains and manages local roads, bridges and drains,
- Manages distribution in growth centers and other markets,
- Manages the development of small-scale water resources by local governments,
- Controls the Community police force,
- Supervises burial, burial sites, cremation and crematoriums,
- Manages service stops of local organizations,
- Manages parks and arboretums of local governments,
- Manages the finance of local governments, and
- Conducts statistical surveys of local governments

4.2.4. Ministry of Public Administration²⁴

- Regulates public services and services and establishes policies,
- Manages personnel matters (hiring public servants and managing welfare benefits),
- Develops capabilities of public servants,
- Interprets rules, regulations and orders related to public services,
- Develops policies on employing non-residents in public services and hiring of foreigners by Bangladeshi companies,
- Formulates policies on the categorization and disclosure of services,
- Manages the Personnel Management Information System,
- Oversees all employment matters related to public services,
- Nominates public servant candidates for expert/consultant positions of national/international projects,
- Nominates public servants for positions of the UN system and the country's representative agencies,

²² <https://lgd.gov.bd/>

²³ <http://www.lged.gov.bd/>

²⁴ <https://mopa.gov.bd/>

- Studies administrative management for improvement,
- Reviews the organizational chart and organs of public agencies,
- Examines the roles and procedures of public organizations,
- Simplifies public service application forms,
- Manages welfare benefits of public servants,
- Develops policies on the disciplinary actions on public servants, procedures of investigation, search, appeal, and retrial,
- Draws up policies on the use and purchase of consumables for the execution of public services and distributes consumables to individual ministries and agencies,
- Decides the working hours of public servants and develops policies on reporting on a holiday,
- Manages welfare and insurance funds for public servants,
- Provides official certification of fixed phones, wired phones, internet connection, faxes of the central and local governments,
- In charge of pensions and other severance packages for public servants,
- Establishes test rules for different ministries and agencies, and
- Develops policies on domestic and overseas training for public servants

4.2.5. Information & Communication Technology Division

The ICT Division provides better access to government services using ICT resources, deploys and manages the IT Innovation Centre, develops an information security system, and strengthens the ICT capabilities of public servants. The ICT Division has four Directorates.

Organization	Description
Bangladesh Computer Council (BCC)	<ul style="list-style-type: none"> • ICT related Capacity Building • Technical Support on ICT activities • BNDA management • Operating National Data Center • Formulation e-Government Master Plan • ICT industry development • Development of ICT infrastructure for Digital Governance
Controller of Certifying Authorities (CCA)	<ul style="list-style-type: none"> • Establish Information Security • Manage Digital Signature Authentication • Monitor Information Security
Bangladesh Hi-Tech Park Authority (BHTPA)	<ul style="list-style-type: none"> • Establish and manage IT parks • Establish and manage Hi-Tech Park • Establish and manage IT training center

<p>Directorate of Information & Communication Technology</p>	<ul style="list-style-type: none"> • R&D on computer education for education institutions • Empower women education using ICT technology
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[Table II.4-2] Functions of Information & Communication Technology Division

The BCC under the ICT Division carries out the Leveraging ICT for Growth, Employment and Governance (LICT) project with the World Bank's support and the e-Government Master Plan for Digital Bangladesh funded by grants from KOICA.

4.2.6. a2i (Access to Information) Programme

a2i is an informatization program, firstly started under Prime Minister's Office, and now run by Information & Communication Technology Division as part of an endeavor to realize Digital Bangladesh 2021. The program was launched in 2007 with support from UNDP and USAID and aims to improve governance and public services and reduce inefficiencies in their delivery in terms of TCV – time, cost, and number of visits associated with obtaining government services.

The project entered in Phase 2 in 2012. While Phase 1 focused on simply turning existing offline public services to online ones, the second phase was designed to develop expanded Digital Services with higher transparency and accountability, increase efficiency in service delivery by connecting related services, improve services by nurturing capabilities of public service providers, and conduct activities for facilitating the innovation of service delivery.

a2i is involved in multiple Digital Service development projects as it finds and even plans projects to innovate public services of all ministries and agencies. Its activities can be categorized into five areas - e-Governance, Innovation Lab, Innovation Culture, Data 2 Policy, and South-South Cooperation.

Major Area	Description
e-Governance	<ul style="list-style-type: none"> • Service Process Simplification: Simplify administrative work • Less-Paper Office: Paperless administration • Government Services Portal: Build Digital Service portal • Land Information Services: Deliver land information service • Government Forms Portal: Deploy a portal for government forms
Innovation Lab	<ul style="list-style-type: none"> • Innovation Fund: Nurture start-ups for technological innovation • Youth Innovation: Encourage innovation among youth • Skills for Employment: Skills training for employment • Digital Agriculture Lab: Increase the production of knowledge-based agriculture • Disability Innovation Lab: Service innovation for the disabled

Innovation Culture	<ul style="list-style-type: none"> Innovation Journey: Improve the level of public services by engaging citizens in the innovation process Innovation Pilots: Encourage citizens to experiment with ideas for improving the quality of public service and turn good ideas into pilot projects TCV (Time, Cost, Visits): Innovate public services to reduce costs Innovation Summits & Fairs: Showcase and celebrate successful case studies of innovations Social Media in Public Service: Use social media for public services
Data 2 Policy	<ul style="list-style-type: none"> SDG Tracker: Monitor Bangladesh's progress towards attainment of SDGs through a web-based information repository Policy Reform: Reform policies to improve the lives of citizens Development Monitoring: Systematic project management Open Data: Ensure the availability and access to reusable data on the web
South-South Cooperation	<ul style="list-style-type: none"> Foster cooperation among countries of the global South by sharing innovations for improving public services

[Table II.4-3] a2i-Major Area

Most central Digital Services that are available now are developed by a2i and later handed over to relevant ministries or agencies. Such systems or services include Grievance Redress System, Government Project Management System, Nothi, Web Mail, e-Application, Birth and Death Registration, Inheritance Calculator, Online Police Clearance, Apply online for MRP, NID system, BKKB Scholarship Application, Accessible Dictionary, and the Bangladesh National Portal.

a2i started the Digital Service Accelerator Programme with the Cabinet Division in 2017. It aims to develop roadmaps for Digital Service requirements and identifies challenges of respective agencies for the improvement of Bangladesh' Digital Services, ultimately implementing e-Government for Bangladesh.



5. e-Government Infrastructure

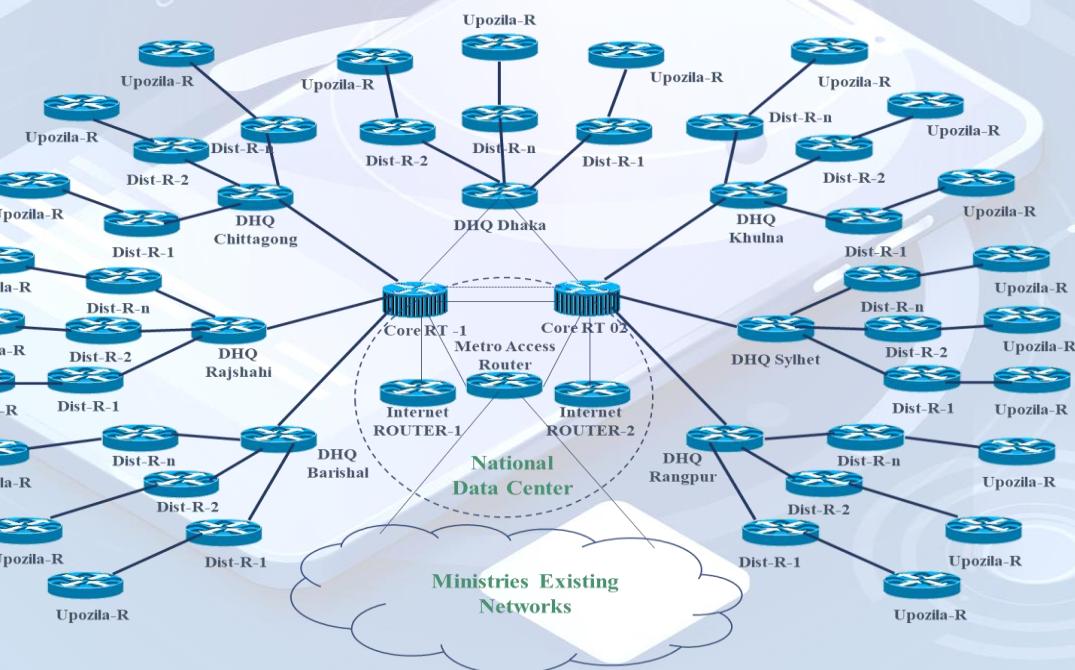
5.1. Government Network

Type of Service: Common Service²⁵

The Bangladesh government deployed its communications network in two stages and has entered the third stage for expansion.

Phase I - BanglaGovNet Project (Apr. 2010 – Jun. 2014)

Phase I - The BanglaGovNet project aimed to build a public network backbone connecting all government organizations. The project was supported by the Economic Development Cooperation Fund (EDCF) of KO-EXIM Bank. The project started in April 2010 and ended in June 2014. It connected the National Data Center with 43 ministries. Also, 128 organizations, 64 districts and one upazila under each of 64 districts were connected with the backbone network.

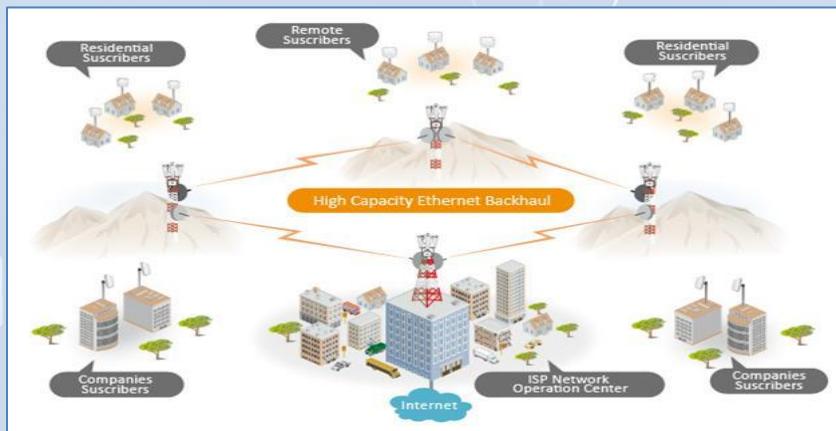


[Figure II.5-1] BanglaGovNet Project

²⁵ Common service: A service which functions as a root for providing other services

Phase II - InfoSarker Project (Jul. 2011 – Jun. 2016)

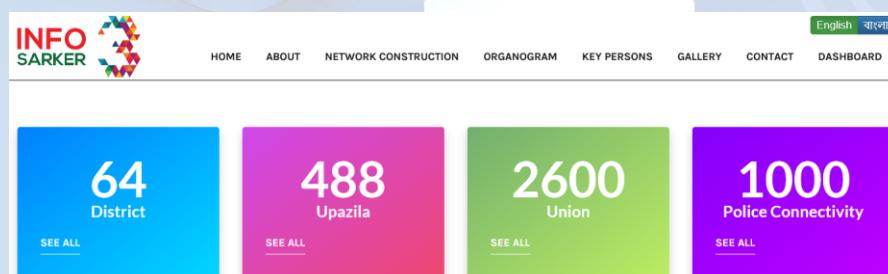
Phase II - Financed by the preferential concessional loan of the Chinese government, the InfoSarker project increased the network capacity of the National Data Center. The network was established between the 64 districts that were connected to the backbone network during Phase 1 and 488 upazilas. Also, 800 video conferencing systems and a disaster recovery center were deployed. A training center for developing ICT capabilities was established at BCC.



[Figure II.5-2] InfoSarker Project

Phase III - InfoSarker Extended

InfoSarker – Phase3 is an extension of government ICT network to the lowest tier to administration (for example, Union from existing network up to Upazila (sub-district) through InfoSarker – Phase2 and BanglaGovNet (InfoSarker – Phase 1). This project is to provide Internet access to 2600 Union Parishad, 488 Upazila Parishad and 1000 police connectivity under 64 districts in all over the country. According to Secretary of ICT Division, Zueña Aziz, necessary equipment has been installed in 2,300 unions and about 9,500 km optical fiber cable lines have been set up to establish broadband internet connectivity. Some 2,600 unions are expected to come under high-speed internet connectivity (90% of work completed, December 2018).



[Figure II.5-3] Government organizations connected by the InfoSarker Project

5.2. National Data Center (NDC)

Type of Service: Common Service

National Data Center 1

Deployed in 2009, the National Data Center (NDC) was upgraded to become a Tier-3 facility through its first expansion in 2015. 90% of the public websites and about 40,000 mail accounts are hosted on the NDC. The data center maximizes the utilization of ICT resources with server virtualization and provides backup and file server services. Also, the NDC has a service catalogue from which organizations can choose a service they want.

National Data Center 2

A new National Data Center is being built in Kaliakair Hi-Tech Park, Dhaka Division, 50 km north-northwest of capital Dhaka. The construction is scheduled to be completed in June 2018. The second data center was funded by the Chinese government. It satisfies Tier 4 requirements in service capacity and is fully redundant in terms of and network and power supply. The second NDC will serve as a backup of the first National Data Center after the construction.

Disaster Recovery Data Center

The Disaster Recovery Data Center is built in Jashore, Khulna Division, 300 km southwest of Dhaka for secure recovery of public data.

5.3. Union Digital Center (UDC)²⁶

Type of Service: Common Service

Access To Information (A2I) programme took initiatives to establish Union Information Service Center (UISC) in 2009 which is renamed as Union Digital Center (UDC) in 2014. Establishing ICT based center at every union (the lowest tier of local government) of the country is one of the best practice of e-Government related project in Bangladesh.

Bangladesh with area of 141,770 square km and 154 million populations is a rural based country. More than 80% of people live in rural area and many villagers still live without electricity. Union Digital Center was established by Ministry of Local Government, Rural Development and Cooperatives with A2I

²⁶ Source: The Effectiveness of Union Digital Center (UDC) in Bangladesh (Maushumi Habib)

programme to provide services at the citizen's door step. The main focus of the center is to provide necessary ICT support to the rural people.

The center is established under Public Private People's Partnership (PPP) modality and hosted by concerned Union Parishad under the supervision of Central Administration. The Union Parishad provides space (commonly one room attached or within the Union Parishad Building) and utility (electricity bill) for the center. Local Government Division coordinates with Cabinet Division and Bangladesh Computer Council to establish the basic ICT setup including computers, laptops, printers, multimedia projector, digital camera, webcam and solar panel. The entrepreneurs are free to install additional facilities to support business growth, at the same time, ensuring that the social sustainability of the center is achieved by delivering government information and services.

Entrepreneurs of the Centre

The center is operated by two local entrepreneurs (one is male and the other is female) who are self-employed and motivated. They do not receive any remuneration from the government. There are some guidelines of appointing entrepreneurs from the deputy commissioner's office regarding adequate computer skills. They invest financially in the center and get proper profit share as per the contract made between the respective union parishad and entrepreneurs.



Management of UDC

7-9 members represent as managing committee of the UDC. The Chairman of concerned union parishad is the chairman of this committee. The duration of this committee is about 2 years. One-third of the members of the committee would be female. The role of the committee is as following:

- i. Selecting local entrepreneurs
- ii. Buying equipment of UDC
- iii. Selecting rate of charges for additional services provided by UDC
- iv. Assisting the entrepreneurs for maintaining services
- v. Holding meetings regularly for reviewing the activities of UDC
- vi. Strengthening the motivational activities among the rural community people for taking the services provided by the UDC

Current Status of UDC

According to Bangladesh Bureau of Statistics (BBS, 2014), the number of UDC operated is 4,492 whereas the aim number is 4,533. The rest 41 UDCs are closed and not functioning. A total of 3.91 million citizens are directly receiving information and services from UDC. UDCs reported to generate about BDT 4.65 million (over half a million dollars, USD 545,337) on a monthly basis (BBS, 2014).

5.4. Bangladesh National Digital Architecture

Type of Service: Common Service

The Bangladesh National Digital Architecture (BNDA) is one of the sub-projects of the Leveraging ICT for Growth, Employment and Governance Project. The objectives of this program include developing strategies for providing systematic Digital Services, cutting related development costs, and improving service quality by streamlining work processes. BNDA is developed based on the TOGAF Standard, a standard of The Open Group.

BNDA consists of the following components:

- Deploying a national enterprise architecture portal and data storage,
- Building a shared network for national Digital Services and achieving data standardization,
- Implementing a public service platform, and
- Developing a governance system for the national enterprise architecture

The BNDA is a strategic planning tool to turn visions and strategies related to government administration and service provision into reality using the “whole-of-government” approach and deliver effective, sustainable, comprehensive services.

When running projects after switching to e-Government with the national enterprise architecture, the Bangladeshi government will pursue the followings under the common system adopting the components of the BNDA, based on the principle of standardization and simplification.

- Improving governance
- Cooperation and collaboration
- Optimizing costs
- Standardization
- Reusability

- Mature information systems
- Comprehensive development

The architecture areas of the BNDA include business, data, application, interoperability, mobility, technology and security.

The Bangladesh government aims to achieve the following goals by adopting the national enterprise architecture.

- Utilize ICT under the vision of Digital Bangladesh to reduce TCV (time, costs, number of visits),
- Implement an interface that enables citizens to use government services intuitively,
- Deploy a common platform for government services that will be available in future,
- Share data centers, networks, service platforms, and the infrastructure of the National Enterprise Service Bus,
- Define common, acceptable standards and specifications to reduce procurement time and improve ICT quality,
- Increase the maturity of government agencies from an architectural perspective,
- Leverage and nurture skilled architecture experts to improve the quality of architecture designs, and
- Provide a long-term, sustainable roadmap for the holistic implementation of Digital Services across all branches of the government when pursuing the informatization of individual government agencies.

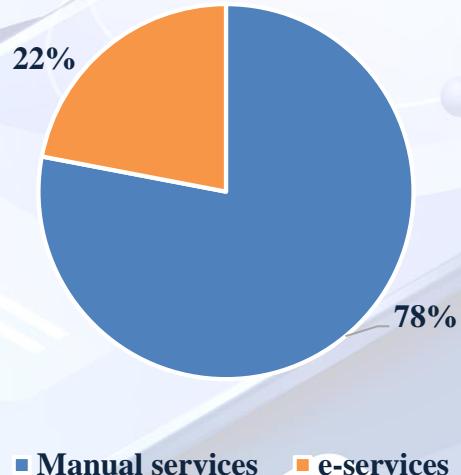


6. Current-Status of e-Services

6.1. Overview

Bangladesh's e-Government services can be categorized into G2G for inter-government operations and G2C and G2B for citizens and companies to examine services offered by government organization.

The Digital Service Accelerator Programme, a joint effort by a2i and the Cabinet Division, surveyed 53 ministries and divisions and 394 agencies to find 2,726 public services. Among them, 2,129 services are manual services and 597 services are Digital Services.²⁷ In other words, about 22% of the public services are available online while 78% is provided offline. Most online public services are based on simple information retrieval.²⁸



[Figure II.6-1] The share of Digital Service (Digital Service Accelerator programme)

Bangladesh's national portal²⁹ offers 587 e-services and 71 mobile services. There are 23 categories for e-services and 5 for the categories of mobile services. The project team assessed 587 e-services as an ordinary

²⁷ Digital Service Accelerator Program Presentation

²⁸ Source: Presentation material named "Digital Service Implementation, Co-ordination & Closing Ceremony", 9th October 2018

²⁹ <https://bangladesh.gov.bd/index.php>

citizen user and identified whether the services are accessible or not. Among 587 e-Services, 467 e-Services are on service³⁰.

Pruning identical services, there are 365 e-Services available. Multiple organization uses identical services which we call shared service such as e-GP, e-File Management (e-filing system, Nothi), Personnel Data Sheet, Bangladesh Education Boards, PMIS, eForm and iVAS. 42 services are simply providing information or links of PDF and radio channel. 307 e-Services are for citizen/business services and 50 e-Services are for government administration. 8 e-services are shared by multiple organizations. Following table shows the number of e-Services in each category.

Category	Num.	Category	Num.
Admission	28	Online Application	100
Agriculture	21	Online Registration	22
Ask Your Question	9	Passport, Visa, and Immigration	7
Digital Center	1	Postal and Courier	3
Directory	20	Radio, TV news	7
Education	29	Recruitment	12
Exam Results	8	Ticket Booking and Purchase	11
Finance and Trade	34	Training	10
Fisheries and Livestock	5	Treasury Invoice	1
Forms	3	Utility bills	11
Health Services	9	Vehicle Services	8
Income Tax	7	Total	365

[Table II.6-1] The breakdown of e-Services available on Bangladesh's national portal

³⁰ 109 e-Services are not accessible. 2019.02.25

6.2. Analysis of Shared Services

Shared service is a service being used by multiple organization. Nothi, GRS, e-GP, PMIS are used by two or more government organizations. Shared services are provided to improve integrated services handled by multiple government organizations. Most shared services require inter-operability with other e-services.

6.2.1. Nothi

- Implementing Body: The Cabinet Division
- Nothi is an e-filing system to expedite the delivery of public services and deal with civil affairs and complaints faster, providing better public services to the public.
- The introduction of the system has allowed citizens to submit complaints and applications online at home, check the procedure and progress, and communicate with the government electronically, significantly cutting time and costs.
- Also, citizens can check the procedure and progress of an administrative service in real time, increasing transparency and accountability of public services.
- Documents stating legal obligations related to the operation of Nothi include the Secretariat Instruction-2014, Perspective Plan 2010-2021, and the Cabinet Division's gazettes published on May 8, 2016 and on October 4, 2016, and the Annual Performance Agreement (APA) 2017.



[Figure II.6-2] Nothi – Legal Obligation³¹

³¹ Nothi - a2i documents July 19 2017

- Nothi consists of the Applicable Upazila to Ministry for connecting central and local governments, the Digital Guard File, a file security component, Unique User ID, Official Seal, Soft Signature & Digital Signature. Its mobile app supports both Android and iOS.
- Its main features include Multiple Searching Option, SMS & e-mail Notification, Single sign-on, Multi-role access, Citizen's Corner as well as Combined view of Note and Potro, Note Writing/Highlighting, Flagging, Reference Linking, Guard file Linking, Attachment Linking, Flow of Nothi, Searching of Nothi & note, Turning page, Thumbnail of pages.

6.2.2. Grievance Redress System (GRS)

- Implementing Body: The Cabinet Division

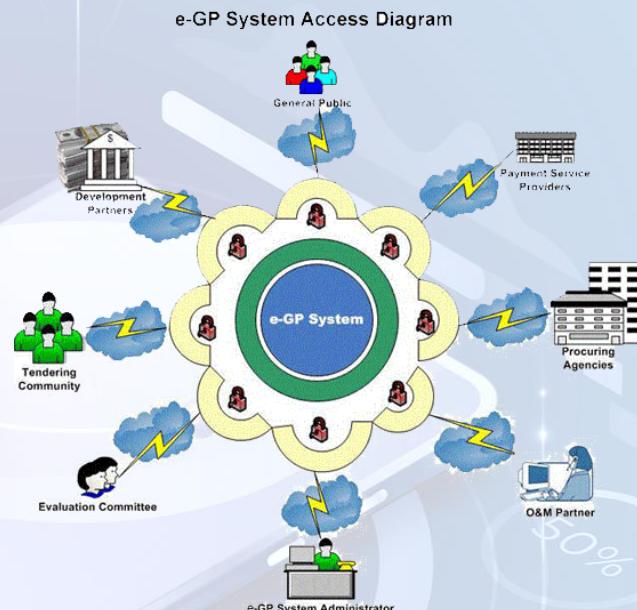
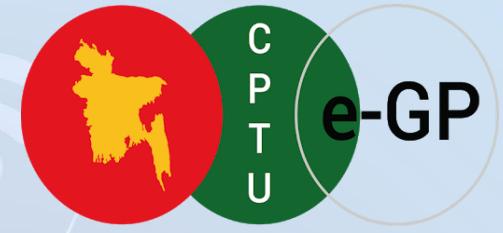
The Grievance Redress System was developed to increase the accountability and transparency of public services. It is an institutionalized and organized method consisting of specified roles, rules, and procedures for systematically resolving complaints, grievances, disputes, or conflicts and provides an effective avenue for expressing concerns and achieving remedies for the public.

- The system also reduces the inefficiency of public service delivery, effectively addresses public concerns, and promotes a mutually constructive relationship. It also encourages citizens' engagement in public services and prevents any retaliations or threats for such engagement.
- The Grievance Redress System has a three-tier redressal mechanism. Grievances will be first responded or redressed by a GRS focal point. If no resolution or understanding is reached, they will be forwarded to one or more relevant organizations which will endeavor to address them in cooperation with the focal point. Lastly, grievances or complaints can be handled by a third-party organization. In other words, the GRS focal point will respond to and settle a grievance if possible. When cooperation among multiple agencies is required for resolution, the grievance will be forwarded to all relevant organizations for joint problem solving. When a third-party decision making is required, the grievance will be forwarded to a superior authority of the GRS focal point. When the cooperation with another ministry/agency or transfer of the grievance is required, the Cabinet Division will send it to relevant ministries or agencies.



6.2.3. e-Government Procurement(e-GP)

- Implementing Body: The Central Procurement Technical Unit - IMED
- The e-GP, Bangladesh's government procurement system, was deployed to facilitate transparent, accountable government procurement. It enables online procurement, simplifies procurement applications, reduces the number of visits to related agencies and costs associated with procurement application.
- The Web-based system manages the entire lifecycle of government procurement and records all procurement activities. It provides equal information to all potential bidders in Bangladesh and abroad and announces its latest procurement activities of all public organizations to the public in an efficient manner. After the successful completion of the pilot operation, the system began to be expanded to other agencies in 2011.
- The Central Procurement Unit of IMED under the Ministry of Planning also promoted the simplification of procurement processes when expanding the e-GP system across the country, delivering a faster, more efficient procurement system.
- The e-GP system was implemented and has been operated based on the rationale provide by the Public Procurement Act 2006 and the Public Procurement Rules 2008. It includes the following components:
 - Centralized Registration
 - Workflow Management System
 - e-Tendering (e-Publishing/e-Advertisement, e-Lodgement, e-Evaluation, e-Contract award)
 - e-Contract Management System (e-CMS)
 - e-Payments
 - Procurement Management Information System (PROMIS)
 - System and Security Administration
 - Handling Errors and Exceptions
 - Application Usability & Help



6.2.4. Personnel Management Information System (PMIS)

- Implementing Body: The Ministry of Public Administration
- The Personnel Management Information System is a system to manage Bangladesh's public servants and officials. Its main features include the Personnel Dashboard for notifications, the Personnel Information for retrieving and updating personnel records, Add Transfer History for registering personnel information, Transfer Information for searching for registered personnel information, Edit User Profile, and Change Password.

6.2.5. iBAS++

- Implementing Body: The Ministry of Finance
- iBAS++ is a computer-based finance management system. Its adoption expedited the nation's finance reporting process. The existing iBAS was not integrated and ran two distinct systems, one for budget and the other for accounting and were missing essential documents and data. The budget and accounting systems were hosted on different main servers in different physical locations and ran separate programs.
- Budget and accounting systems of individual ministries and agencies were not integrated with the central accounting system, forcing users to manually compare the budget data of the ministry/agency and transaction data entered by the central system. iBAS++ addressed the above issues by integrating budget and accounting systems and connecting the finance systems of local governments and ministries/agencies with the central system.

6.2.6. Annual Performance Agreement Management System (APAMS)

- Implementing Body: The Cabinet Division
- The Annual Performance Agreement Management System manages project plans and performance of individual ministries/agencies on a yearly basis. The Annual Performance Agreement report contains the ministry's strategic objectives and plans for the year and performance indicators.

6.2.7. National Disaster Management Information System (NDMIS)

- Implementing Body: The Ministry of Disaster Management and Relief
- On 29th April 1991, a devastating cyclone hit Chittagong, Cox's Bazar, Barisal, Noakhali, Patuakhali, Barguna and Khulna along with tidal bore of 5-8-meter-high with wind speed of 240 km/hour killing 150,000 people. After the devastated cyclone, the Bangladesh government announced the National Plan for Disaster Management 2010-2015 in 2010 and enacted the National Disaster Management Act 2012 in 2012. The National Disaster Management Information

System (NDMIS) is made of the following components:

- The Global Integrated Observing System: collects data from 17 satellites, hundreds of ocean buoys, thousands of aircrafts and ships and nearly 10,000 land-based stations
- The Global Telecommunication System: A dedicated network of surface and satellite-based telecommunication links and centers
- The Global Data Processing and Forecasting System: A network of nearly 50 global and regional specialized meteorological centers
- Cyclone shelter database information
- Early warning through mobile broadcasting

6.2.8. Bangladesh e-Government Computer Incident Response Team (BGD e-Gov CIRT)

- Operator: Bangladesh Computer Council (the entity which carried out the project)
- The BGD e-Gov CIRT was established to control cyber security incidents in Bangladesh's e-Government network and related infrastructure. The team monitors the network for events that may affect the security of the National Data Center (NDC) or services deployed in the NDC facilities, to prevent disruptions and security incidents and coordinate incident responses.
- Websites of around 200 government agencies are currently hosted in the NDC. Major e-Government applications such as the National E-Service System, Online Birth and Death Registration, Online Services of Department of Printing and Publications are also hosted in the NDC. The NDC also provides e-mail services to around 60 government agencies.
- The BGD e-GOV CIRT monitors and responds to security events of all Bangladesh governmental institutions which use the NDC infrastructure to host their IT resources and services. It is expected that once the capabilities of the BGD e-GOV CIRT matures, the mandate of the BGD e-Gov CIRT will be extended to the de facto National CIRT.
- Furthermore, it is expected that the successful deployment of e-Gov CIRT will play an active role in building national cyber defense capabilities. It will organize national awareness campaigns and cyber security resilience initiatives, cooperate with national and international organizations.

6.3. Analysis of e-Services

There are 365 services identified as available e-services. E-Services are discriminated by 23 categories: ‘Admission, Agriculture’, ‘Ask Your Question’, ‘Digital Center’, ‘Directory’, ‘Education’, ‘Exam Results’, ‘Finance and Trade’, ‘Fisheries and Livestock’, ‘Forms’, ‘Health Services’, ‘Income Tax’, ‘Online Application’, ‘Online Registration’, ‘Passport’, ‘Visa and Immigration’, ‘Postal and Courier’, ‘Radio, TV news’, ‘Recruitment’, ‘Ticket Booking and Purchase’, ‘Training’, ‘Treasury Invoice’, ‘Utility bills’ and ‘Vehicle Services’.

In this chapter we analyzed e-services by discriminating type of service and the service operation body. Also, we analyzed the tendency of services in each category. The followings are the result of the analysis of e-Services by each category.

6.3.1. Admission

There are 36 e-Services identified as Admission category. Among 36 e-Services, 28 e-Services are available. All services are citizen-centric or business-centric services. Majority of e-Services in Admission category are related to enrollment of University.

There are numerous e-services that covers similar functions which are admission related services. For potential users who may be students, it is better to have central information portal that provides all the admission related information and links to each university’s e-service. Followings are e-Services which are categorized as ‘Admission’.

- **Medical admission**
 - Type of Service: G2C / G2B
 - Operating Body: Directorate General of Health Services
- **Admission Process**
 - Type of Service: G2C / G2B
 - Operating Body: University of Dhaka
- **Bangabandhu Sheikh Mujibur Rahman Agricultural University**
 - Type of Service: G2C / G2B
 - Operating Body: Bangabandhu Sheikh Mujibur Rahman Agricultural University
- **Bangabandhu Sheikh Mujibur Rahman Maritime University**
 - Type of Service: G2C / G2B

- Operating Body: Bangabandhu Sheikh Mujibur Rahman Maritime University

- **Bangladesh Open University**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Open University

- **Bangladesh Textile University**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Textile University

- **Bangladesh University of Engineering**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh University of Engineering

- **Barisal University**
 - Type of Service: G2C / G2B
 - Operating Body: Barisal University

- **Begum Rokeya University**
 - Type of Service: G2C / G2B
 - Operating Body: Begum Rokeya University

- **Chittagong Veterinary and Animal Sciences University**
 - Type of Service: G2C / G2B
 - Operating Body: Chittagong Veterinary and Animal Sciences University

- **Comilla University**
 - Type of Service: G2C / G2B
 - Operating Body: Comilla University

- **Dhaka University of Engineering and Technology**
 - Type of Service: G2C / G2B
 - Operating Body: Dhaka University of Engineering and Technology

- **Islamic Arabic Universities**

- Type of Service: G2C / G2B
- Operating Body: Islamic Arabic Universities

- **Jagannath University**

- Type of Service: G2C / G2B
- Operating Body: Jagannath University

- **Jahangirnagar University**

- Type of Service: G2C / G2B
- Operating Body: Jahangirnagar University

- **Jessore Science and Technology University**

- Type of Service: G2C / G2B
- Operating Body: Jessore Science and Technology University

- **Maulana Bhashani University of Science and Technology**

- Type of Service: G2C / G2B
- Operating Body: Maulana Bhashani University of Science and Technology

- **National poet Kazi Nazrul Islam University**

- Type of Service: G2C / G2B
- Operating Body: National poet Kazi Nazrul Islam University

- **Noakhali Science and Technology University**

- Type of Service: G2C / G2B
- Operating Body: Noakhali Science and Technology University

- **Online admission (Institute of Cost and Management Accountants)**

- Type of Service: G2C / G2B
- Operating Body: Institute of Cost and Management Accountants

- **Online admission programs (National Maritime Institute)**

- Type of Service: G2C / G2B

- Operating Body: National Maritime Institute

- **Patuakhali Science and Technology University**
 - Type of Service: G2C / G2B
 - Operating Body: Patuakhali Science and Technology University

- **Rajshahi University of Engineering and Technology**
 - Type of Service: G2C / G2B
 - Operating Body: Rajshahi University of Engineering and Technology

- **Rangamati Science and Technology University**
 - Type of Service: G2C / G2B
 - Operating Body: Rangamati Science and Technology University

- **Shahjalal University of Science and Technology**
 - Type of Service: G2C / G2B
 - Operating Body: Shahjalal University of Science and Technology

- **Sher-e-Bangla Agricultural University**
 - Type of Service: G2C / G2B
 - Operating Body: Sher-e-Bangla Agricultural University

- **Sylhet Agricultural University**
 - Type of Service: G2C / G2B
 - Operating Body: Sylhet Agricultural University

- **University of Chittagong Engineering and Technology**
 - Type of Service: G2C / G2B
 - Operating Body: University of Chittagong Engineering and Technology

6.3.2. Agriculture

The number of e-services that are categorized as ‘Agriculture’ is 21. Most e-Services except two are citizen-centric or business-centric services. Three of the e-services are simple information providing web sites. ‘Personnel Data Sheet’ is excluded due to its type of service is shared service.

Numerous e-services are agriculture related services. It will be efficient to have agriculture information portal that integrate all the agriculture related e-service in single system. Below describes the e-services in ‘Agriculture’.

- **Agricultural Research Management Information System**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Agricultural Research Council

- **Climate Information Management System**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Agricultural Research Council

- **BARC Archive**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Agriculture Research Council

- **Bangladesh Rice Knowledge Bank**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Rice Research Institute

- **Agriculture Call Center**

- Type of Service: G2C / G2B
- Operating Body: Agriculture Information Service

- **Agriculture Information Service**

- Type of Service: G2C / G2B
- Operating Body: Agriculture Information Service

- **Weather information (BINA)**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Institute of Nuclear Agriculture

- **E-marketing (Department of Agricultural Marketing)**

- Type of Service: G2C / G2B
- Operating Body: Agriculture Marketing Department

- **Crop Suitability and Zoning**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Agricultural Research Council

- **Land Resource Information Management System**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Agricultural Research Council

- **Agriculture Technology Database**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Agriculture Research Council

- **National Information Sharing Mechanism on GPA Implementation**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Agriculture Research Council

- **BMI calculator**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Applied Nutrition Research and Training Institute

- **Agricultural ventilation**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Agriculture

- **Establishment of Hybrid Registration Trial**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Agriculture

- **Online Fertilizer Recommendation System**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Agriculture

- **Online Seed Test Result**
 - Type of Service: G2C / G2B

- Operating Body: Ministry of Agriculture

 - **Fertilizer recommendation guide**
 - Type of Service: G2C / G2B
 - Operating Body: Soil Resource Development Institute

 - **Labor Management**
 - Type of Service: G2G
 - Operating Body: Bangladesh Agricultural Research Institute
- 6.3.3. Ask Your Question**
- There are 9 e-services in the category, ‘Ask Your Question’. All services are for citizen-centric or business-centric services. ‘Complaints Management System’ is a simple link which is connected to google form. Grievance Redress System as a shared service can be categorized as ‘Ask Your Question’. Most e-services has similar purpose and they are implemented as different system.
- **Complaints Management System**
 - Type of Service: G2C / G2B
 - Operating Body: National Human Rights Commission Bangladesh

 - **Online Complain (Bureau of Manpower, Employment and Training)**
 - Type of Service: G2C / G2B
 - Operating Body: Bureau of Manpower Employment and Training

 - **Ask Your Finance Minister**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Commerce

 - **Online Complain (Ministry of Expatriates' Welfare and Overseas Employment)**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Expatriates Welfare & Overseas Employment

 - **Complaints (Ministry of Labor and Employment)**
 - Type of Service: G2C / G2B

- Operating Body: Ministry of Labour and Employment

- **Service Opportunity Opinion (Ministry of Science and Technology)**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Science and Technology

- **Online Complaints Facility (National Museum of Science and Technology)**
 - Type of Service: G2C / G2B
 - Operating Body: National Museum Of Science and Technology

- **Complaints and suggestions**
 - Type of Service: G2C / G2B
 - Operating Body: Wage Earners' Welfare Board

6.3.4. Digital Center

There is an e-service, ‘All services in one address for the entrepreneur’. The type of the e-Service is G2C / G2B. It is operated by Eksheba.

- **All services in one address for the entrepreneur**
 - Type of Service: G2C / G2B
 - Operating Body: Eksheba

6.3.5. Directory

19 of e-services are classified as ‘Directory’. All services are citizen-centric or business-centric. ‘Bengali Dictionary’ is a simple downloadable link. There are digital library services, e-book and information providing services in this category. All e-services are citizen-centric or business-centric services.

- **Bengali Dictionary**
 - Type of Service: G2C / G2B
 - Operating Body: ICT Division

- **e-Publication (Bangladesh Development Research Institute)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Institute of Development Studies

- **Bari Digital Library**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Agricultural Research Institute Library
-

- **Publishing Database**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Atomic Energy Commission
-

- **Digitization of BBS Publication**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bureau of Statistics
-

- **Interactive Digital Madrasah Textbooks**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Madrasa Education Board
-

- **BANSDOC E-Book**

- Type of Service: G2C / G2B
 - Operating Body: Biotechnology National Information Cell
-

- **Innovation of Young Scientists and Science Club**

- Type of Service: G2C / G2B
 - Operating Body: Biotechnology National Information Cell
-

- **Online Books and Journals Search**

- Type of Service: G2C / G2B
 - Operating Body: Biotechnology National Information Cell
-

- **Public Opinion Survey (Department of Narcotics Control)**

- Type of Service: G2C / G2B
 - Operating Body: Department of Narcotics Control
-

- **Nikosh Converter**

- Type of Service: G2C / G2B

- Operating Body: Department of Public Libraries

- **Public Library Portal**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Public Libraries

- **Book Cataloging System**
 - Type of Service: G2C / G2B
 - Operating Body: Land Administration Training Center

- **Law of Bangladesh**
 - Type of Service: G2C / G2B
 - Operating Body: Legislative and Parliamentary Affairs, Department of Law, Justice and Parliamentary Affairs

- **Online library (food related)**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Food

- **Al Quran: Digital**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Religious affairs

- **E-Library**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Women and Children Affairs

- **Banglapedia**
 - Type of Service: G2C / G2B
 - Operating Body: National Encyclopedia of Bangladesh

- **e-Library (Public Works Department)**
 - Type of Service: G2C / G2B
 - Operating Body: Public Works Department

6.3.6. Education

There are 29 e-services in the category, ‘Education’. 23 out of 29 e-services are citizen-centric or business-centric services. 5 e-services are for government administration. ‘Bangladesh Education Boards’ is a shared service. There are three services that are simply providing information. (Website of Bangladesh National Museum, Website of Directorate of Primary Education, Website of Road Transport and Highways Division)

- **Board of Intermediate and Secondary Education, Comilla**
 - Type of Service: G2C / G2B
 - Operating Body: Board of Intermediate and Secondary Education, Comilla
- **National Curriculum and Textbook Board**
 - Type of Service: G2C / G2B
 - Operating Body: National Curriculum and Textbook Board
- **Website of Bangladesh National Museum**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh National Museum
- **Website of Directorate of Primary Education**
 - Type of Service: G2C / G2B
 - Operating Body: Directorate of Primary Education
- **Website of Road Transport and Highways Division**
 - Type of Service: G2C / G2B
 - Operating Body: Road Transport and Highway Division
- **e-learning systems**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Atomic Energy Regulatory Authority
- **EiIn Application**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bureau of Educational Information & Statistics

- **Online ITEE Examination Registration Fees**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh IT Engineers Examination Center

- **BD schoolshala**

- Type of Service: G2C / G2B
- Operating Body: BD Pathshala

- **Online HSC Practical Mark Entry Form**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate & Secondary Education, Dinajpur

- **Electronic Student Information Form**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate & Secondary Education, Rajshahi

- **Online Examination Attendance**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate & Secondary Education, Rajshahi

- **e-TIF**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate and Secondary Education, Comilla

- **Website of Board of Intermediate and Secondary Education, Dinajpur**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate and Secondary Education, Dinajpur

- **Digital content of primary textbooks**

- Type of Service: G2C / G2B
- Operating Body: Department of Information and Communication

- **Online Application Form**

- Type of Service: G2C / G2B

- Operating Body: Directorate of Primary Education

- **Institute of Chartered Accountants of Bangladesh**
 - Type of Service: G2C / G2B
 - Operating Body: Institute of Chartered Accountants of Bangladesh

- **Teachers.gov.bd**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Education

- **Al-Quran**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Religious Affairs

- **Books distributed**
 - Type of Service: G2C / G2B
 - Operating Body: National Curriculum and Textbook Board

- **eBooks**
 - Type of Service: G2C / G2B
 - Operating Body: National Curriculum and Textbook Board

- **National Maritime Institute**
 - Type of Service: G2C / G2B
 - Operating Body: National Maritime Institute

- **Office of the Registrar of Joint Stock Companies and Firms**
 - Type of Service: G2C / G2B
 - Operating Body: Office of the Registrar of Joint Stock Companies and Firms

- **ERP**
 - Type of Service: G2G
 - Operating Body: Secondary and Higher Secondary Education Board, Dhaka

- **NASBCC**
 - Type of Service: G2G
 - Operating Body: Bangladesh Computer Council

- **Personnel Data Sheet for government high school teachers (Directorate of Jute)**
 - Type of Service: G2G
 - Operating Body: Department of Jute, Ministry of Textiles & Jute

- **Directorate of Primary Education Accounting System**
 - Type of Service: G2G
 - Operating Body: Directorate of Primary Education

- **Prime Minister's Education Assistance Trust**
 - Type of Service: G2G
 - Operating Body: Prime Minister's Education Assistance Trust

6.3.7. Exam Results

8 e-Services are categorized as ‘Exam Results’. All e-services are citizen-centric or business-centric services. The services are providing information of test results.

It is better to have a central information providing portal related to education so that users do not have to navigate each service for each query. Admission, application of course, viewing curriculum and checking exam results needs to be integrated into single education portal.

- **BUET Exam Results**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh University of Engineering and Technology (BUET)

- **DU Exam Results**
 - Type of Service: G2C / G2B
 - Operating Body: Dhaka University

- **Medical examination results**
 - Type of Service: G2C / G2B

- Operating Body: Directorate General of Health Services, Ministry of Health and Family Welfare

- **Education Board Web-based Result System For Institutions**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Education

- **HSC, Alim and equivalent exam results**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Education, Intermediate and Secondary Education Boards Bangladesh

- **Result of Public Exam, Technical and Madrasa Education Department**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Education, Intermediate and Secondary Education Boards Bangladesh

- **SSC, Dakhil and Equivalent Exam Results**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Education, Intermediate and Secondary Education Boards Bangladesh

6.3.8. Finance and Trade

There are 34 e-services related to finance and trade. Most e-Services are G2C or G2B. ‘Online forex transaction monitoring system’ is G2G. There is e-GP as shared service in the category. There are e-services for providing information of goods for trading. Some e-services are related to investment. There are bank related e-services.

-
- **Website of Bangladesh Investment Development Authority (BIDA)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Investment Development Authority (BIDA)

 - **Website of Bangladesh Small and Cottage Industry Corporation**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Small and Cottage Industry Corporation

- **Submit a complaint to the National Consumer Rights Protection Department**

- Type of Service: G2C / G2B
 - Operating Body: National Consumer Rights Protection Department
-

- **Website of Bangladesh Bank**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **Bangladesh Bank Corporate Memory Management Systems**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **Bangladesh Bank e-Return**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **Bangladesh Bank e-tendering system**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **Bangladesh Bank web upload**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **Corporate memory management system**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **eReturns**

- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh
-

- **Prizebond Matching**

- Type of Service: G2C / G2B

- Operating Body: Bangladesh Bank, Central Bank of Bangladesh

- **Land Requisition service**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Economic Zones Authority

- **Currency Converter**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh High Commission Islamabad, Pakistan (Bangladesh Embassy in Islamabad Pakistan)

- **General Provident Fund**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Parjatan (Tourism) Corporation

- **Foreign Money Order (Bangladesh Postal Department)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Post Office

- **E-Tender**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Power Development Board

- **E- Purji**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Sugar & Food Industries Corporation

- **CSE Care**
 - Type of Service: G2C / G2B
 - Operating Body: Chittagong Stock Exchange

- **Current Market Price (CSE)**
 - Type of Service: G2C / G2B
 - Operating Body: Chittagong Stock Exchange

- **Market Depth (CSE)**

- Type of Service: G2C / G2B
- Operating Body: Chittagong Stock Exchange

- **Market Summary (CSE)**

- Type of Service: G2C / G2B
- Operating Body: Chittagong Stock Exchange

- **Departmental Debt Online**

- Type of Service: G2C / G2B
- Operating Body: Cotton Development Board

- **eChallan (e-Shipment)**

- Type of Service: G2C / G2B
- Operating Body: Department of Finance, Ministry of Finance

- **e-Auction (DESCO)**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Power Distribution Company Limited

- **Latest Stock Price (DSE)**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Stock Exchange

- **Market Statistics (DSE)**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Stock Exchange

- **Market Value (DSE)**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Stock Exchange

- **Monthly Review and Graph (DSE)**

- Type of Service: G2C / G2B

- Operating Body: Dhaka Stock Exchange

- **Today's Market / Top 20 Shares (DSE)**
 - Type of Service: G2C / G2B
 - Operating Body: Dhaka Stock Exchange

- **GIS based salt industry information**
 - Type of Service: G2C / G2B
 - Operating Body: Nutrition International

- **E-auction**
 - Type of Service: G2C / G2B
 - Operating Body: Power Grid Company of Bangladesh Ltd.

- **Online underwriting**
 - Type of Service: G2C / G2B
 - Operating Body: SADHARAN BIMA CORPORATION

- **Online forex transaction monitoring system**
 - Type of Service: G2G
 - Operating Body: Bangladesh Bank, Central Bank of Bangladesh

6.3.9. Fisheries and Livestock

There are 5 e-services in the category, ‘Fisheries and Livestock’. Four e-Services are citizen-centric or business-centric services and one service named ‘Personnel Data Sheet’ is a shared service.

-
- **Fish Advice System**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Fisheries

 - **Licensing of fish products**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Fisheries

- **Livestock SMS services**

- Type of Service: G2C / G2B
 - Operating Body: Department of Livestock services
-

- **E-Livestock**

- Type of Service: G2C / G2B
- Operating Body: Directorate of Residential Resources

6.3.10. Forms

3 of e-Services are about forms related service. All services are G2C or G2B. ‘Government Forms’ provides all kind of forms related to government services which can be classified as shared service. There is an e-service named ‘eForm’ which is classified as ‘Online application’ and ‘Online Registration’. It is better to integrate these similar e-services into one integrated e-service for providing all the government related forms in single portal.

- **Citizen Corner (e-Form)**

- Type of Service: G2C / G2B
 - Operating Body: Land Record and Survey Department
-

- **Resources-Person's Information-Form (NAPD)**

- Type of Service: G2C / G2B
- Operating Body: National Academy for Planning and Development

6.3.11. Health Services

There are 9 e-Services categorized as ‘Health Services’. 8 of e-Services are G2C or G2B whereas 1 service is G2G. ‘Telemedicine’ is a link leading to PDF.

- **e-Health**

- Type of Service: G2C / G2B
 - Operating Body: Directorate General of Health Services (DGHS)
-

- **Telemedicine**

- Type of Service: G2C / G2B
- Operating Body: Directorate General of Health Services (DGHS)

- **Antibiotic Guidelines (Bangabandhu Sheikh Mujib Medical University)**

- Type of Service: G2C / G2B
- Operating Body: Bangabandhu Sheikh Mujib Medical University

- **Atomic Medical Online Service**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Atomic Energy Commission

- **Online applications**

- Type of Service: G2C / G2B
- Operating Body: Department of Social Services

- **SS - Service Statistics (Department of Family Planning)**

- Type of Service: G2C / G2B
- Operating Body: Directorate General of Family Planning Management Information System

- **E-Health Care**

- Type of Service: G2C / G2B
- Operating Body: Directorate General of Health Services

- **Health, Population and Nutrition Toolkit**

- Type of Service: G2C / G2B
- Operating Body: USAID

- **Appointment (Health Education and Family Welfare Division)**

- Type of Service: G2G
- Operating Body: Ministry of Health and Family Welfare, Bangladesh

6.3.12. Income Tax

There are 7 e-Services categorized as ‘Income Tax’. 5 of the e-Services are G2C or G2B. There is a shared service, ‘iVAS’ which is a VAT e-Service. Many of the e-Services are operated by National Board of Revenue. Rest are run by Internal Resources Division and Bangladesh Road Transport Authority.

- **National Board of Revenue**

- Type of Service: G2C / G2B
- Operating Body: National Board of Revenue

- **Taxes Appellate Tribunal**
- Type of Service: G2C / G2B
- Operating Body: Internal Resources Division, Ministry of Finance

- **Income Tax Online Filing**
- Type of Service: G2C / G2B
- Operating Body: National Board of Revenue

- **Learn VAT Online**
- Type of Service: G2C / G2B
- Operating Body: National Board of Revenue

- **NBR-Sonali Bank e-Payment Portal**
- Type of Service: G2C / G2B
- Operating Body: National Board of Revenue

6.3.13. Online Application

100 e-Services are classified as ‘Online Application’. 73 e-Services are citizen-centric or business-centric services. Among 73 e-Services, 12 services are simply providing information without any interactive functions. 24 e-Services are G2G services and 3 e-Services are shared services. For the shared services, there are ‘e-File Management (Nothi)’, ‘eForm’, ‘Election Commission’.

- **Bangladesh Film Censor Board**
- Type of Service: G2C / G2B
- Operating Body: Bangladesh Film Censor Board

- **E-Fire License Application System**
- Type of Service: G2C / G2B
- Operating Body: Bangladesh Fire Service and Civil Defense

- **Application for allocation of land in BISIC industrial area.**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Small and Cottage Industry Corporation

- **Department of Environment**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Environment

- **Homepage of Department of Environment**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Environment

- **Online Birth Registration Information System**
 - Type of Service: G2C / G2B
 - Operating Body: Local Government Division

- **Office of The Chief Inspector of Boilers**
 - Type of Service: G2C / G2B
 - Operating Body: Office of The Chief Inspector of Boilers

- **Bangladesh Film Archive**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Film Archive

- **Bangladesh Fire Service and Civil Defense**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Fire Service and Civil Defense

- **Bangladesh High Tech Park Authority**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh High Tech Park Authority

- **Bangladesh Ordnance Factories**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Ordnance Factories

- **Bangladesh Standards and Testing Institution**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Standards and Testing Institution

- **Online Essay competition (Teletalk Bangladesh)**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Submarine Cable Company Limited

- **Department of Labour**

- Type of Service: G2C / G2B
- Operating Body: Department of Labour

- **Attendance trekking system for trainees**

- Type of Service: G2C / G2B
- Operating Body: Department of Youth Development

- **Jatio Muktijoddha Council**

- Type of Service: G2C / G2B
- Operating Body: Jatio Muktijoddha Council

- **National Productivity Organization**

- Type of Service: G2C / G2B
- Operating Body: National Productivity Organization

- **N O C For Multi-Storied Building**

- Type of Service: G2C / G2B
- Operating Body: Security Services Division

- **Bangladesh Telecommunication Regulatory Commission**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Telecommunication Regulatory Commission

- **E-Licensing System**

- Type of Service: G2C / G2B

- Operating Body: Bangladesh Atomic Energy Regulatory Authority

- **GIS applications (Bureau of Bureau of Statistics)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Bureau of Statistics

- **Website of Bangladesh Council of Scientific and Industrial Research**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Council of Scientific and Industrial Research

- **Website of Bangladesh Embassy, Beijing, China**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Embassy, Beijing, China

- **Website of Bangladesh Embassy, Berlin, Germany**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Embassy, Berlin, Germany

- **Website of Bangladesh Embassy, Stockholm, Sweden**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Embassy, Stockholm, Sweden

- **Website of Bangladesh Embassy, Tokyo, Japan**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Embassy, Tokyo, Japan

- **Website of Bangladesh High Commission, London, United Kingdom**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh High Commission, London, United Kingdom

- **Website of Bangladesh High Commission, Singapore**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh High Commission, Singapore

- **Online Loan Application**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh House Building Finance Corporation

- **Online Application of Education Scholarship**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Karmachari Kallyan Board

- **BLRI Feed Master**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Livestock Research Institute

- **Executive Summary Submission**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Livestock Research Institute

- **Scheduled Application Form for Collection**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh National Scientific and Technical Documentation Center

- **Online Police Clearance Certificate**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Police

- **Industry Manpower Report**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Small and Cottage Industries Corporation

- **Online Product Order**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Steel & Engineering Corporation

- **Online Tea License Application**

- Type of Service: G2C / G2B

- Operating Body: Bangladesh Tea Board

- **Website of Board of Intermediate and Secondary Education, Dhaka**
 - Type of Service: G2C / G2B
 - Operating Body: Board of Intermediate and Secondary Education, Dhaka

- **Website of Bureau of Manpower, Employment and Training**
 - Type of Service: G2C / G2B
 - Operating Body: Bureau of Manpower, Employment and Training

- **Website of Civil Aviation Authority of Bangladesh**
 - Type of Service: G2C / G2B
 - Operating Body: Civil Aviation Authority of Bangladesh

- **Website of Department of Immigration and Passports**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Immigration and Passports

- **Online Service for patent/Design/Trademark/GI Product**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Patents, Designs and Trademarks

- **Online Gazette Archive**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Printing and Publications

- **Online Application**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Shipping

- **Skills Development Training (online application)**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Social Services, Ministry of Social Welfare

- **Social Security Program (MIS)**

- Type of Service: G2C / G2B
 - Operating Body: Department of Social Welfare, Social Welfare Ministry
-

- **Inland Ship Management**

- Type of Service: G2C / G2B
 - Operating Body: Department of Transportation
-

- **VGD Program beneficiary application**

- Type of Service: G2C / G2B
 - Operating Body: Department of Women Affairs
-

- **Online Application (Directorate of Import and Export Control)**

- Type of Service: G2C / G2B
 - Operating Body: Directorate of Import and Export Control
-

- **Online Transfer Application (techedu)**

- Type of Service: G2C / G2B
 - Operating Body: Directorate of Technical Education
-

- **Online Application in Directorate of Textiles**

- Type of Service: G2C / G2B
 - Operating Body: Directorate of Textiles, Ministry of Textiles & Jute
-

- **Aid Information Management System (AIMS)**

- Type of Service: G2C / G2B
 - Operating Body: Economic Relations Division
-

- **Bangladesh-Sweden Trust Fund**

- Type of Service: G2C / G2B
 - Operating Body: Economic Relations Division
-

- **Scholarship & Fellowship**

- Type of Service: G2C / G2B

- Operating Body: Economic Relations Division

- **Fire Fighting and Civil Defense Department**
 - Type of Service: G2C / G2B
 - Operating Body: Fire Fighting and Civil Defense Department

- **High Commission of Bangladesh Singapore**
 - Type of Service: G2C / G2B
 - Operating Body: High Commission of Bangladesh in Singapore

- **Online Application for Scholarships and Donation**
 - Type of Service: G2C / G2B
 - Operating Body: ICT Division

- **Online Application Receive**
 - Type of Service: G2C / G2B
 - Operating Body: Jatio Muktijoddha Council

- **National E-Service System**
 - Type of Service: G2C / G2B
 - Operating Body: Legislative and Parliamentary Division

- **CPP Disaster Information System**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Disaster Management and Relief

- **Digitalized Information of Freedom fighter**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Liberation War Affairs

- **E-Application in Ministry of Public Administration**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Public Administration

- **MOPA E-Application**

- Type of Service: G2C / G2B
 - Operating Body: Ministry of Public Administration
-

- **Hajj Management Portal**

- Type of Service: G2C / G2B
 - Operating Body: Ministry of Religious Affairs
-

- **Japan Human Resource Development Scholarship**

- Type of Service: G2C / G2B
 - Operating Body: Ministry of Science and Technology
-

- **Online Application (Disability information system)**

- Type of Service: G2C / G2B
 - Operating Body: Ministry of Social Welfare
-

- **DNA Sequencing: Online Application**

- Type of Service: G2C / G2B
 - Operating Body: National Institute of Biotechnology
-

- **National Institute of Mass Communication**

- Type of Service: G2C / G2B
 - Operating Body: National Institute of Mass Communication
-

- **National Productivity Organization**

- Type of Service: G2C / G2B
 - Operating Body: National Productivity Organization
-

- **Electricity permission (PGCB)**

- Type of Service: G2C / G2B
 - Operating Body: Power Grid Company of Bangladesh Ltd
-

- **E- Fire License Application System**

- Type of Service: G2C / G2B

- Operating Body: Security Services Division

- **Migration Loan Application Form**
 - Type of Service: G2C / G2B
 - Operating Body: Wage Earners' Welfare Board

- **Primary Application for Youth Loan**
 - Type of Service: G2C / G2B
 - Operating Body: Youth Development Department

- **Online Secondary Data Collection**
 - Type of Service: G2G
 - Operating Body: Bangladesh Bureau of Statistics

- **E-delegate**
 - Type of Service: G2G
 - Operating Body: Bangladesh Permanent Mission of the United Nations

- **Unite Conferences Portal**
 - Type of Service: G2G
 - Operating Body: Bangladesh Permanent Mission of the United Nations

- **PMIS(PDS) (Department of Environment)**
 - Type of Service: G2G
 - Operating Body: Department of Environment

- **Department of Fisheries ERP**
 - Type of Service: G2G
 - Operating Body: Department of Fisheries

- **Case Management System (DSS)**
 - Type of Service: G2G
 - Operating Body: Department of Social Services, Ministry of Social Welfare

- **Audit Management System**

- Type of Service: G2G
- Operating Body: Dhaka Power Distribution Company Limited

- **Audit Management System (AMS)**

- Type of Service: G2G
- Operating Body: Directorate General of Food

- **The Database Concerning the Case**

- Type of Service: G2G
- Operating Body: Directorate General of Food

- **VGD Program**

- Type of Service: G2G
- Operating Body: Directorate of Women Affairs

- **Information Repository**

- Type of Service: G2G
- Operating Body: Economic Relations Division

- **PMIS (Electricity Generation Company of Bangladesh Ltd.)**

- Type of Service: G2G
- Operating Body: Electricity Generation Company of Bangladesh Ltd.

- **Digital Case Management System of Financial Institutions Division**

- Type of Service: G2G
- Operating Body: Financial Institutions Division

- **An Assessment on Coverage of Basic Social Services in Bangladesh**

- Type of Service: G2G
- Operating Body: Implementation Monitoring and Evaluation Division

- **Logistic Support System (Ministry of Fisheries and Livestock)**

- Type of Service: G2G

- Operating Body: Ministry of Fisheries and Livestock

- **Appointments (Health Services Division)**
 - Type of Service: G2G
 - Operating Body: Ministry of Health and Family Welfare

- **ICT Support System**
 - Type of Service: G2G
 - Operating Body: Ministry of Labour and Employment

- **Employee Payroll Database**
 - Type of Service: G2G
 - Operating Body: Ministry of Land

- **Renewable energy Log in data entry**
 - Type of Service: G2G
 - Operating Body: Ministry of Power, Energy and Mineral Resources

- **Application For Bangabondhu Science and Technology Fellowship**
 - Type of Service: G2G
 - Operating Body: Ministry of Science and Technology

- **Managing Violence Against Women and Children**
 - Type of Service: G2G
 - Operating Body: Ministry of Women and Children Affairs

- **Meeting report system**
 - Type of Service: G2G
 - Operating Body: Power Division, Ministry of Power, Energy and Mineral Resources

- **Ansar & VDP ERP**
 - Type of Service: G2G
 - Operating Body: Security Services Division

- **BPC ERP (Bangladesh Parjatan Corporation)**

- Type of Service: G2G
- Operating Body: Tourism organization

6.3.14. Online Registration

There are 22 e-Services categorized as ‘Online Registration’. 17 e-Services are citizen-centric or business-centric services. Rest are G2G services. ‘Electronic Form Fill-up’ is a shared service. ‘Website of National Academy for Planning and Development’ is a homepage that provides information.

- **Website of Election Commission**

- Type of Service: G2C / G2B
- Operating Body: Election Commission

- **Website of National Museum of Science and Technology**

- Type of Service: G2C / G2B
- Operating Body: National Museum of Science and Technology

- **Website of National Academy for Planning and Development**

- Type of Service: G2C / G2B
- Operating Body: National Academy for Planning and Development

- **Visa Registration System under Board of Investment (BOI)**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Investment Development Authority

- **BISIC Industrial unit registration**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Small and Cottage Industry Corporation

- **JSC Form Fill up (Board of Intermediate & Secondary Education, Sylhet)**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate & Secondary Education, Sylhet

- **J.S.C. Electronic Form Fill-up**

- Type of Service: G2C / G2B
- Operating Body: Board of Intermediate and Secondary Education, Dinajpur

- **Department of Printing Publications**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Printing Publications

- **PDS for Govt. High School Teacher (DSHE)**
 - Type of Service: G2C / G2B
 - Operating Body: Directorate of Secondary and Higher Education

- **Online Registration**
 - Type of Service: G2C / G2B
 - Operating Body: Land Administration Training Centre

- **Online Trade Union Registration**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Labour and Employment

- **Preregistration of Hajj Travelers**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Religious Affairs

- **Company Registration**
 - Type of Service: G2C / G2B
 - Operating Body: Office of the Registrar of Joint Stock Companies and Firms

- **Rajshahi Unnayan Kartipakkho Online portal**
 - Type of Service: G2C / G2B
 - Operating Body: Rajshahi Development Authority

- **WiFi (Rajshahi Medical College)**
 - Type of Service: G2C / G2B
 - Operating Body: Rajshahj Medical College

- **Membership Registration**

- Type of Service: G2C / G2B
- Operating Body: Wage Earners' Welfare Board

- **Online Application & e-Filing System**

- Type of Service: G2G
- Operating Body: Board of Intermediate and Secondary Education, Dhaka

- **Ministry of Public Administration PMIS (all cadre)**

- Type of Service: G2G
- Operating Body: Ministry of Public Administration

- **PMIS Ministry of Public Administration (Administration Cadre)**

- Type of Service: G2G
- Operating Body: Public Administration Computer Center

- **ERP Login**

- Type of Service: G2G
- Operating Body: Wage Earners' Welfare Board

- **Worker Wing Login**

- Type of Service: G2G
- Operating Body: Wage Earners' Welfare Board

6.3.15. Passport, Visa and Immigration

There are 7 e-Services in ‘Passport, Visa and Immigration’. All e-Services in the category are G2C or G2B services. The service named ‘Visa Policy’ is a link of PDF.

- **Bangladesh Police**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Police

- **Department of Immigration and Passports**

- Type of Service: G2C / G2B

- Operating Body: Department of Immigration and Passports

- **Online Visa Verification**
 - Type of Service: G2C / G2B
 - Operating Body: Manpower Employment and Training Bureau

- **Foreign Travel Information (Bangladesh Atomic Energy Commission)**
 - Type of Service: G2C / G2B
 - Operating Body: Atomic Energy Commission

- **VISA assistance service (BEZA)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Economic Zones Authority

- **E-Visa Link (Ministry of Foreign Affairs)**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Foreign Affairs

- **Visa Policy**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Immigration and Passports

6.3.16. Postal and Courier

‘Bangladesh Post Online’ is operated by Bangladesh Post Office. It is a citizen-centric or business-centric services. ‘Website of National Savings Directorate’ provides information and have some of interactive functions. ‘Online Letter Process’ is a G2G service. It is seen only login page.

- **Bangladesh Post Online**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Post Office

- **Website of National Savings Directorate**
 - Type of Service: G2C / G2B
 - Operating Body: National Savings Directorate

- **Online Letter Process**

- Type of Service: G2G
- Operating Body: Bangladesh Post Office

6.3.17. Radio, TV News

There are 7 e-Services in the category, ‘Radio, TV News’. All services are G2C / G2B. The services provide radio channels or TV video streaming. However, there are no other function in the services. All services are attached in the website of Bangladesh Betar.

- **Bangladesh Betar Arabic News**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Betar

- **Bangladesh Betar Bengali News**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Betar

- **Bangladesh Betar English News**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Betar

- **Bangladesh Betar Hindi News**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Betar

- **Bangladesh Betar Live AM Radio**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Betar

- **Bangladesh Betar Live FM Radio**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Betar

- **Bangladesh Television**

-
- Type of Service: G2C / G2B
 - Operating Body: Bangladesh Betar

6.3.18. Recruitment

12 of e-Services are categorized as ‘Recruitment’. All e-Services except one are G2C or G2B services. ‘Human Resource Management System’ run by Urban Development Directorate is a G2G service. ‘Model Application Form for Government Services’ is a link of PDF.

Many services related to recruitment are posted individually. It will be effective if there is a central human resource management that handles not only recruitment process but also training program for citizen.

-
- **BADC recruitment application**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Agricultural Development Corporation, Ministry of Agriculture
 - **Recruitment application link (Bangladesh Inland Water Transport Authority)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Inland Water Transport Authority, Ministry of Shipping
 - **PSC Job Application**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Public Service Commission
 - **Recruitment Notice**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Steel & Engineering Corporation
 - **Online Job Application**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Water Development Board
 - **Online Job Application (Chittagong Port Authority)**
 - Type of Service: G2C / G2B
 - Operating Body: Chittagong Port Authority
-

- **Job Application**

- Type of Service: G2C / G2B
- Operating Body: Department of Land Record and Surveys

- **Online Recruitment**

- Type of Service: G2C / G2B
- Operating Body: Department of Livestock services

- **NAPD Job Portal**

- Type of Service: G2C / G2B
- Operating Body: National Academy for Planning and Development

- **e-Recruitment (PKSF)**

- Type of Service: G2C / G2B
- Operating Body: Palli Karma-Sahayak Foundation

- **Human Resource Management System**

- Type of Service: G2C / G2B
- Operating Body: Urban Development Directorate, Ministry of Housing and Public Works

6.3.19. Ticket Booking and Purchase

There are 11 e-Services related to ticket booking and purchasing. Most e-Services except two are citizen-centric or business-centric services. Two e-Services which are G2G are services for booking conference room. E-Services in this category are for booking railway ticket, airline ticket, resort and other transportation ticket. Two e-Services simply provide information with no other interactive function. ('Website of Bangladesh Railway', 'Purchase of car from Progress Industries')

- **Shohoz online ticket booking**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Inland Water Transport Authority, Ministry of Shipping

- **Bangladesh Railway e-Ticketing Service**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Railway

- **Biman e-ticketing service**
 - Type of Service: G2C / G2B
 - Operating Body: Biman Bangladesh Airlines

- **Website of Bangladesh Railway**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Railway

- **Purchase of car from Progress Industries**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Steel and Engineering Corporation, Ministry of Industries

- **e-Ticketing**
 - Type of Service: G2C / G2B
 - Operating Body: Bangabandhu Sheikh Mujibur Rahman Novo Theater

- **Bangladesh People and Crafts Foundation (Sonargaon Museum) e-Ticket**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Folk Art & Crafts Foundation

- **Rapid Pass (Smart Card)**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Road Transport Corporation

- **Online Resort Booking**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Tea Board

- **Online booking for conference room**
 - Type of Service: G2G
 - Operating Body: Bangladesh Agricultural Research Council

- **Conference room booking system**
 - Type of Service: G2G

- Operating Body: Ministry of Fisheries and Livestock

6.3.20. Training

10 e-services are categorized as ‘Training’ services. 6 of the e-Services are citizen-centric or business-centric services. 4 e-Services are for government administration. ‘Cooperative members online registration’ provides only information of training program.

- **National Social Service Academy Training Management**
 - Type of Service: G2C / G2B
 - Operating Body: National Academy of Social Services
- **National Agriculture Training Academy**
 - Type of Service: G2C / G2B
 - Operating Body: National Agriculture Training Academy
- **Cooperative members online registration**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Cooperatives-Government of People's Republic of Bangladesh
- **Training Management System**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Computer Council
- **Cooperative members online registration**
 - Type of Service: G2C / G2B
 - Operating Body: Cooperative Department
- **E-Training Management**
 - Type of Service: G2C / G2B
 - Operating Body: Department of Fisheries
- **Foreign Tour Management System**
 - Type of Service: G2G

- Operating Body: Health Services Division

- **Overseas Training Tracking System**
 - Type of Service: G2G
 - Operating Body: Statistics and Informatics Division

- **Project Tracking System**
 - Type of Service: G2G
 - Operating Body: Bangladesh Computer Council

- **Overseas Visit Tracker**
 - Type of Service: G2G
 - Operating Body: Statistics and Informatics Division

6.3.21. Treasury Invoice

‘Online Chalan Verification’ is an e-Service categorized as ‘Treasury Invoice’. The e-Service is G2C / G2B service that is operated by Office of the Controller General of Accounts.

- **Online Chalan Verification**
 - Type of Service: G2C / G2B
 - Operating Body: Office of the Controller General of Accounts

6.3.22. Utility Bills

There are 11 e-Services for utility bills. Most e-Services except for one are citizen services. There are services related to water supply and sewage, electricity, gas and internet. It is more efficient to have a central e-Service that can manage various kinds of utility bills within each municipality level.

- **E-Bill (Chattogram WASA)**
 - Type of Service: G2C / G2B
 - Operating Body: Chittagong Water Supply and Sewerage Authority

- **DESCO**
 - Type of Service: G2C / G2B
 - Operating Body: Dhaka Electric Supply Company

- **Website of Dhaka Water Supply and Sewerage Authority**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Water Supply and Sewerage Authority

- **Website of Dhaka Power Distribution Company Limited**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Power Distribution Company Limited

- **Website of Titas Gas Transmission & Distribution Company Limited**

- Type of Service: G2C / G2B
- Operating Body: Titas Gas Transmission & Distribution Company Limited

- **Website of West Zone Power Distribution Company Ltd.**

- Type of Service: G2C / G2B
- Operating Body: West Zone Power Distribution Company Ltd.

- **Website of Dhaka Power Distribution Company Limited**

- Type of Service: G2C / G2B
- Operating Body: Dhaka Power Distribution Company Limited

- **Bill Payment (BTCL)**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Telecommunication Company Limited

- **BTCL ADSL Internet bill**

- Type of Service: G2C / G2B
- Operating Body: Bangladesh Telecommunication Company Limited

- **Khulna Development Authority**

- Type of Service: G2C / G2B
- Operating Body: Khulna Development Authority

- **BSTI Billing System**

- Type of Service: G2G
- Operating Body: Bangladesh Standards and Testing Institution

6.3.23. Vehicle Services

8 of e-Services are categorized as ‘Vehicle Services’. ‘Website of Rupantarita Prakritik Gas Company Limited’ has no interactive service but providing information. ‘Online Licensing’ operated by Department of Inspection for Factories and Establishments and ‘Online Vehicle Recovery System’ run by Ministry of Textile and Jute are G2G services. Rest of the e-Services are G2C or G2B services.

- **Website of Rupantarita Prakritik Gas Company Limited**
 - Type of Service: G2C / G2B
 - Operating Body: Rupantarita Prakritik Gas Company Limited
- **Fee Calculator for BRTA**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Road Transport Authority
- **Online Payment Gateway for Motor Vehicle Taxes & Fees**
 - Type of Service: G2C / G2B
 - Operating Body: Bangladesh Road Transport Authority
- **Digital Map of Local Government Engineering Department**
 - Type of Service: G2C / G2B
 - Operating Body: Local Government Engineering Department
- **Road Database Local Government Engineering Department**
 - Type of Service: G2C / G2B
 - Operating Body: Local Government Engineering Department
- **Online Travel Agency**
 - Type of Service: G2C / G2B
 - Operating Body: Ministry of Civil Aviation and Tourism
- **Online Licensing**
 - Type of Service: G2G
 - Operating Body: Department of Inspection for Factories and Establishments
- **Online Vehicle Recovery System**
 - Type of Service: G2G
 - Operating Body: Ministry of Textile and Jute

7. Case Studies

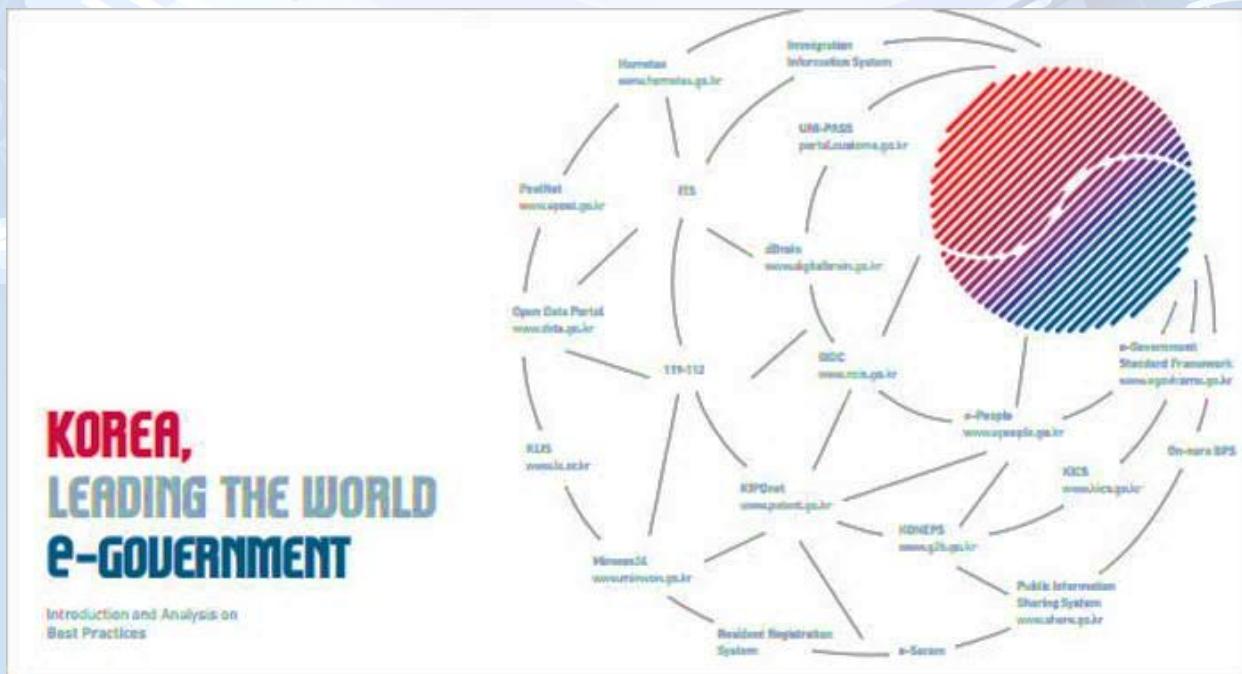
7.1. Korean e-Government

7.1.1. Korean e-Government development process

The development of Korean e-Government can be broadly classified into four stages as shown in the [Figure II, 7-1]: the introductory stage (1978~1986), foundation establishment stage (1987~1996), full promotion stage (1996~2002) and advanced stage (2003~2012).

The first period, introductory stage, covers from 1978 when the first Basic Plan for Administrative Computerization was formulated to 1986. The main feature of the first stage is the computerization of administration. The focus of e-Government at this stage was to raise work efficiency through the computerization of each ministry's task (internal) rather than inter-ministry task (G2G). It was impossible for the government to directly provide on-line public service to citizens due to weak network foundation and infrastructure. Also, the computer penetration rate among citizens was very low.

The second period, the foundation establishment stage, covers 10 years from 1987 to 1996. The main distinguishing feature of this period was the establishment of an administrative network in each central





government ministry based on the computerization of administrative tasks in the previous period. During this period, the rate of diffusion and utilization of computers in the government, which began in the first stage, was broadened. The network infrastructure has begun to be established, and data transfer and information sharing (G2G) among ministries using the network has begun. However, the effect of informatization was still confined to the improvement of internal efficiency because the work distribution for the production, sharing, and utilization of information was not yet defined in terms of the broader aspect of pan-government. Also, information exchange between the government and citizens did not yet occur because the network set up was focused only on government agencies, universities and research institutions even though the diffusion rate of computer among citizens had somewhat increased at the time.

The third period, the full promotion stage, covers the years from 1997 to 2002. At this stage, the integrated administration network among the governmental agencies was completed and administrative efficiency was rapidly raised by the super-highway information network.

The fourth period, the advanced stage, covers the years from 2003 to 2012. This period is characterized by the provision of uninterrupted public service to citizens and businesses through the integrated national administration network. Most citizens can make good use of IT equipment (e.g. computer, laptop and smart phone) and use the super-highway information network; therefore, several governmental services can be offered to citizens and businesses on-line, in real time, without constraint of time and space.

7.1.2. e-Government policy

The e-Government policies formulated and implemented in the advanced stage had three contexts: the public's rising expectation for e-Government, the strong will of the President to reform the government, and the diffusion of mobile devices to the public.



First, the public's expectation for e-Government had risen. As the e-Government in Korea went through the introductory, foundation establishment and full promotion stages, the public became accustomed in using the IT-based public services and expected more public services to be provided online more conveniently and quickly.

Second, the President had a strong will to reform the government. The Roh, Moohyun administration was inaugurated in February 2003 with the public's expectation for e-Government and government innovation. The Roh, Moohyun government intended to maximize the effects of government innovation by linking with e-Government. To achieve this, the e-Government Professional Committee was organized under the Presidential Committee on Governmental Innovation and Decentralization in April 2003. This committee confirmed and announced the Second e-Government Plan after three months of groundwork.



Third, mobile devices had penetrated the public. In the full promotion stage, the e-Government services were offered based on the cable-based internet and desktop PC. e-Government services were distributed more widely in the advanced stage as wireless internet and mobile devices such as notebooks, tablet PCs, and smart phones. For this reason, the Lee, Myung-bak government has formulated and implemented the e-Government policy with the consideration of mobile devices.

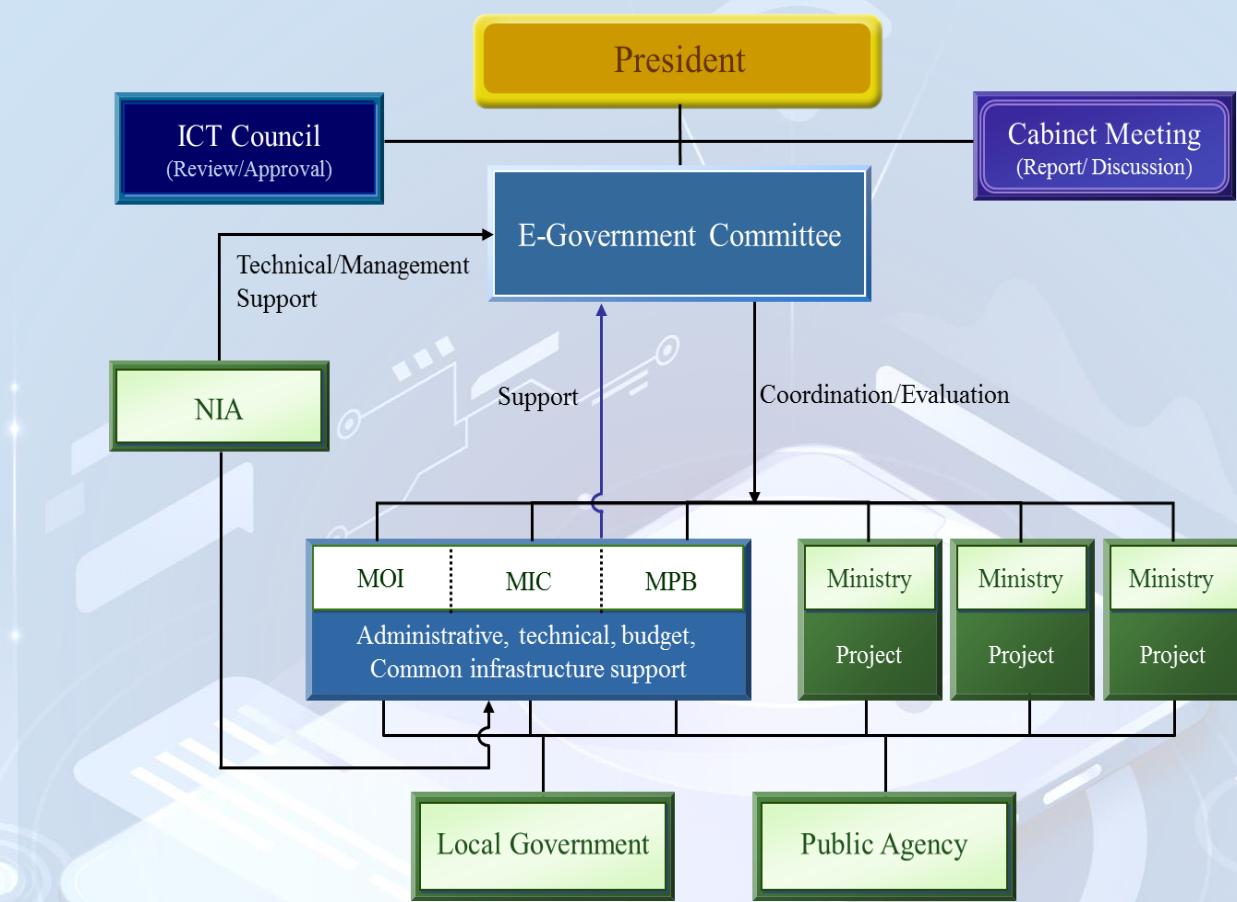
7.1.3. e-Government roadmap

The Roh, Moohyun government set the goals of the e-Government policy using the To-Be Model for five-years, based on the As-Is Model as shown in [Table II, 7-1].

Goal	Explanation of the goal	Major index	Current state (2003)	Expected state (2008)
Improving citizen and business service	Most civil and business affairs can be addressed without visiting agency	Online level of civil petitions	15%	85%
		Competitiveness of business supporting	24 th place	10 th place
		Agency visiting times	10 times per year	3 times per year
		e-Government utilization ratio	23%	60%
Increasing administrative efficiency	Expanding of the scope of the task of digitalizing and information sharing Real-time and integrated management of information resources	Co-task processing b/w agencies	Partial digitalizing, non-connected	Fully digitalizing and connected
		Digitalizing document	Coexistence of paper and e-document	Only e-document
		Sharing administrative information	Limited sharing b/w agencies	Fully sharing b/w agencies
		Information resource management	Scattered, individual	Integrated, connected
Improving democracy of administration	Promotion policy participation by actively and openly providing administrative information Strengthening self-control of personnel information	E-participation	Opinion survey level	Participation in policy formulation
		Opening of information	Passive, limited opening	Active, fully opening
		Privacy protection	Privacy invasion is possible	Strengthening self-control of personnel information

[Table II.7-1]Goals of the e-Government Policy

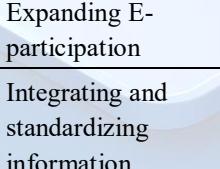
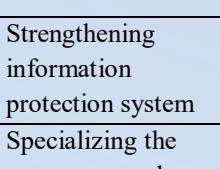
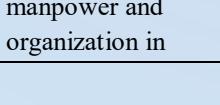
The structure of governance for e-Government is shown as below.



[Figure II.7-1] Governance for establishing e-Government

The 31st e-Government roadmap implemented by the Korean government consists of 4 fields, 10 agendas and 31 tasks. The contents of each project are as follows.

Area	Agenda	Activities
Renovating Work process	Taking root electronic working process	1. Digitalizing the whole document process
		2. Advancing the central and local government finance
		3. Realizing e-local government
		4. Establishing e-inspection system
		5. Realizing e-Assembly

		6. Building up the integrated criminal justice system
		7. Informatizing personnel administration
		8. Informatizing foreign and trades affairs
		9. Real-time management of national agenda
	Co-utilizing administrative information	10. Expanding the scope of administrative information sharing
	Work process reengineering	11. Developing the Business Reference Model (BRM)
Renovating Public service	 <p>Advancing public service</p>	12. Advancing online civil petitions
		13. National security management service
		14. Advancing real estate affairs
		15. Advancing tax service
		16. Social welfare service
		17. Food and drug information service
		18. Employment service
	 <p>Advancing service for business</p>	19. Administrative adjudication internet service
		20. Single window service for business supporting
		21. National distribution service
		22. E-trades service
Renovating the management of information resources	 <p>Integrating and standardizing information resources</p>	23. Governmental service for foreigner
		24. Supporting the export of e-Government
		25. Online participation of citizen
	 <p>Strengthening information protection system</p>	26. Setting up pan governmental computing conditions
		27. Advancing the e-Government network
	 <p>Specializing the manpower and organization in charge of informatization</p>	28. Application of the pan governmental Enterprise Architecture (EA)
		29. Building up the information protection system
		30. Strengthening and reorganizing the manpower and organization in charge of informatization

	charge of informatization	
Organizing legal framework	Arranging the related institution	31. Arranging the institutions related the realization and safety of e-Government

[Table II.7-2]31 initiatives for e-Government

7.1.4. Best Practices of Korean e-Services

- **Government Integrated Data Center (www.ncia.go.kr)**

Overview: Data (Computing) Centers that had been operated individually by each ministry have been integrated and managed by professional group of people since 2005.

Contents of services:

- Around 20,000 units of information systems for more than 1,100 businesses of 47 central government organizations are managed and operated by integrated manner.
- GIDC is equipped with 8-layer cyber security defense system over various type of cyber threats such as hackings, virus and DDoS attacks.
- The data center provides key services in a seamless manner with the Business Continuity Management (BCM) system and Disaster Recovery System (DRS) installed over any kind of contingencies both in natural and man-made disasters such as fires, earthquakes, floods and blackouts.
- GIDC has strong infrastructure with durable physical environment for system operation, which is always managed in optimal condition. It also provides exclusive information communication network service for government agencies.
- GIDC created a hardware resource pool by receiving government budget allocated for system purchase. Under the resource pool system, each ministry can make use of the resource of the pool by making requests. The resources no longer in need for certain ministry return back to the pool for other ministry to make use of them.

- **Electronic Customs Clearance Service (portal.customs.go.kr)**

Overview: Common use of information between logistics entities will be extended in order to improve and streamline export/import logistics business and processes as well as implementing a user-friendly batch logistics processing service.

Contents of services:

- Export/import reports to the customs office and applications for inspection and quarantine to appropriate organizations are integrated to provide one-stop service.

- The conventional EDI system is upgraded to provide a more convenient, low-cost customs clearance service

- **Online Patent Service (www.kiporo.go.kr)**

Overview: All patent services, such as patent application and progress check, are provided online.

Contents of services:

- Procedures for patent application, review, and judgment as well as procedures for objection filings, and technical evaluations are publicly available online to provide 24/7 patent administration services.
- People can check and manage their patent and rights information efficiently.
- Services such as application for certificate issuance, verification and commission payment are provided online.

- **Digital Budget & Accounting System (www.digitalbrain.go.kr)**

Overview: All financial activities of the government are managed on a real-time basis ranging from revenue to budget formulation and execution, fund and asset management, settlement, etc.

Contents of services:

- (Budget) Based on the program budget framework, the entire process of budget-related affairs regarding mid-term project plans, budget compilation for each year, and budget allocation is managed altogether.
- (National funds) Transactions that occur simultaneously with the execution of national funds are automatically classified on a real-time basis and used in performance management after cost accounting for each program.
- (Other functions) Through a connection with outer systems, dBrain provides electronic money transfer and electronic bill payment services.
- (Statistics analysis) The data on financial transactions accumulated within the system are provided in forms of customized reports and graphs.

- **National Disaster Management System**

Overview: NDMS supports disaster management affairs in different types of disaster and informatizes the entire process of 119 rescue service. The central and local governments support disaster management affairs in stages of prevention, preparation, response and recovery. Business processes of emergency rescue are standardized and informatized for prompt dispatch upon receiving a 119-emergency call and effective on-site response.

Contents of services:

- NDMS shares and delivers in real-time 223 types of disaster management information, which before had been individually maintained and managed by 43 institutions.
- It also provides via smart phones the Cell Broadcasting Service (CBS), response manual for citizens and information on facilities like fire stations and hospitals.
- It provides immediate response and rescue services, where emergency 119 calls are received promptly and accurately (via fixed-line or wireless telephone, Internet and text messages), caller locations are automatically identified, and moving orders are given real-time to the most suited fire squads.
- Emergency 119 services are also provided to socially vulnerable groups and disadvantaged groups including the senior citizens and foreigners by applying new technologies such as the mobile phones that are specially designed for the elderly (called Anshim-Phone) and 'Help-me 119'.

▪ Immigration Control System

Overview: Information on passengers scheduled to enter is analyzed beforehand, while the entire process of immigration such as checking of forged passports is handled electronically. National security is improved with better responsive capability to forged passports.

Contents of services:

- Passenger information is delivered to the immigration authority from air carriers before their entry. The analytic results are displayed on the monitors of immigration counters for officers to use, facilitating faster immigration.
- By applying e-passport IC chip reading technology to the existing passport reading system, forged passports can be detected immediately and accurately through the process of chip certification.
- By applying bio-information (facial images) and biometrics technology (fingerprints) to immigration control, automatic immigration is possible without having to pass through the checkpoint counters.
- Comparing the information of passengers moving toward transit zones to the information of passengers on board allows the detection of illegal transit.
- Fingerprint data of entering foreigners entering Korea aged 17 or older and of unregistered foreigners staying in Korea for 91 days or longer are collected and utilized for accurate identification of disaster or accident victims and crime investigations.

▪ Korea Online E-Procurement Service(www.g2b.go.kr)

Overview: All procurement procedures are handled online, and a single window of procurement

is open to improve efficiency and transparency of public procurement.

Contents of services:

- All stages of procurement, such as bidding, awarding contracts, contracting, delivery, and payment, are handled online, and procurement progress can be monitored in real-time.
- All registered companies are enabled to participate in biddings of all public organizations, including national organizations, local government bodies, and public corporations, by a single registration in the G2B system.

▪ **Comprehensive Tax Services (www.hometax.go.kr)**

Overview: Taxpayers can handle tax affairs online at home or work without visiting the tax office.

Contents of services:

- All tax activities including filing, billing, and payment are processed online and information is retrieved anytime by taxpayer.
- Taxpayers or their tax agents can request and receive 18 civil affairs certificates

▪ **Postal Logistics Information System**

Overview: The entire process of accepting, distributing and delivering mail is integrated and managed electronically.

Contents of services:

- Affairs regarding delivery and arrival of received mails, transportation schedule, performance and settlement are managed.
- Mails are delivered using real-time mobile devices (PDAs) and customers receive expected delivery time and result by text message to their mobile phone.
- Individual customers can access to e-Post on the Internet to use parcel door to door delivery service, EMS, hybrid mail service and registered mail tracking services.
- Smart phone users can enjoy postal services such as parcel delivery/EMS, tracking, and purchasing products in the e-Post shopping mall anytime and anywhere.
- The amount of mail being received, transported and delivered, locations of transportation vehicles as well as their load quantities, and the entire postal delivery network can be followed and understood at a glance, providing better control over vehicles and mails to respond promptly and accurately to unexpected situations.
- The system also supports sales marketing activities including usage analysis of major customers and management of their anniversaries, which contribute to enhancing customer values.

- Customers can access postal call centers to enjoy one-stop services.

- **SOS Public Relief Service**

Overview: Socially vulnerable groups, including children, can report to police for rescue in emergency situations without saying a word, using mobile phones and special devices, thereby police can identify the location and arrest criminals promptly.

Contents of services:

- The service consists of three sub-level services, available for each type of users' communication devices-one-touch SOS (for feature phones and smart phones), 112 App (for smart phones), and U-Anshim (for terminals specifically designed for the service).
- A feature/smart phone holder presses (or touches) the shortcut button on the phone to call the police in case of emergency.
- The location and identity of the caller is displayed in the main center upon the caller's report, which allows fast dispatch of the police and immediate actions to be taken.
- A smart phone holder touches the pre-downloaded 112 Emergency Call application to call the police.
- The location and identity of the caller is displayed in the main center upon the caller's report, and text messages for emergencies are also accepted.
- A service subscriber without any feature or smart phone presses the button on the terminal that is specifically designed for the service and inform his/her guardian of them in urgent situation.

- **e-Government Standard Framework (www.egovframe.go.kr)**

Overview: The e-Government information system environment and modules that are commonly used in many systems are developed together in advance and shared by the entire government. This standard framework can be applied not only to government organizations but also to the private sector, where SMEs can also benefit from the framework, as advanced as the one used by large businesses.

Contents of services:

- (Execution Framework) The execution framework consists of 5 service layers that serve as common modules essential for business execution environment - display processing, business processing, data processing, integration and common framework.
- (Operation Framework) The operation framework provides communication tools for efficient operation of information systems and monitoring tools for standard framework-based applications.

- (Development Framework) The development framework provides tools for coding, debugging, testing, distributing and configuring, all of which help efficient development of e-Government applications.
- (Management Framework) The management framework provides systematic and efficient management functions including service request(SR), modification, status and standard management for application to IT projects.
- The framework provides 229 types of common components, mainly developed on functions that are commonly reusable when constructing information systems.

▪ **Civil Service Portal (www.minwon.go.kr)**

Overview: Citizens can apply for civil services and print official documents or certificates anytime at home or office through the internet, without visiting government offices.

Contents of services:

- By connecting civil service systems of each administrative institution, including the resident registration management system and local government administration system, entire procedures of civil services from application to certificate issuance can be done in a one stop process, such as in the case of issuing copies of resident registration.
- Information is provided on more than 5,000 types of civil services, including military service certificates, moving-in notification, certificate of automobile tax payment, certificate of local tax payment, and certificate of license tax payment.
- Civil services for 20 areas including moving, handicapped welfare and real-estate can be applied altogether, with the results notified to the applicants by email or SMS.
- A series of civil services for the disabled such as the living information service and welfare-related services can be applied for resulting in receipt through a one-stop process.
- 15 types of services for foreigners, including issuance of immigration records and extension of stay are provided in five languages for foreigners or members of multi-cultural families.

▪ **Information Network Villages (www.invil.org)**

Overview: The Information Network Village (Invil) project is one of the main projects for rural informatization, which aims to close information divide, raise community incomes and improve the quality of life in rural areas by introducing e-commerce. As of May 2012, 360 Invils have been established in farming and fishing villages around the country.

Contents of services:

- Information infrastructure such as broadband networks, community information centers and websites have been established. IT education and consulting services are also provided for residents to use the infrastructure.
- Information contents are developed, which are closely related to everyday life and economic activities such as e-commerce. Residents can make information use a way of life and create new business opportunities by themselves.
- A foundation for liberal participation of residents can be established through organization of a ‘Village Steering Committee’. They select the main items produced in the community and sell them via direct transaction systems. They offer special opportunities to enjoy and learn from nature. Village news is made up from special features, reader columns, and life articles.

▪ **e-Participation Portal (www.epeople.go.kr)**

Overview: Facilitate people’s participation in policy-making by processing people’s complaints and suggestions via a single window.

Contents of services:

- People can provide their opinions on unfair administrative handling, infringements of their rights and interests, improvement of institutions, and various policies through an integrated online window.
- All administrative organizations are linked to the e-people window that receives and processes people’s complaints and suggestions. In addition, at the same time people can check the results online.

▪ **On-nara Business Process System (On-nara BPS)**

Overview: The On-nara BPS is a new business process management system that has increased the efficiency and transparency of administration by handling, recording and managing in a standardized way all the business procedures of the government online.

Contents of services:

- All businesses of government are classified according to functionalities and goals, and business progress and performance are systematically managed down to the most basic unit task.
- Document creation and business procedures are standardized, and decision-making processes are recorded to ensure accountability and transparency of public administration

▪ **One-stop Business Support Services (www.g4b.go.kr)**

Overview: Provide a wide range of information and services to support companies’ business

activities such as civil service information, policy information, and additional services via a single online window.

Contents of services:

- Detailed information on 1,887 corporate services and industrial information contents of 205 organizations are provided in an integrated manner.
- Various additional services essential for corporate activities are provided by linking to the national backbone networks including the procurement, tax, and four major social insurance networks.

▪ **Employment Portal (www.work.go.kr)**

Overview: WORKNET integrates and connects various employment information from different organizations and support job search by connecting businesses and job-seekers.

Contents of services:

- WORKNET provides information on a 750,000-strong labor pool and 570,000 businesses through a link to employment information of relevant institutions such as regional labor ministries, Employment Support Centers and local government offices.
- High-quality recruit information of proven SMEs and analysis reports on leading SMEs are provided for job-seekers to find out their competitiveness level and vision of businesses.
- Customized job information for different social classes such as females, senior citizens and teenagers and one on one career counseling services are offered.
- Besides job information, the system also provides information on unemployment insurance, job training and occupational information as well as 8 types of free aptitude tests along with other information for job selection.
- Job search and recruit activities can be carried out on mobile WORKNET and Job Young services anytime and anywhere.

▪ **Intelligent Transportation System**

Overview: ITS facilitates optimized and automated traffic operation and provides traffic information for travelers by applying information, communication and control technologies to transportation means such as cars, trains, ships and airplanes and to facilities such as roads, railroads, seaports and airports.

Contents of services:

- (Traffic management) Based on real-time information on traffic operation and safety, ITS induces or helps to control traffic and provides information to drivers.

- (Public transportation) ITS adjusts and manages public transportation operation and provides information for travelers based on navigational information.
- (E-payment) Fares for transportation or facilities can be automatically paid by e-cash.
- (Traffic information distribution) It integrates and distributes traffic information to travelers after collecting such information from different institutions.
- (Optional traffic information) It collects and integrates traffic information and even processes such information upon user requests.
- (Intelligent cars/roads) Car manufacturers commercializes intelligent cars that provide parking assistance, lane departure warnings, and automatic driving services.
- (Freight transport) ITS collects navigational data of freight vehicles and supports or manages their services.

▪ **Shared Use of Administrative Information (www.share.go.kr)**

Overview: Civil service officers can process civil service requests by checking the administration network without requiring the applicant to submit required documents.

Contents of services:

- Seventy-one documents required for verification will be checked by the person in charge of civil affairs by administrative information sharing.
- Information inquiry is only conducted with the consent of the applicants, and applicants can check information inquiry history anytime.

▪ **Resident Registration Data System**

Overview: Resident registration and management affairs are handled in local government units, which allows a more concrete understanding of the residence relationship and further improves residents' convenience as well as facilitating administrative service processing.

Contents of services:

- The system provides services regarding resident registration which are closely related to everyday life. It provides services on resident registration and personal information such as the information on family householder and members, their relationships and moving records through the resident registration management systems operated by local government units. It also manages data such as moving-in records that are closely related to the everyday life of residents.
- Resident ID cards are applied for and issued. Resident ID cards are issued to residents aged 17 or older. Applications can be filed at nearby Community Centers. Reporting

missing resident ID cards and application for reissuance can be filed also at nearby Community Centers.

- The system provides data (names, addresses, etc.) to national and public institutions that require personal data of Korean citizens. It facilitates online document issuance, not requiring offline visits to relevant offices and improves convenience of service applicants.

7.1.5. Management of e-Government Project

ICT projects can be implemented in two ways: i) implemented by Ministry of the Interior (MOI) which is responsible to coordinate e-Government related activities, ii) implemented by each Ministry for their own needs.

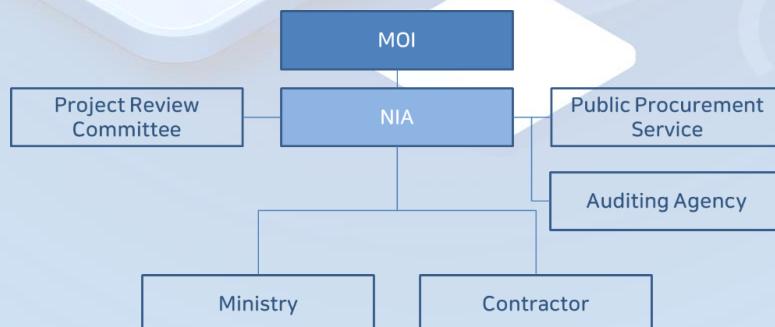
e-Government Project means a government IT project for the interconnected, integrated business or common infrastructure for e-Government. Due to the multiple stakeholders for implementing the project and its interoperable issues to take care of, it is considered that the difficulty of implementation is recognized as high. National Information Society Agency (NIA) take a position for technical advisory organization.

Ministerial Project is a project that is generated for the needs of each Ministry. The project is an IT related project to improve public services of the Ministry. Ordinary, the plan of every Ministerial Project is reviewed and audited by MOI and NIA prior to launch the project.

Type	Budget	Project Target	Difficulty	Specialized Institution
E-Government Project	MOI	Interconnected / Integrated Business Common Infrastructure	High	NIA
Ministerial Project	Ministry	Ministerial Business	Low / Middle	

[Table II.7-3]Classification criteria of e-Government Project / Ministerial Project

The following indicates the management system for e-Governemnt Project.



[Figure II.7-2] Management system for e-Government Project

Ministry of the Interior (MOI) is responsible for e-Government development process. National Information Society Agency (NIA) supports allocating implementation organization, project management and audit. NIA also take responsibilities of technical consultation and administration work. Each ministry as an implementation body does the project management. Project Review Committee is responsible for assessing feasibility and sustainability of the project plan prior to launch. Auditing Agency audits e-Government related projects and also monitor during the implementation. There is a Public Procurement Service which is responsible for procurement and contract management.

Item	Role & Responsibilities
Ministry of the Interior (MOI)	Responsible for e-Government development process
National Information Society Agency (NIA)	Support allocating implementation organization Support project management and audit Support technical consultation and administration work
Ministry (Host Organization)	Project management for implementation
Project Review Committee	Review the project's feasibility and suitability to launch
Auditing Agency	ICT project Audit Monitoring implementation
Public Procurement Service	Procurement & Contract management
Contractor	Project implementation

[Table II.7-4] Roles & Responsibilities of e-Government development actors

The e-Government Development Process has 6 sub-processes: Project Planning, Project Approval, Selection and Contract, Project Management, Project Completion and Project Check. Especially, Selection is processed independently by the Public Procurement Service.



7.2. India e-Government

7.2.1. Background

In India, e-governance has steadily evolved from computerization of government departments and records to initiatives focusing on citizen centricity, service orientation and transparency. In 2006, the Department of Electronics and Information Technology, and the Department of Administrative Reforms and Public Grievances formulated the National e-Governance Plan (NeGP), providing a boost to the e-governance process in India. The NeGP aims to improve the delivery of government services to citizens and businesses with the following vision:



"Make all government services accessible to the common man in his locality through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man."³²

³² <http://deity.gov.in/content/national-e-governance-plan>

NeGP encompasses mission mode projects (MMPs), which focus on key domains of electronic governance such as banking, land records or commercial taxes. “Mission mode” implies that projects have clearly defined objectives, scopes, and implementation timelines and milestones as well as measurable outcomes and service levels. NeGP comprises 27 MMPs.

No.	Central Government Category	State Government Category	Integrated Services Category
01	Income Tax	Land Records	EDI (e-Commerce)
02	Passport Visa and Immigration	Road Transport	e-Biz
03	MCA21	Property Registration	CCSs
04	Insurance	Agriculture	India Portal
05	National Citizen Database and UID Project	Treasuries	EG Gateway
06	Central Excise	Municipalities	e-Courts
07	Pensions	Gram Panchayats	e-Procurement
08	Banking	Commercial Taxes	
09	e-office	Police (UTs initially)	
10		Employment Exchanges	
11		e-district	

[Table II.7-5]List of 27 Mission Mode Projects³³

It was felt that despite the successful implementation of several e-Governance projects across the country, it could not make the desired impact for delivering public services.

Hence, a need was felt to enhance the scope and quality of e-Governance in the country by bringing in transformational government process re-engineering, focusing on integrated services, interoperable systems, and making best use of the emerging technologies. Therefore, ‘eKrantি’ or NeGP 2.0 with a focus on electronic delivery of services was conceptualized.

³³ 11th 5year plan (2007-2012)

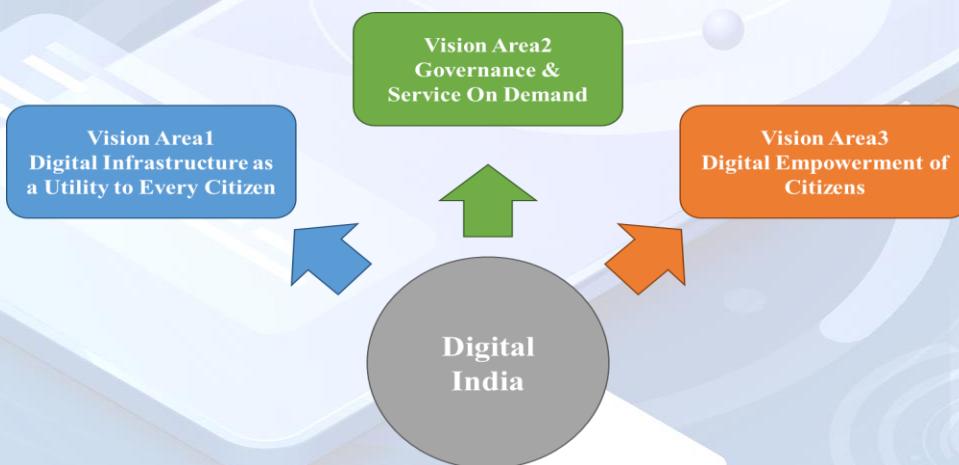
Hence, the vision and scope of Digital India is much wider than that of NeGP. e-Kranti or NeGP 2.0 is one of the nine pillars of Digital India. Other pillars of Digital India include Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Program, e Governance: Reforming Government through Technology, Information for All, Electronics Manufacturing, IT for Jobs, and Early Harvest Programs.

	NeGP	Digital India
Approved	Year 2006	Year 2015
Number of MMPs	27	44

[Table II.7-6]NeGP vs Digital India

7.2.2. Digital India

Digital India was launched by the Prime Minister of India Narendra Modi on 1 July 2015 with an objective of connecting rural areas with high-speed Internet networks and improving digital literacy. The vision of Digital India programme is inclusive growth in areas of electronic services, products, manufacturing and job opportunities etc. It is centered on three key areas: Digital Infrastructure as a Utility to Every Citizen, Governance & Services On Demand and Digital Empowerment of Citizens.



[Figure II.7-3]Three key components of Digital India

Vision Area1: Digital Infrastructure as a Utility to Every Citizen

- High speed internet as a core utility
- Cradle to grave digital identity: unique, lifelong, online, authenticable
- Mobile phone & Bank account enabling participation in digital & financial space



- Easy access to a Common Service Centre
- Shareable private space on a public cloud
- Safe and secure Cyber-space

Vision Area2: Governance & Services On Demand

- Seamlessly integrated across departments or jurisdictions
- Services available in real time from online & mobile platform
- All citizen entitlements to be available on the cloud
- Services digitally transformed for improving **Ease of Doing Business**
- Making financial transactions electronic & cashless
- Leveraging GIS for decision support systems & development

Vision Area3: Digital Empowerment of Citizens

- Universal Digital Literacy
- Universally accessible digital resources
- All documents / certificates to be available on cloud
- Availability of digital resources / services in Indian languages
- Collaborative digital platforms for participative governance
- Portability of all entitlements through cloud

Digital India as an umbrella programme, covering many departments, is a program to transform India into a digitally empowered society and prepare India for a knowledge future. There are nine pillars in Digital India programme.

▪ **Broadband Highways**

- This covers three sub-components, namely Broadband for All Rural, Broadband for All Urban and National Information Infrastructure.
- Under Broadband for All Rural, 250 thousand village Panchayats would be covered.
- Under Broadband for All Urban, Virtual Network Operators would be leveraged for service delivery and communication infrastructure in new urban development and buildings which would be mandated.
- National Information Infrastructure would integrate the networks like State Wide Area Network (SWAN), National Knowledge Network (NKN) and National Optical Fibre Network (NOFN) along with cloud enabled National and State Data Centres.

- **Universal Access to Mobile Connectivity**

- The initiative is to focus on network penetration and fill the gaps in connectivity in the country.
- All together 42,300 uncovered villages will be covered for providing universal mobile connectivity in the country.

- **Public Internet Access Programme**

- The two sub-components of Public Internet Access Programme are Common Service Centres and Post Offices as multi-service centres.
- Common Service Centres would be strengthened and its number would be increased from approximately 135,000 operational at present to 250,000. Common Service Centres would be make viable, multi-functional endpoints for delivery of government and business services.
- A total of 150,000 Post Offices are proposed to be converted into multi service centres.

- **e-Governance: Reforming government through Technology**

[Business Process Re-engineering]

- Form simplification and field reduction: Forms should be made simple and user friendly and only minimum and necessary information should be collected.
- Online applications, tracking of their status and interface between departments should be provided.
- Use of online repositories (e.g. school certificates, voter ID cards) should be mandated so that citizens are not required to submit these documents in physical form.
- Integration of services and platforms (e.g. Unique Identification Authority of India (UIDAI), Payment Gateway, Mobile Platform, Electronic Data Interchange) should be mandated to facilitate integrated and interoperable service delivery to citizens and businesses.

[Electronic Databases]

- All databases and information should be electronic and not manual

[Workflow Automation Inside Government]

- The workflow inside government departments and agencies should be automated to enable efficient government processes and also to allow visibility of these processes to the citizens.



[Public Grievance Redressal]

- IT should be used to automate, respond and analyze data to identify and resolve persistent problems.

▪ e-Kranti: Electronic delivery of services

[Technology for Education: e-Education]

- All schools connected with broadband.
- Free Wi-Fi in all schools (250,000)
- Digital Literacy program
- MOOCs: develop pilot Massive Online Open Courses

[Technology for Health: e-Healthcare]

- Online medical consultation
- Online medical records
- Online medicine supply
- Pan-India exchange for patient information
- Pilots in 2015 and full coverage in 3 years

[Technology for Planning]

- GIS based decision making
- National GIS Mission Mode Project

[Technology for Farmers]

- Real time price information
- Online ordering of inputs
- Online cash, loan, relief payment with mobile banking

[Technology for Security]

- Mobile Emergency Services

[Technology for Financial Inclusion]

- Mobile Banking
- Micro-ATM program
- CSCs / Post Offices

[Technology for Justice]

- e-Courts
- e-Police
- e-Jails
- e-Prosecution

[Technology for Cyber Security]

- National Cyber Security Co-ordination Center

▪ Information for All

- Open Data platform and online of information & documents would facilitate open and easy access to information for citizens
- Government shall pro-actively engage through social media and web-based platforms to inform citizens. MyGov.in has already been launched as a medium to exchange ideas / suggestions with Government. It will facilitate 2-way communication between citizens and government.
- Online messaging to citizens on special occasions / programs would be facilitated through email and SMS.

▪ Electronics Manufacturing: Target NET ZERO Imports

- Taxation / Incentives
- Economies of scale / eliminate cost disadvantages
- Focus areas: Big Ticket Items, Facilities And Building Solutions (FABS), Fab-less design, Set-top boxes, Very-small-aperture terminal (VSATs), Mobiles, Consumer & Medical Electronics, Smart Energy meters, Smart cards, micro-ATMs
- Incubators / Clusters
- Skill development
- Government procurement

▪ IT for Jobs

- 1 Cr students from smaller towns & villages will be trained for IT sector jobs over 5 years.
- Business Process Outsourcings (BPOs) would be set up in every north-eastern state to facilitate ICT enabled growth in these states.
- 3 lakh service delivery agents would be trained as part of skill development to run viable businesses delivering IT services.

- 5 lakh rural workforce would be trained by the Telecom Service Providers (TSPs) to cater to their own needs.

▪ Early Harvest Programmes

[IT Platform for Messages]

- A Mass Messaging Application has been developed by Department of Electronics and Information Technology that will cover elected representatives and all Government employees.
- Over 1.36 crore mobiles and 22 lakh emails are part of the database. The portal was released on 15th August 2014. Data collection and data sanitization are ongoing processes.

[Government Greetings to be e-Greetings]

- Basket of e-Greetings templates have been made available. Crowd sourcing of e-Greetings through MyGov platform has been ensured. E-Greetings portal has been made live on 14th August 2014.
- The e-Greetings portal aims to promote a contemporary and eco-friendly method of sharing greetings by Government officials and agencies as well as citizens to colleagues and friends for National Holidays and other national occasions. The portal allows users to select and send greetings from multiple occasion-specific templates. Government Departments can also customize the greetings by adding tag-lines and messages related to their programmes and schemes.

[Biometric attendance]

- It will cover all Central Government offices in Delhi to begin with. Over 40,000 Government employees from 150 organizations have already registered on the common Bio-metric attendance portal at <http://attendance.gov.in>. Over 1000 bio-metric attendance terminals are under installation at entry gates of various Central Government buildings which will be connected with Wi-Fi Access points and mobile connectivity. Government employees will be able to mark their attendance from any of the central Government offices in Delhi.

[Wi-Fi in All Universities]

- All universities on the National Knowledge Network (NKN) shall be covered under this scheme.
- Ministry of Human Resource Development (MHRD) is the nodal ministry for implementing this scheme.

[Secure Email within Government]

- Email would be the primary mode of communication within government.
- The government e-mail infrastructure would be suitably enhanced and upgraded. Upgradation of the infrastructure under Phase-I for 10 lakh employees has already been completed. Under Phase-II, infrastructure would be further upgraded to cover 50 lakh employees by March 2015 at a cost of Rs.98 Cr.
- Ministry of Electronics and Information Technology is the nodal department for this scheme.

[Standardize Government Email Design]

- Standardized templates for Government email would be prepared.
- This is being implemented by Ministry of Electronics and Information Technology.

[Public Wi-Fi hotspots]

- Cities with population of over 1 million and tourist centres would be provided with public wi-fi hotspots to promote digital cities.
- The scheme would be implemented by Department of Telecommunications (DoT) and Ministry of Urban Development (MoUD).

[School Books to be eBooks]

- All books shall be converted into eBooks.
- Ministry of Human Resource Development / Ministry of Electronics and Information Technology are the nodal agencies for this scheme.

[SMS based weather information, disaster alerts]

- SMS based weather information and disaster alerts would be provided. Mobile Seva Platform (Department of Electronics and Information Technology) has been made available for this purpose.
- Ministry of Earth Sciences (MoES) (India Meteorological Department – IMD) / Ministry of Home Affairs (National Disaster Management Authority – NDMA) would be the nodal organizations for implementing this scheme.

[National Portal for Lost & Found children]

- This would facilitate real time information gathering and sharing on the lost and found children and would go a long way to check crime and improve timely response.
- The portal is being redesigned with the following features:
 - Enhance citizen participation through mobile apps

- Mobile / SMS alert system for police (Child Welfare Officer)
- Better navigation plan for citizens
- Facility to integrate child services
- Using social media to popularize the system / web portal
- Ministry of Electronics and Information Technology and Department of Women and Child Development are the nodal departments for this project.

Nine Pillars of Digital India



[Figure II.7-4]Nine Pillars of Digital India

7.2.3. e-Kranti: National e-Governance Plan 2.0

Considering the critical need for transforming e-Governance and promote mobile Governance and Good Governance in the country, the approach and key components of e-Kranti have been approved by the Union Cabinet on 25. 03. 2015 with the vision of “Transforming e-Governance for Transforming Governance”.

- Transformation and not Translation - All project proposals in e-Kranti must involve substantial transformation in the quality, quantity and manner of delivery of services and significant enhancement in productivity and competitiveness.
- Integrated Services and not Individual Services - A common middleware and integration of the back-end processes and processing systems is required to facilitate integrated service delivery to citizens.
- Government Process Reengineering (GPR) to be mandatory in every MMP - To mandate GPR as the essential first step in all new MMPs without which a project may not be sanctioned. The degree of GPR should be assessed and enhanced for the existing MMPs.
- ICT Infrastructure on Demand – Government departments should be provided with ICT

infrastructure, such as connectivity, cloud and mobile platform on demand. In this regard, National Information Infrastructure (NII), which is at an advanced stage of project formulation, would be fast-tracked by Department of Electronics and Information Technology.

- Cloud by Default – The flexibility, agility and cost effectiveness offered by cloud technologies would be fully leveraged while designing and hosting applications. Government Cloud shall be the default cloud for Government Departments. All sensitive information of Government Departments shall be stored in a Government Cloud only. Any Government Department may use a private cloud only after obtaining permission from Department of Electronics and Information Technology which shall do so after assessing the security and privacy aspects of the proposed cloud.
- Mobile First - All applications are designed/ redesigned to enable delivery of services through mobile.
- Fast Tracking Approvals – To establish a fast-track approval mechanism for MMPs, once the Detailed Project Report (DPR) of a project is approved by the Competent Authority, Empowered Committees may be constituted with delegated powers to take all subsequent decisions.
- Mandating Standards and Protocols – Use of e-Governance standards and protocols as notified by Department of Electronics and Information Technology be mandated in all e-governance projects.
- Language Localization - It is imperative that all information and services in e-Governance projects are available in Indian languages as well.
- National GIS (Geo-Spatial Information System) - NGIS to be leveraged as a platform and as a service in e-Governance projects.
- Security and Electronic Data Preservation - All online applications and e-services to adhere to prescribed security measures including cyber security. The National Cyber Security Policy 2013 notified by Department of Electronics and Information Technology must be followed.

There are 44 Mission Mode Projects under e-Kranti programme. These mission mode projects are grouped into Central, State and Integrated projects.

No.	Project	Line Ministry / Department Responsible
01	Income Tax	M/o Finance / Central Board of Direct Tax
02	Passport	M/o External Affairs
03	MCA21	M/o Company Affairs
04	Insurance	D/o Financial Services
05	National Citizen Database	M/o Home Affairs / Registrar General of India (RGI)
06	Central Excise	D/o Revenue / Central Board of Excise & Custom
07	Pensions	D/o Pensions & Pensioners welfare & Dept. of Expenditure
08	Bankin Banking	D/o Financial Services
09	e-Office	D/o Administrative Reforms & Public Grievances
10	Posts	D/o Posts
11	Visa & Immigration	M/o Home Affairs
12	e-Sansad	Ministry of Parliamentary Affairs
13	Common IT Roadmap for Para Military Forces	M/o Home Affairs

[Table II.7-7]Central Mission Mode Projects

No.	Project	Line Ministry / Department Responsible
01	Land Records	M/o Rural Development
02	Road Transport	M/o Road Transport & Highway
03	Property Registration	D/o Land Resources and D/o Electronics and Information Technology
04	Agriculture	D/o Agriculture & Cooperation
05	Treasuries	M/o Finance
06	Municipalities	M/o Urban Development and Poverty Alleviation
07	Gram Panchayats	M/o Panchayati Raj

08	Commercial Taxes	M/o Finance
09	Police (UTs initially)	M/o Home Affairs
10	Employment Exchanges	M/o Labour & Employment
11	School Education	D/o Health and Family Welfare
12	Health	D/o Health and Family Welfare
13	PDS	D/o Food and Public Distribution
14	e-Vidhaan	Ministry of Parliamentary Affairs
15	Agriculture 2.0	D/o Agriculture
16	Rural Development	D/o Rural Development
17	Women and Child Development	M/o Women and Child Development

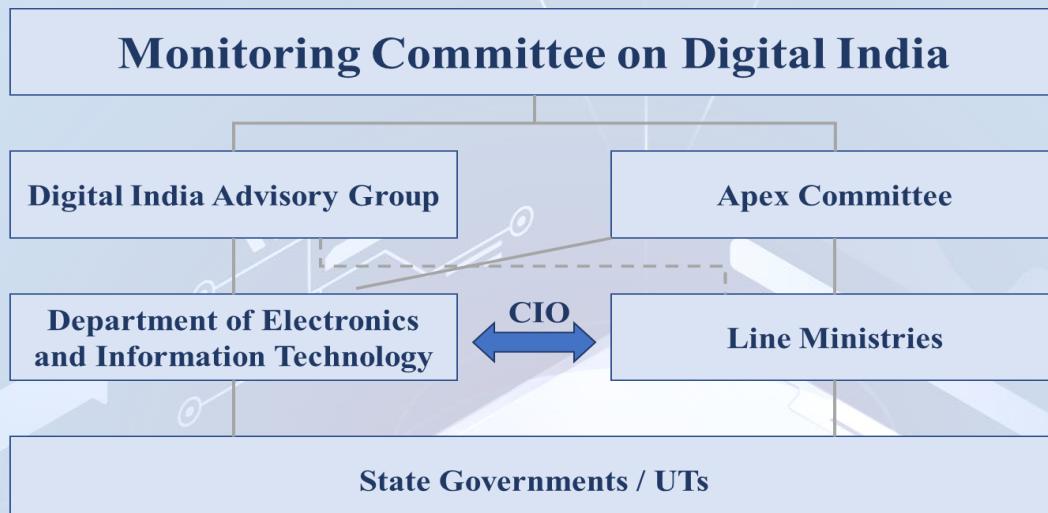
[Table II.7-8] State Mission Mode Projects

No.	Project	Line Ministry / Department Responsible
01	EDI (E-Commerce)	M/o Commerce & Industry
02	E-Biz	D/o Industrial Policy & Promotion
03	Common Services Centres	D/o Electronics and Information Technology
04	India Portal	D/o Electronics and Information Technology and D/o Administrative Reforms & Public Grievances
05	E-Courts	D/o Justice
06	E-Procurement	M/o Commerce & Industry / DGS&D
07	National Service Delivery Gateway	D/o Electronics and Information Technology
08	Financial Inclusion	D/o Financial Services
09	National Geographical Information System	D/o Science & Technology
10	Social Benefits	M/o Social Justice and Empowerment as the leader and other welfare departments as co-owners
11	Roads and Highways Information System (RAHI)	M/o Road Transport & Highways
12	e-Bhasha	D/o Electronics and Information Technology
13	National Mission on Education Through ICT (NMEICT)	D/o Higher Education
14	Urban Governance	Ministry of Urban Development

[Table II.7-9] Integrated Mission Mode Projects

7.2.4. Digital India Programme Management

The programme management structure for Digital India consists of a Monitoring Committee on Digital India headed by the Prime Minister, a Digital India Advisory Group chaired by the Honorable Minister of Electronics & IT Law & Justice and an Apex Committee chaired by the Cabinet Secretary.



[Figure II.7-5]The programme management structure for Digital India

Key components of the Programme Management structure would be as follows:

- **Cabinet Committee on Economic Affairs (CCEA)** for programme level policy decisions.
- **A Monitoring Committee on Digital India under the Chairpersonship of Prime Minister** which will be constituted with representation drawn from relevant Ministries/ Departments to provide leadership, prescribe deliverables and milestones, and monitor periodically the implementation of the Digital India Programme.
- **A Digital India Advisory Group headed by the Minister of Communications and IT** to solicit views of external stakeholders and to provide inputs to the Monitoring Committee on Digital India, advise the Government on policy issues and strategic interventions necessary for accelerating the implementation of the Digital India Programme across Central and State Government Ministries/Departments. The composition of the Advisory Group would include representation from the Planning Commission and 8 to 9 representatives from States/UTs and other Line Ministries/Departments on a rotational basis.
- **An Apex Committee** headed by the Cabinet Secretary would be overseeing the programme and providing policy and strategic directions for its implementation and resolving inter-

ministerial issues. In addition, it would harmonize and integrate diverse initiatives and aspects related to integration of services, end to end process re-engineering and service levels of MMPs and other initiatives under the Digital India Programme, wherever required.

- **Expenditure Finance Committee (EFC) / Committee on Non Plan Expenditure (CNE)** to financially appraise/ approve projects as per existing delegation of financial powers. The EFC/ CNE headed by Secretary Expenditure would also be recommending to the CCEA the manner in which MMPs/ e-Governance initiatives are to be implemented, as well as the financial terms of participation for States. A representative of the Planning Commission would also be included in both the EFC and CNE.
- **A Council of Mission Leaders on Digital India** headed by Secretary, Department of Electronics and Information Technology would be established as a platform to share the best practices in various existing and new e-Government initiatives under Digital India and also to sensitize various government departments about ICT projects of Department of Electronics and Information Technology. While the inter-departmental, integration and interoperable issues of integrated projects / e-Governance initiatives would be resolved by the Apex Committee on Digital India headed by Cabinet Secretary, the technical issues of integrated projects would be resolved by the Council of Mission Leaders.
- Further, considering the scope of the Digital India Programme and the need to look at issues such as overall technology architecture, framework, standards, security policy, funding strategy, service delivery mechanism, sharing of common infrastructure etc. at a programme level, it is proposed that the technical appraisal of all Digital India projects be done by Department of Electronics and Information Technology, prior to a project being placed before the EFC/ CNE. This appraisal would cover issues relating to inclusion of adoption of Standards, utilization of Cloud and mobile platforms, consideration of security aspects, etc. The Secretary, Department of Electronics and Information Technology or his representative may also be included as a standing special invitee to all EFC/CNE meetings, which are appraising/approving MMPs. It may be mentioned that the Department of Electronics and Information Technology has already set up a Programme Management Unit, namely National e-Governance Division (NeGD) to provide support to departments in conceptualizing, developing, appraising, implementing and monitoring respective MMPs / e-Governance Initiatives.
- Institutional mechanism of Digital India at State level would be headed by **State Committee on Digital India** by the Chief Minister. **State/UT (Union Territories) Apex Committees on Digital India** headed by Chief Secretaries would be constituted at State/UT (Union Territories) level to allocate required resources, set priority amongst projects and resolve inter-departmental issues at State level.



For effective monitoring of Digital India, usage of Project Management Information System would be mandatory in each new and existing Mission Mode Projects to capture the real or near real time details about the progress of the project. This tool should be proficient enough to capture the parameters for each stage of project namely, conceptualization and development, implementation and post implementation. The parameters could be decided in consultation with various line Ministries / Departments and Department of Electronics and Information Technology.

Since the “e-Kranti: National e-Governance Plan 2.0” is already integrated with Digital India Programme, the existing programme management structure established for National e-Governance Plan at both national and state level has also been decided to be integrated appropriately with the programme management structure being envisaged for Digital India Programme at national and State/UT (Union Territories) level.



[Figure II.7-6] Credit: Digital India – Footsteps

8. Interview & Survey

8.1. Interview

During five dispatches, 66 interviews have been conducted to identify the current status and requirements of Bangladesh for formulating e-Government Master Plan. The number of interviewed organizations was 29, and the interviews were carried out with more than Joint Secretary level of each Division and Ministry.

No.	Interviewed Organizations
1	a2i programme - PMO
2	Anti-Corruption Commission
3	Bangladesh Computer Council
4	Election Commission
5	ICT Division – MoPT&IT
6	Ministry of Commerce
7	Ministry of Disaster Management and Relief
8	Ministry of Education
9	Ministry of Environment & Forests
10	Economic Relations Division - MoF
11	Finance Division - MoF
12	Internal Resource Division - MoF
13	National Board of Revenue - MoF
14	Department of Immigration & Passports - MoHA
15	Ministry of Information
16	Law & Justice Division - MoLJPA
17	Legislation & Parliamentary Affairs Division - MoLJPA
18	Birth/Death Registration Office - MoLGRD
19	Dhaka District e-Service Center - MoLGRD
20	National Identification Authority - MoLGRD
21	Union Digital Center - MoLGRD

22	Bangladesh Bureau of Statistics - MoP
23	Central Procurement Technical Unit - MoP
24	Implementation Monitoring & Evaluation Division - MoP
25	Planning Division - MoP
26	Dhaka Power Distribution Company - MoPEMR
27	Bangladesh Road Transport Authority - MoRTB
28	United Nations Development Programme
29	World Bank

[Table II.8-1] Interviewed Organizations

8.1.1. a2i Programme

The interviews of a2i programme have been conducted 6 times where the interviewees are from Innovation team and e-Service team. a2i expressed interest in Korean Worknet services and emphasized the need for vocational training services especially for overseas dispatched workers. In addition, a2i requested to build a service to integrate local government citizen services into single system as a pilot project of e-Government Master plan. As a result of the interviews, the following requirements have been derived.

- Job Portal
- Food and Drug Information System
- Integrated Disaster Management System
- Intelligence Transport System
- Skills for Employment Management System
- Digital Municipality Services System
 - ✓ Online Holding tax & water billing system
 - ✓ Online Trade License Issuing System
 - ✓ Online Certificate Issuing System
 - ✓ Municipality Property Management System



8.1.2. Bangladesh Investment Development Authority

Bangladesh Investment Development Authority is a subsidiary of the Prime Minister's Office and is responsible for promoting investment. The chairman of BIDA noted that vocational training information services are needed to promote employment in Bangladesh and noted the need for a system to streamline investment promotion activities. Derived from the result of interview with the chairman of BIDA, we concluded the following initiatives will match the requirements.

- Skills for Employment Management System
- Bangladesh Investment Single Window

8.1.3. Ministry of Planning

The interviews of Bangladesh Bureau of Statistics and Planning Division have been conducted. To improve activities for collecting statistical data, Bangladesh Bureau of Statistics mentioned that Statistical collection system is needed. Also, they mentioned a system, "National Statistics Data Warehouse System", is required to perform analysis large volume of statistical data. Planning Division stated that each year, they had to compile Annual Performance Agreement manually. They stated that a system for automation for those work is necessary.

- National Statistics Data Warehouse System with Big Data solution
- Statistical Collection Systems
- Annual Performance Agreement Management System

8.1.4. Ministry of Education

Ministry of Education noted that there is the National Education Policy 2010 based on National ICT Policy. However, National Education Policy 2010 only mentions the needs of improvement ICT activities but no detail ICT related service development plan. The interviewees from Ministry of Education stated that Educational administrative management system is required.

- Educational Administrative Management System
- Industry and Company Network Service
- DTE Academic and Resource Management System

8.1.5. Ministry of Environment, Forest and Climate Change

Ministry of Environment, Forest and Climate Change noted that there is a pressing need for data collection. There should be an automated system for measuring water pollution and air pollution

- Environmental Information Management System

8.1.6. Ministry of Finance

Asycuda World, the customs clearance system currently being utilized by Ministry of Finance, is a system that focuses mainly on functions of calculation, reporting, collection and records of customs clearance data. However, cargo information and other necessary works are conducted manually which indicates current customs clearance system has interoperability issue. Therefore, e-Customs Single Window will solve the issues of several manual works by automated cargo information management and other improvement.

There are numerous projects on going for implementation in Bangladesh. However, due to inefficient budget, there are also numerous projects at the pending-status. To decrease budget issue for each on-going project, Budget Information Management System is necessary. Since the project is approved to launch by the procurement process, the budget of the project is automatically locked by the system, ‘Budget Information Management System’. (This budget cannot be used for other purpose. To unlock the budget, complicated and long approval processes are mandated by the system)

- e-Customs Single Window
- Budget Information Management System



8.2. Survey Overview

During the project period, the survey was conducted on October 2016. The objective of the survey was to study the required basis environment in establishing e-Government, and was conducted on CIO (Chief Innovation Officer) and public officials who has understanding on IT works.

The survey was conducted on 111 organizations including Ministries, Division, and Directorates, and 63 organizations responded to the survey. (The survey was conducted on 186 people and 99 responded to the survey.)

No.	Survey Participants	No.	Survey Participants
1	Local Government Engineering Department	57	Ministry of Textiles and Jute
2	Anticorruption Commission	58	Ministry of Water Resource
3	Bangladesh Bridge Authority	59	Ministry of Youth and Sports
4	Bangladesh Bureau of Statistics (BBS)	60	MSS, Directorate of Health
5	Bangladesh Council of Scientific and Industrial Research (BCSIR)	61	Office of the Controller General of Accounts
6	Bangladesh Economic Zones Authority (BEZA)	62	Office of the Controller of Certifying Authorities (CCA)
7	Bangladesh Export Promotion Bureau	63	Office of the Registrar of Joint Stock Companies and Firms
8	Bangladesh Hi-Tech Park Authority	64	Parliament Secretariat
9	Bangladesh Overseas Employment and Service	65	Planning Division
10	Bangladesh Police	66	Posts & Telecommunications Division
11	Bangladesh Standards and Testing Institution	67	Power Division
12	Bangladesh Telecommunication Regulatory Commission	68	President Office, Dhaka
13	Bangladesh Tourism Corporation	69	Birth and Death Registration Office
14	Bangladesh Public Service Commission	70	Road Transport and Highways Division
15	Bangladesh Computer Council	71	Rural Development and Cooperative Division
16	Bureau of Manpower, employment & training	72	Statistics and Informatics Division
17	Cabinet Division	73	University Grants Commission
18	Copyright Office	74	Water Supply & Sewerage Authority
19	Department of Agricultural Extension	75	Department of Fisheries
20	Department of ICT	76	Ministry of Home Affairs
21	Department of Immigration and Passports	77	National Board of Revenue
22	Department of Jute	78	Energy & Mineral Resources Division
23	Department of Land Record and Survey	79	Department of Environment
24	Department of Patents, Design and Trademarks	80	Ministry of Fisheries & Livestock
25	Department of Social Services	81	Ministry of Women & Children Affairs

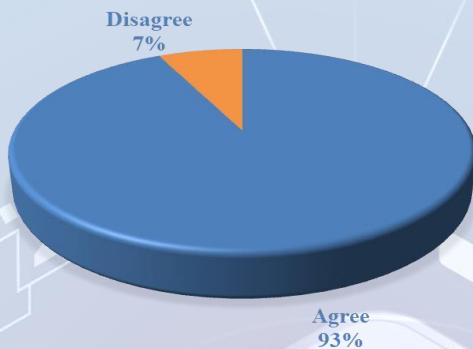
26	Department of Youth Development	82	Ministry of Information
27	Department of Labour	83	Ministry of Cultural Affairs
28	Dhaka South City Corporation	84	Ministry of Commerce
29	Dhaka Transport Coordination Authority	85	Ministry of Labour and Employment
30	Directorate General of Food	86	Ministry of Law, Justice & Parliamentary Affairs
31	Directorate of Archives and Libraries	87	Office of the Chief Controller of Imports and Exports, Ministry of Commerce
32	Directorate of National Savings	88	Chittagong City Corporation
33	Directorate of Technical Education	89	Ministry of Chittagong Hill Tracts Affairs
34	Directorate Secondary & Higher Education	90	Director General of Family Planning
35	Economic Relations Division	91	Ministry of Planning
36	Information & Communication Technology Division	92	Ministry of Liberation War Affairs
37	Information Commission	93	Office of the Registrar of Joint Stock Companies and Firms
38	Local Government Division	94	Directorate of Textiles
39	Ministry of Agriculture	95	Bank & Financial Institutions Division
40	Ministry of Civil Aviation and Tourism	96	Department of Disaster Management (DDM)
41	Ministry of Defense	97	Bangladesh Bridges Authority, Bridges Division
42	Ministry of Education	98	Finance Division, Ministry of Finance
43	Ministry of Environment, Forest and Climate Change	99	Chittagong Development Authority (CDA)
44	Ministry of Expatriates Welfare and Overseas Employment	100	Rajdhani Unnayan Kartripakkha (RAJUK)
45	Ministry of Fisheries and Livestock	101	Election Commission Bangladesh
46	Ministry of Food	102	Chittagong Port Authority
47	Ministry of Health and Family Welfare	103	Dhaka North City Corporation (DNCC)
48	Ministry of Housing and Public Works	104	Legislative and Parliamentary Affairs Division (LPAD)
49	Ministry of Industry	105	Bangladesh Chemical Industries Corporation (BCIC)
50	Ministry of Land	106	Bangladesh Public Administration Training Centre (BPATC)
51	Ministry of Primary and Mass Education	107	Dhaka Power Distribution Company
52	Ministry of Public Administration	108	National ID Authority
53	Ministry of Railway	109	Birth and Death registration authority
54	Ministry of Science and Technology	110	National Data Center
55	Ministry of Shipping	111	Access to Information
56	Ministry of Social Welfare		

[Table II.8-2] List of Survey Participants

8.3. Survey Result

8.3.1. The necessity for a dedicated organization for e-Government

Do you agree with the need for a dedicated organization for formulating e-Government?

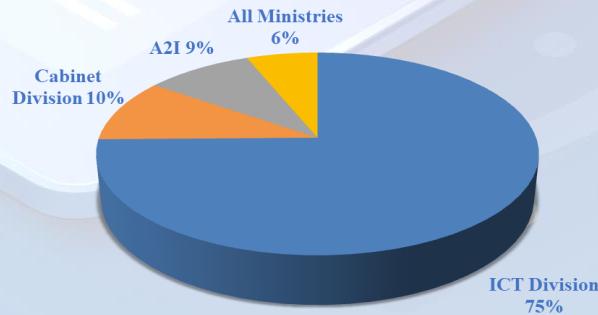


[Figure II.8-1] Survey of the need for a dedicated organization for e-Government

Among the respondents, 92 answered that it is necessary to establish a dedicated organization for e-Government, whereas 7 disagreed, saying that similar IT projects are already being carried out in other ministries.

8.3.2. Dedicated Organization for e-Government

Which should be a dedicated organization for formulating e-Government in Bangladesh?



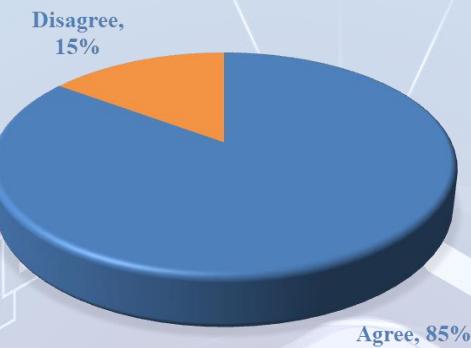
[Figure II.8-2] Survey of a dedicated organization for e-Governance

74 respondents answered that ICT Division should be the dedicated organization in establishing e-Government, whereas 10 pointed Cabinet Division and 9 pointed a2i respectively. 6 answered that it isn't

necessary to have a dedicated organization in establishing e-Government.

8.3.3. National Data Center

Do you agree that all ICT resources related to e-Government should be managed by National Data Center?

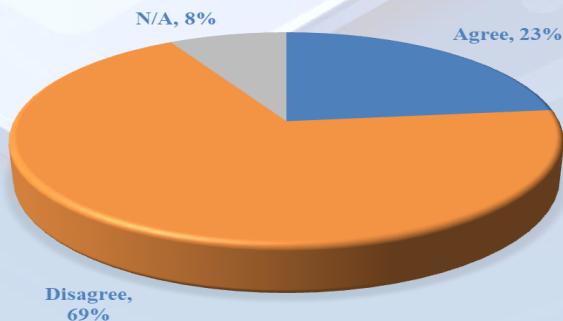


[Figure II.8-3] Survey of management rule for ICT resources

Regarding the question whether National Data Center should be in charge of maintenance and operation of OCT resources related to e-Government, 84 agreed and 15 disagreed.

8.3.4. Infrastructure for e-Government

Do you think that the level of ICT infrastructure is enough to establish e-Government?

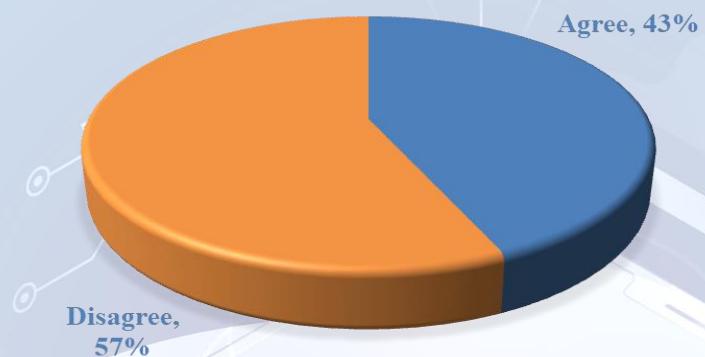


[Figure II.8-4] Survey of the level of ICT infrastructure

Regarding the question about the ICT infrastructure level for establishing e-Government, most of the respondents disagreed, answered that there is a necessity to expand ICT infrastructure from the current level.

8.3.5. Information Sharing

Are information links well with other public organizations in an electronic way?



[Figure II.8-5] Survey of interoperability in public service

Regarding the question whether information links are well with other public organization in an electronic way, 56 disagreed whereas 43 agreed, answering that there is a smooth information sharing among public organizations.

Most of the respondents who agreed said that they are using e-mail or internet to share information with other public organizations, and some answered they use e-Filing system for information sharing among Divisions or Directorates within the same Ministry. Some of the respondents who disagreed answered they don't need to share information with other Ministries due to the nature of their work.

8.3.6. Service Priorities

Which Digital Service Initiative should be firstly implemented?

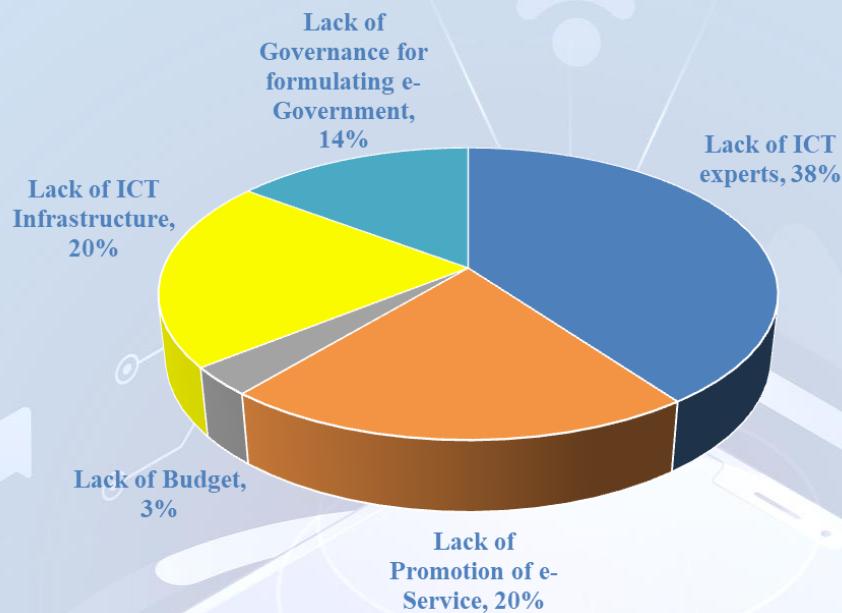


[Figure II.8-6] Survey of Digital Service for firstly implemented

According to the survey result, most of the respondents answered that G2C, the service for the public, should be implemented the first. The biggest respondents, 47, emphasized G2C and second came G2G which was emphasized by 30 respondents. The third came G2B, a service for activating business to enhance national competitiveness, which was chosen by 12 respondents.

8.3.7. Barriers in implementing e-Government

What are the most impediments to the implementation of Bangladesh e-Government?



[Figure II.8-7] Survey of the hindering point of e-Government realization

Regarding the question about what the biggest barriers are in establishing e-Government, 38 respondents pointed out the lack of ICT experts, which means that they agree it is urgent to develop ICT experts. 20 respondents answered ICT infrastructure expansion and promotion on the active usage of Digital Service respectively. The least number, 3 respondents, answered that it is difficult to establish e-Government due to the lack of budget.



8.4. Summary of Interview & the Survey Result

The following are the required initiatives requested by each organization through interviews.

a2i

- Job Portal
- Food and Drug Information System
- Integrated Disaster Management System
- Intelligence Transport System
- Skills for Employment Management System
- Digital Municipality Services System

BIDA

- Skills for Employment Management System
- Bangladesh Investment Single Window

Ministry of Planning

- National Statistics Data Warehouse System with Big Data solution
- Statistical Collection Systems
- Annual Performance Agreement Management System

Ministry of Education

- Educational Administrative Management System

Ministry of Environment, Forest and Climate Change

- Environmental Information Management System



Ministry of Finance

- e-Customs Single Window
- Budget Information Management System

The results of survey are summarized as follows.

- *Necessity on the dedicated organization for e-Government: necessary (93%)*
- *Dedicated organization for e-Government: ICT Division (74%)*
- *NDC should be in charge of e-Government resources management (85%)*
- *Infrastructure for e-Government: insufficient (69%)*
- *Necessity to share information: agree (57%)*
- *Service priorities: (1) G2C (2) G2G (3) G2B*
- *Barriers in implementing e-Government: lack of ICT experts (38%)*

9. Key findings

Legal framework / Governance

- It is necessary to establish e-Government act/laws to implement e-Government.
- Though there exist ICT act and Right to Information, it is better to have a dedicated law or regulation which defines the principle of e-Government activities and the provision of e-Governance to clarify each role of the key organizations for formulating e-Government.
- It is necessary to designate a dedicated organization for promoting e-Government in order to achieve Digital Bangladesh
- Many e-Government related initiatives are being pursued but are not being pursued in accordance with holistic plans

Digital Service

- Currently, only about 20% of public services are provided online
- Most Digital Services linked in National portal are simply providing information
- Considering internet penetration, major services should be available on mobile, and should adopt new technology such as big data and artificial intelligence.
- To achieve Bangladesh Vision 2021, it is necessary to develop Digital Services in the area of improving national competitiveness
- Major industrial and strategic sectors of national economy: agriculture, trade, ICT industry
- The field of attracting foreign capital (Easy of Doing Business)

Government work

- Business Process Re-engineering (or Service Process Simplification) implementation is required before developing business services



- When developing interoperable and integrated Digital Services, it is required to simplify the process by redesigning the business.
- It is necessary to implement systematic implementation such as shared service, common service, and unique service of government business service (G2G)
- Big data, artificial intelligence, etc. ICT technology trends should be considered when implementing Digital Services

Infrastructure

- To utilize national resources efficiently, it is necessary to establish National Data Center First policy and integrate all possible systems
- To enhance interoperability of e-Government services, Bangladesh National Digital Architecture should be applied to all Digital Services.



To-be Model



III. To-be Model

1. E-Government Vision and Goals

The e-Government Master Plan has been developed to support National ICT Policy 2018 and Digital Bangladesh. In this respect, the vision statement for e-Government is stated as:

Vision of e-Government Master Plan

“e-Government for Digital Bangladesh”

- e-Government vision is to contribute to the realization of Bangladesh national vision “Digital Bangladesh” by building e-Government.

Goals

- Make Citizens' Lives Easier
- Make Businesses Competitive
- Make Government Innovative

- Provide convenient Digital Services for citizens, enhance competitiveness of companies through providing Digital Services necessary for corporate activities, and promoting innovation in government affairs.

2. Strategy

The improvement directions from analysis of current-status are as below:

- Align with National ICT Policy, establish a master plan that focuses on organized, rapid e-Government implementation.
- Considering that various e-Government related projects are being pursued by different ministries, systematic management for e-Government is essential.

Strategies have been defined for the propagation of the goals.

- #1. Establish legal framework and governance for e-Government
- #2. Establish effective government work innovation
- #3. Improve Digital Services to be convenient and helpful to all
- #4. Build infrastructure for secure Digital Services

3. Project Identification

The candidate initiatives in the master plan are selected by the review of action items of National ICT Policy, Korean e-Government best practices, international common Digital Services³⁴, the result of interview & survey and from the analysis of Digital Service Implementation plans of 53 ministries and divisions which is supported by Digital Service Accelerator (a combined support unit of Cabinet Division and a2i, ICT Division).

The first candidate project group is selected by the review of action items of National ICT Policy, Korean e-Government best practices, international common Digital Services, the result of interview & survey. The 46 initiatives have been derived from the first candidate project group after de-duplicating similar initiatives and integrating.

³⁴ e-Trade Single Window, e-Procurement System, e-Immigration Management System, National Statistics System, Public Human Resource Management System, Land Information Management System, Electronic Tax Management System, National Identification Management System

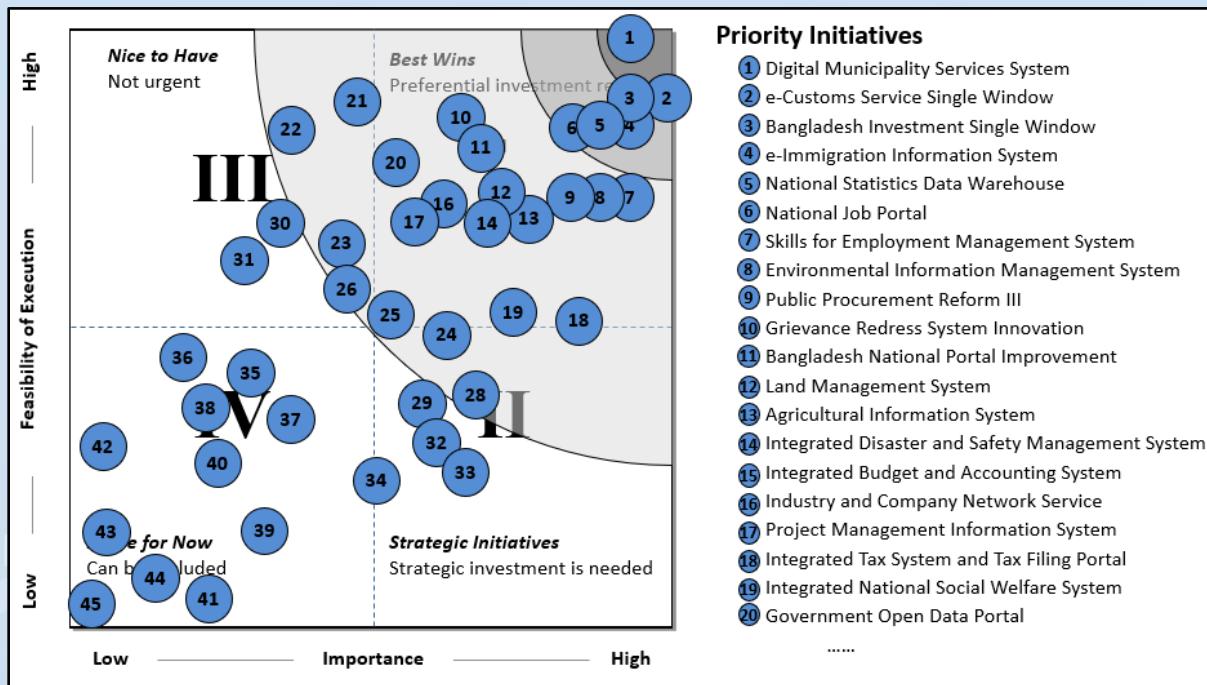
46 initiatives prioritized by the criteria in terms of importance and feasibility:

	Indicator	Sub-Indicator	Weight	Sub-Score	Score (Highest)
Importance	Urgency	Opinion from interviewee	40%	10	10
		National ICT Policy	40%	10	
		Willingness of the organization	20%	10	
	Effectiveness	Korean Case Study	50%	10	10
		International Case Study	50%	10	
Feasibility	Technical readiness	Duration of implementation	30%	10	10
		Cost of implementation	30%	10	
		Complexity of interoperability	40%	10	
	Operational capability	Presence of similar services	40%	10	10
		Necessity for implementing functions of interoperability	30%	10	
		Complexity of business process for the initiatives	30%	10	

[Table III.3-1] Criteria of prioritization

Urgency was measured based on the interviewee's opinion and willingness of the organization. **Effectiveness** was scored based on case study of effectiveness on Korean and International Digital Services.

The sub-indicator of Technology readiness are duration, cost and complexity of implementing the initiatives. We identified whether the initiative is short-term, mid-term and long-term. Complexity of the initiative is measured by the number of organizations to participate for implementing interoperable functions. Operational capability is identified by measuring presence of similar services, existence of related organization to operate and the complexity of new business process for operating the initiative.



[Figure III.3-2] Prioritization

46 initiatives were ranked according to the measurement of prioritization which is the combined score of urgency and feasibility.

No.	Digital Service	Priority score (40)	Duration
1	Digital Municipality Service System	40	Short-term
2	e-Customs Service Single Window	36.4	Mid-term
3	Bangladesh Investment Single Window	36	Mid-term
4	e-Immigration Information System	35.6	Short-term
5	National Statistics Data Warehouse	35.5	Short-term
6	National Job Portal	34.4	Short-term
7	Skills for Employment Management System	34.4	Short-term
8	Environmental Information Management System	34.3	Short-term
9	Public Procurement Reform III	32.4	Short-term
10	Grievance Redress System Innovation	31.9	Mid-term
11	Bangladesh National Portal Improvement	31.5	Short-term

12	Land Management System	30.5	Long-term
13	Agricultural Information System	28.6	Short-term
14	Integrated Disaster and Safety Management System	27.6	Mid-term
15	Integrated Budget and Accounting System	27.5	Short-term
16	Industry and Company Network Service	27.5	Short-term
17	Project Management Information System	26.7	Short-term
18	Integrated Tax System and Tax Filing Portal	26.6	Short-term
19	Integrated National Social Welfare System	26.6	Mid-term
20	Government Open Data Portal	26.4	Mid-term
21	Government Business Process System	25.7	Long-term
22	Integrated National Healthcare Information System	25.3	Mid-term
23	Integrated National Education Information System	23.7	Long-term
24	Public Asset Management System	22.2	Short-term
25	Bangladesh GovNet Enhancement	22	Long-term
26	Legislation Management System and Legal Information Service Portal	21.4	Mid-term
27	Performance Management System	21.2	Mid-term
28	Electronic Human Resources Management System	21	Short-term
29	Integrated Licensing and Certificate Management System	19.9	Short-term
30	Resident Registration System	18.9	Mid-term
31	Government Integrated Data Center	18.7	Long-term
32	Information System of Criminal Justice Service	18.7	Long-term
33	Food Information Network System	17.8	Short-term
34	National Drug Safety Management and Disease Control System	17.1	Short-term
35	National Science and Technology Information Service Portal	17	Short-term
36	Integrated e-Document and Contents Management System	16.6	Mid-term
37	Fishery Information Management System and Service Portal	14.6	Short-term
38	Cultural & Religious Heritage Management System	14	Short-term

39	Strengthening of CIRT	13.5	Mid-term
40	Intellectual Property Management System and Patent Service Portal	12.8	Short-term
41	National Logistics Information System	12	Mid-term
42	IT Service Management System	12	Short-term
43	Intelligent Transportation System	10.8	Long-term
44	Public Information Sharing System	10.7	Long-term
45	Audit and Internal Control System	9.9	Short-term
46	Livestock Information Management System	8.7	Short-term

[Table III.3-2] Prioritized list of Candidate Initiatives

The second candidate group of initiatives is the result of a2i programme by Digital Service Accelerator. For 53 ministries/divisions and 394 departments/directorates, 2,756 digital services are identified in the Digital Service Implementation Workshop. Out of them, 1,856 services are planned, 597 running, 273 implementing.

The 1,856 planned digital services are evaluated by the criteria in terms of Importance & Impact and Ability & Feasibility (Annex 7). 140 digital services among 1,856 planned services are highly ranked. Especially, following 10 shared services are significant since these 10 shared services cover 757 digital services.³⁵

- **Government Resource Planning (GRP) - G2G**
- **Training Management (G2G)**
- **Registration/ Certificate/ License/ Permit/ NOC (G2C)**
- **Grievance Redress System (GRS) - G2C**
- **Library Management (G2G)**

³⁵ Analysis result of Digital Service Accelerator



- **Grant Management System (G2C)**
- **Loan Management System (G2B)**
- **Case Management System (G2C)**
- **Lease Management System (G2B)**
- **e-Commerce (G2C & G2B)**



4. Digital Services

4.1. Government-to-Government(G2G)

G2G service aims to improve services and public administration for government internal administration. G2G service is classified as follows.

■ Shared Services

- Service for providing to other government organizations, established by the Dedicated Agency
- E-mail Service, Business Process Management System, e-Document Management System, BNDA
- Dedicated Agency: ICT Division

■ Common Services

- Common tasks required by multiple government organizations
- Digital Budget Management System, Human Resource Management System, Performance Management System, Audit and Internal Control System
- Dedicated Agency: Service Providing Agency

■ Ministerial Services

- Services for each organization's tasks
- Implemented by each organization

The services listed below are list of prioritized initiatives which can be implemented sequential order according to priority.

No.	Digital Service	Category	Duration
1	National Statistics Data Warehouse – Priority Initiative	Ministerial	Short term
2	ICT Employment Management (Government ERP)	Shared	Short term
3	Public Asset Management System	Shared	Short term
4	Training Management System	Shared	Short term
5	Unified Library Management System	Shared	Short term
6	Integrated Budget and Accounting System	Common	Short term
7	Project Management Information System	Common	Short term
8	Performance Management System	Common	Mid term
9	Electronic Human Resources Management System	Common	Short term

10	Integrated e-Document and Contents Management System	Shared	Mid term
11	Public Information Sharing System	Shared	Long term
12	Audit and Internal Control System	Ministerial	Short term

[Table III.4-1] Prioritized Initiatives of G2G service

National Statistical Data Warehouse

National Statistics Data Warehouse provides statistical and analytical information to support decision-making for national policies in a timely and tailored manner and to deliver services to citizens and businesses more efficiently.

(Lead Organization)

- Bangladesh Bureau of Statistics (BBS)

(Future Model)

- National Statistics Data Warehouse and Data Mining based on Big Data
- Advanced Data Processing and Statistical Information Service
- Decision Support System based on Big Data
- Shared Service Platform for Big Data

(Expected Benefits)

- To provide government information and services to more citizens with reduced time, effort and cost
- To increase citizen's participation in governance with using ICT
- To improve accountability, transparency, and responsiveness of Bangladesh government
- To increase international awareness of Digital Bangladesh and its good governance

Integrated Budget and Accounting System

iBAS++, Bangladesh integrated budget and accounting system, is currently operated and continuously improved according to PFM Reform 2016-2021. There is no plan to integrate with other systems such as e-GP, but it would be better to consider integration with other systems which plan to be implemented or upgraded in order to reduce redundant work or unnecessary changes after the PFM Reform by 2021.

(Lead Organization)

- Finance Division

(Future Model)

- Budget Implementation Module
- Application of New Accounting Classification
- Rollout to Local Government

- Financial Asset Management
- Advanced Financial Reporting and day-to-day Management Reporting

(Expected Benefits)

- To improve functions for budget preparation, budget execution and budget implementation.
- To reduce time and increase accountability for financial reporting.
- To enable to measure performance against budget and improve efficiency of strategic budget preparation.

Project Management Information System

Project Management Information System is carried out with full-scale of project management information system which is currently implemented as pilot initiative. Project Management Information System allows Implementation Monitoring and Evaluation Division to perform its mandates more efficiently and effectively with ensuring success of projects through better communication among stakeholders, and improved quality controls and risk management of projects. It will also contribute to reduce corruption as well as time, visit and cost, and to improve transparency and accountability based on correct information and traceable log for the changes of information.

(Lead Organization)

- Implementation Monitoring and Evaluation Division (IMED)

(Future Model)

- Fully automated End-to-End Project Management Functions
- Project Management Portal with Dashboard and Personalization Function
- Integration with related systems such as iBAS++ and e-GP

(Expected Benefits)

- To reduce time, visit and cost for project monitoring and evaluation, especially physical inspection
- To improve capacity to monitor and evaluate projects with proactive risk management and quality management
- To provide project management scheme aligned with budget and improve expenditure management

Public Asset Management System

Public Asset Management System manages public asset including properties, facilities showing the current status of the properties, lifecycle, maintenance record. The system is integrated with iBAS++ and e-GP.

(Lead Organization)

- Concerned Ministry / Division

(Future Model)

- A system that manages all the life cycle of an asset from acquiring, moving, repairing, depreciating, exploiting, abandoning, disposing and selling
- Lease information management of public asset with online public service
- Information management from acquisition to disposal of assets

(Expected Benefits)

- Reducing budget by preventing recycling and duplication of existing assets by establishing asset management system (acquisition, disposal)
- Real-time asset status can be easily identified and tracked (moving / stolen / lost) through asset history management
- Maximize the efficiency of work by reducing the time and manpower required for wealth search

Performance Management System

Bangladesh Performance Management System is initially digitalized Annual Performance Agreement and all processes for Annual Performance Agreement are simplified and automated in conformity with Performance Management System implementation.

(Lead Organization)

- Cabinet Division

(Future Model)

- Annual Performance Agreement Management
- Annual Performance Review Management
- Dashboard and Analysis
- Monitoring and Reporting
- System Integration

(Expected Benefits)

- To reduce time, visit and cost for Annual Performance Agreement and Review.
- To improve transparency, accountability and efficiency of Annual Performance Agreement and Review.
- To enable rolling plan through monitoring and reporting, which eventually improves overall performance.

Electronic Human Resources Management System

Electronic Human Resources Management System basically includes the standard HR functions that comprehensively manage overall HR processes such as HR affairs, payroll, performance evaluation, training and education, and services to government officials. Implementation of policy support function

helps process statistics and tasks to establish rational HR policies based on performance and capacity.

(Lead Organization)

- Ministry of Public Administration

(Future Model)

- Provides the ability to identify requirements (skills, education, number of people, and costs) needed to achieve long-term organizational management goals and to analyze information such as hiring, placement, and salary
- Comprehensive management of HR processes
- Comprehensive management of Stipend business process

(Expected Benefits)

- Reducing the cost of basic personnel management through the realization of paperless working environment and greatly reducing simple repetitive personnel functions through automation of personnel affairs
- Real-time response to the various needs of the members, and more authority to the line managers, thereby improving the satisfaction of the actual organization members and strengthening the organizational capacity through changes in the organizational culture
- Improving work efficiency by focusing on strategic tasks that correspond to corporate goals while reducing non-strategic HR administration tasks of HR departments

Integrated e-Document and Contents Management System

Integrated e-Document and Contents Management System is the foundation to improve operational efficiency and quality of Digital Services with digitalizing all the government documents, transforming into digital contents, sharing documents and contents within and outside the government and providing various search functions for documents or contents.

(Lead Organization)

- Cabinet Division

(Future Model)

- Establish a system that consistently electronically integrates and manages various types of documents produced in the process of processing, including storing, retrieving, utilizing, distributing and disposing of documents
- Document creation, processing, and approval
- Online processing services such as document number, transmission and distribution
- Supports fast and accurate retrieval by storing and storing documents in DB format on large electronic media

(Expected Benefits)

- Maximize productivity with fast document viewing, searching, and sharing of information between users
- Creation of pleasant office environment by dramatically reducing paper storage

Public Information Sharing System

Public Information Sharing System realizes paperless administration, real-time collaboration, and convenience to people in the true sense of the term through information sharing, which let government officials view necessary information online, eliminating the need for people to request and bring the documents.

(Lead Organization)

- Cabinet Division

(Future Model)

- Improve business processes and implement services to share administrative information that each administrative organization has built and hold
- Provides administrative information inquiry service that can handle various documents required for civil affairs and administrative affairs processing through online confirmation

(Expected Benefits)

- Improvement of quality of civil service by introducing the personnel who issued the required documents to the service for improving the quality of service
- Reduces government manpower and budget by reducing the cost of issuing and storing existing paper certificates

Audit and Internal Control System

Audit and Internal Control System drives transformation of traditional audit function towards internal control with risk-based audit and real time monitoring, which also strengthens IT audit function.

(Lead Organization)

- Comptroller and Auditor General of Bangladesh

(Future Model)

- Improve business processes by taking account of the inseparable relationship between auditing and IT audit
- Establish optimal linkage and integration plan between current audit monitoring and management system and IT audit system
- Constant monitoring system in post-accounting and IT audit

(Expected Benefits)

- Constant monitoring system contributes to transparent government implementation by providing prompt and accurate information
- Increase work efficiency by computerization of audit administrative duties

Training Management System

Traning Management System is the central point of the organization's entire training operation. It ables to provide the ability to oversight all the training business and contribute enhancing the capacity building efficiently.

(Lead Organization)

- Concerned Ministry / Division

(Future Model)

- Course Management System to allow publishing the courses online
- Customer Relationship Management (CRM) to manage trainees, trainers, staff and stakeholders
- Reporting System with statistical data
- Learning Data Management System take care of all the materials (documents, video and e-learning contents)

(Expected Benefits)

- Be able to arrange an organized training program without using multiple tools
- Save time for managing training activites
- Ultimate efficiency on enhancing capacity building

Unified Library Management System

There are various library management system in multiple organizations for each. Unified Library Management System can be adopt in all concerned ministries and divisions for their library management. It will handle all the business which are required for library management.

(Lead Organization)

- Concerned Ministry / Division

(Future Model)

- Automatic identification and Data collection using RFID
- Online Library Catalogue is a searching gateway of library collections includes books, thesis and video/audio collection
- Online Library Catalogue facilitate users to search and reserve the books online

(Expected Benefits)

- Organized and structured online based library management system
- Unified library management system which is able to share information with other organization without additional effort
- Free book return with automatic book identification using RFID in library collection
- Searching library collection using RFID

4.2. Digital Service for Citizen and Business

Public information services for citizens and corporations (G2C, G2B) are designed to support people's lives and business activities.

■ G2C

- Provide services that help citizens in their daily lives
- Establish service priority that can be applied nationwide by building single service
- Transition from simple information providing service to interoperable service with integration

■ G2B

- Implementing the initiatives first, considering the economic size of the industry, labour force, national policy, etc.
- Implementing the initiatives first, considering foreign investment promotion, trade environment improvement, and ease of doing business.

The services listed below are list of prioritized initiatives which can be implemented sequential order according to priority.

No.	Digital Service	Duration
1	Digital Municipality Service System – Priority Initiative	Short term
2	e-Customs Service Single Window – Priority Initiative	Mid term
3	Bangladesh Investment Single Window – Priority Initiative	Mid term
4	e-Immigration Information System – Priority Initiative	Short term
5	e-Court System	Short term
6	National Job Portal	Short term
7	Skills for Employment Management System	Short term
8	Environmental Information Management System	Short term

9	Public Procurement Reform III	Short term
10	Grievance Redress System Innovation	Mid term
11	Bangladesh National Portal Improvement	Short term
12	Land Management System	Long term
13	Agricultural Information System	Short term
14	Integrated Disaster and Safety Management System	Mid term
15	Industry and Company Network Service	Short term
16	Integrated Tax System and Tax Filing Portal	Short term
17	Integrated National Social Welfare System	Mid term
18	Government Open Data Portal	Mid term
19	Integrated National Healthcare Information System	Mid term
20	Integrated National Education Information System	Long term
21	Legislation Management System and Legal Information Service Portal	Mid term
22	Integrated Licensing and Certificate Management System	Short term
23	Resident Registration System	Mid term
24	Information System of Criminal Justice Service	Long term
25	Food Information Network System	Short term
26	National Drug Safety Management and Disease Control System	Short term
27	National Science and Technology Information Service Portal	Short term
28	Fishery Information Management System and Service Portal	Short term
29	Intellectual Property Management System and Patent Service Portal	Short term
30	National Logistics Information System	Mid term
31	Intelligent Transportation System	Mid term
32	Livestock Information Management System	Short term

[Table III.4-2] Prioritized initiatives of Digital Service improvement

Digital Municipality Service System

Digital Municipality Service System provides a unified channel to provide five different services which are Holding Tax, Water Bill Billing and Payment System, On-line Certificate Issuing System, On-line Trade License Issuing System, and Municipality Property Management System.

(Lead Organization)

- Local Government Division

(Future Model)

- Online holding tax
- Water billing service
- Online councilor certificate service
- Automated property management service
- E-trade license service

(Expected Benefits)

- To improve convenience and accessibility of municipality services with reducing Time, Cost & Visit (TCV).
- To develop solid foundation to expand and scale up municipality citizen services to other municipalities.
- To improve transparency, accountability and responsiveness of Bangladesh municipalities.

e-Customs Service Single Window

e-Customs Service Single Window provides full-scale e-Customs clearance services based on currently operated Asycuda World, which will expands and integrates its services with information systems, if required from private sectors as well as e-Trade and e-Logistics.

(Lead Organization)

- National Board of Revenue (NBR)

(Future Model)

- Customs Clearance and Payment
- Cargo Process
- Customs Intelligence

(Expected Benefits)

- To build the fastest clearance system with required time for exports as 1.5 minutes and import as 1.5 hours.
- To cut logistics cost for both import and export, and reduce working hours and workforces.
- To improve transparency in doing business and attract more foreign direct investment.

Bangladesh Investment Single Window

Bangladesh Investment Single Window provides one-stop services to especially foreign investors with submitting application to Bangladesh Investment Development Authority and integrating related services from 26 agencies.

(Lead Organization)

- Bangladesh Investment Development Authority (BIDA)

(Future Model)

- Online one-stop service for local and foreign investors

(Expected Benefits)

- To reduce Time, Cost & Visit (TCV) for local and foreign investors to invest in Bangladesh
- To contribute to attract more foreign investment which will drive economic growth

e-Immigration Information System

e-Immigration Information System provides fully integrated automatic immigration services for both citizen and business, and within and outside Bangladesh government organizations with advanced passenger information system which is integrated with Bangladesh National ID system.

(Lead Organization)

- Public Security Division

(Future Model)

- Advanced Passenger Management
- Transit Passenger Management
- e-Border Management and Security Control
- Machine Readable Passport and Auto Immigration Gate

(Expected Benefits)

- To reduce time and cost for immigration clearance process and improve convenience
- To contribute to attract foreign investors, especially through integrating with one-stop service
- To improve national security, risk management and border controls

National Job Portal

National Job Portal initiates improvement of Government Job Circular currently provided through Bangladesh National Portal with simplifying administrative processes and accelerating digitalization and integration of administrative works and their information system. And National Job Portal expands its services to private sector especially for overseas employment, integrates with recruiting systems from

private agencies and integrates with Skills Development for the unemployed youths through apprenticeship programme.

(Lead Organization)

- Ministry of Public Administration

(Future Model)

- Job Posting Management
- Job Searching and Application Management
- Candidate Searching and Application Management
- Personal Profile and Qualification Management
- Statistics and Analysis

(Expected Benefits)

- To reduce time, cost and visit and increase efficiency throughout entire job searching and hiring process
- To provide the right job to the right person

Skills for Employment Management System

Skills for Employment Management System enables skills development for unemployed youths through apprenticeship programme in better structured manner with using the right management system, which ultimately supports promotion of industry engagement in skills development through apprenticeship with creating decent employment opportunities for youths and disadvantaged groups and monitoring country-wide skills development and employment initiatives by online monitoring dashboard and Apps.

(Lead Organization)

- Bangladesh National Skills Development Authority

(Future Model)

- Skill Development Management
- Apprenticeship Management
- Job Placement Management
- Trainer and Trainee Management
- Monitoring, Analysis and Reporting

(Expected Benefits)

- To improve efficiency and effectiveness of skill development for youth and disadvantaged groups
- To contribute to decrease youth unemployment rate and underemployment rate through the right skill training and proper apprenticeship, which eventually have youth and disadvantaged groups secured job



Environmental Information Management System

Environmental Information Management, Monitoring and Reporting System manages various environmental information collected directly from the system or extracted or linked from other systems, monitors environmental status based on information, and prepares and submits national report compliant with Paris Agreements.

(Lead Organization)

- Ministry of Environment, Forest and Climate Change / Department of Environment

(Future Model)

- Environmental Information Collection, Verification and Management
- Environmental Information Analysis
- Environmental Information Services
- Environmental Information Monitoring
- National Reporting
- Interface with UNEP-Live

(Expected Benefits)

- To share accurate information related to sustainable development goals as well as environmental information to international organizations, especially UNEP-Live.
- To be compliant with reporting obligation under the Paris Agreement.
- To contribute to improve quality of life of citizen with providing environmental information.

Public Procurement Reform III

Public Procurement Reform III should more focus on public procurement simplification and integration with relevant system such as integrated budget and accounting system, project management information system and banking system, provide promotion of currently implemented function and add more functions such as e-Catalog and e-Shopping mall.

(Lead Organization)

- Central Procurement Technical Unit

(Future Model)

- Authentication based on PKI
- e-Contract with Digital Signature
- e-Catalog and Online Shopping Mall
- Procurement Intelligence
- Integration with related systems such as iBAS++, PMIS and Asset Management

(Expected Benefits)

- To reduce Time, Cost & Visit (TCV) for both public buyers and public suppliers
- To achieve effective paperless office
- To improve transparency, accountability and efficiency of public procurement

Grievance Redress System Innovation

Grievance Redress System will be more innovative with a voice platform to dramatically improve information and service delivery and grievance redressal for all citizens regardless of location, literacy and accessibility, and a unified channel with citizens for petition, civil proposal, policy discussion and corruption reporting.

(Lead Organization)

- Cabinet Division

(Future Model)

- National information center with a voice platform for government service delivery
- A Central Grievance Redress System about government services from all sectors
- A Central e-Participation Portal including civil proposal, policy discussion, and corruption reporting

(Expected Benefits)

- To provide government information and services to more citizens with reducing Time, Cost & Visit (TCV)
- To increase citizen's participation on governance with using ICT
- To improve accountability, transparency, and responsiveness of Bangladesh government
- To increase international awareness of Digital Bangladesh and its good governance

Bangladesh National Portal Improvement

Bangladesh National Portal continuously improved with more Digital Services to citizen and business, simplifying related administrative processes, accelerating digitalization of administrative works, strengthening security by applying PKI or other authentication technology, expanding e-Payment services and integrating Digital Services.

(Lead Organization)

- Cabinet Division (and/or) ICT Division

(Future Model)

- Adaptive Digital Services with personalized portal through Single Sign-on
- Fully automated Digital Services including government administration
- One-stop services by public information sharing among government organizations

(Expected Benefits)

- To reduce time, visit and cost for civil administration services and information
- To deliver improved services and increased benefits in more efficient and effective manner
- To contribute to provide quality of life, especially to marginalized or disadvantaged people

Land Management System

Land Management System is initially planned to reduce harassment in land services for the underserved with improving existing land-related service delivery through 14 Digital Services in Upazila and Union Land Offices, enhancing the capacity of land officials of Upazila and Union Land Offices regarding public service delivery through providing training and on service software, and developing a citizen centric land management. The Digital Service will be provided based on land ledger and land register to eliminate corruption from the service delivery process in those offices and ensure transparency and accountability of the officials.

(Lead Organization)

- Ministry of Land

(Future Model)

- Land Database of Land Use, Ownership, Transactions, Land Value, Development, Land Use Restrictions and other essential information
- Cadastral Information Network and Integration
- Digital Services based on Integrated Land Management System

(Expected Benefits)

- To reduce time, visit and cost to get land related administrative services and increase efficiency of admiration
- To improve transparency of land management and reduce litigations for land issues

Agricultural Information System

Agricultural Information System improves information and services currently provided and expands Digital Services in more structured and proactive manner on the basis of standardized crop growth stage which could shows some pattern depending on various conditions. It also provides innovative marketplace services and online shopping mall for both wholesale and retail. Agricultural Information System and Service Portal provides total services for both information and consultation from cultivation, harvest to sales.

(Lead Organization)

- Ministry of Agriculture

(Future Model)

- Provide Total Digital Services from Planning to Sales
- Proactive Digital Services based on Cultivation Calendar, Control Calendar, Growth Model and Natural Condition
- Marketplace for both Retail and Wholesale
- Smart Farming based on IoT

(Expected Benefits)

- To increase productivity, sales and profits
- To minimize damages by blight and harmful insects and natural disasters

Integrated Disaster and Safety Management System

Integrated Management System for both disaster and safety is designed and implemented on the basis of GIS, services are also provided with using GIS and various kind of multimedia especially considering access condition of internet or mobile and literacy level.

(Lead Organization)

- Ministry of Disaster Management and Relief

(Future Model)

- Collaborate and communicate among departments by integrating into one disaster management portal
- Provides services using various multimedia or real-time disaster handling
- Integrated Situation Management System based on Electronic Map
- Incorporate disaster information into one site and optimize it on a mobile basis

(Expected Benefits)

- Establishment of integrated management system based on GIS in Bangladesh disaster area to achieve standardization and achieve the goal of government disaster response area
- It is expected that it will contribute greatly to the protection of the life and property of the local residents by improving the ability to cope with the poor fire fighting disaster response.
- Establishment of effective countermeasures against safety system and various disasters and improvement of administrative work through computerization of administrative duties

Industry and Company Network Service

Network Service for Industry and Company will be the foundation for Digital Services to both local and foreign businesses and for decision-making related to economy and industry based on integrated company database.

(Lead Organization)

- Ministry of Commerce

(Future Model)

- Integrated Industry and Company Database
- Industry and Company Network Service Portal

(Expected Benefits)

- To simplify processes related to industry and company such as company registration, trade license application, corporate tax monitoring
- To provide Digital Services to business in a better manner
- To contribute to attract foreign direct investment
- To contribute to match proper job and the right resources

Integrated Tax System and Tax Filing Portal

Income tax system and VAT system are consolidated and integrated with relevant systems such as iBAS++, and tax filing portal for citizens and businesses is upgraded from the current services provided through Bangladesh National Portal.

(Lead Organization)

- National Board of Revenue (NBR)

(Future Model)

- Imposition, collection and refund of income tax and VAT
- Tax intelligence and decision-support
- Integration with related systems
- Tax Filing Portal

(Expected Benefits)

- To reduce Time, Cost & Visit (TCV) for work related to tax for government officials, citizens and businesses
- To increase transparency and accountability, and reduce tax evasion
- To realize paperless office with integrating related systems including information and/or document sharing

Integrated National Social Welfare System

Integrated National Social Welfare System enables one-stop and adaptive services currently provided different Ministries and/or government agencies. It should be integrated with National ID in line with the expansion of National ID and necessary systems such as banking, education and iBAS++ to simplify overall process and to cope with internal and external changes with agility.

(Lead Organization)

- Ministry of Social Welfare

(Future Model)

- Social Welfare Service Management
- Social Welfare Facility Management
- Integrated Social Welfare Database
- Statistics, Analysis and Reporting
- Social Welfare Service Portal and Adaptive Services

(Expected Benefits)

- To increase practical benefits with need-based social welfare services
- To improve quality of life for marginalized or disadvantaged people and reduce blind spot of social welfare

Government Open Data Portal

Government Open Data Portal provides public data owned and managed by the central government, local governments and public institutions through a single window in a way that citizen, business and even government agencies could freely make use of it. The Government Open Data Portal consolidates open public data based on RTI which are currently provided by each agencies' website. It will also provide status of requested data or petition in case of disclosure of data requested.

(Lead Organization)

- PMO, Cabinet Division, BCC, BSS and SID

(Future Model)

- One-stop Access to the government's publicly-available Data
- Consolidated and Visualized Data Service from different government organizations
- Various structured and unstructured options for convenient search
- Dashboard, Analysis and Reporting

(Expected Benefits)

- To increase transparency, accountability and responsiveness of government administration
- To encourage citizen to participate in policy-making, government innovation and citizen service improvement

Integrated National Healthcare Information System

Integrated National Healthcare Information System integrates, shares and provides healthcare information collected and managed by different government agencies with different purpose, which increases value of healthcare information for welfare, overseas employment, education, etc., reduces waste of budget and enables adaptive services.

(Lead Organization)

- Ministry of Health and Family Welfare

(Future Model)

- Integrate and provide various kinds of compulsory information and health information collected and managed by various government agencies using IT technology

(Expected Benefits)

- Provide healthcare information to regions with low accessibility to healthcare services to provide services for vulnerable diseases
- Increase the value of medical information on welfare, overseas employment, education, etc. and reduce waste of various budgets

Integrated National Education Information System

Integrated National Education Information System is necessary to integrate systems currently implemented and operated separately in order to provide better services from primary education to higher education in more tailored manner. It should be integrated National ID in line with the expansion of National ID to all citizens and it would better to be integrated education services with services for social welfare, labor and employment, woman and child, etc. in the future.

(Lead Organization)

- Ministry of Education

(Future Model)

- Student Information Management
- Teacher Information Management
- School Information Management
- Monitoring and Reporting
- Statistics and Analysis
- Adaptive Services with Personalized Portal

(Expected Benefits)

- To improve overall quality of education with securing records of students and teachers and providing adequate education based on the records

- To encourage students to keep educated from primary education to higher education
- To support policy-making based on statistics and analytical information

Legislation Management System and Legal Information Service Portal

Legislation Management System is to digitalize all processes from legislation planning to promulgation with process simplification and Legal Information Service Portal is to provide legal information in more user friendly manner and legal services upon user's request.

(Lead Organization)

- Ministry of Law, Justice and Parliamentary Affairs

(Future Model)

- A service that enables citizens to search for various statutory information easily and utilize it easily
- Supports all government legislative processes from the legislative phase to the promulgation of laws through a single system

(Expected Benefits)

- Increased user convenience through tailored information service tailored to users
- Improve utilization efficiency by providing integrated service that can integrate and search all legal information at once

Integrated Licensing and Certificate Management System

Integrated Licensing and Certificate Management System enables process standardization and simplification and applies SOA for issuing licensing and certificate in a better manner, and provides Digital Services in user friendly manner. And it also contributes to verification process or individual or business entity and completeness and accuracy of information for both individual and business entity. It is not necessarily designed and developed as a physically integrated single system, but provides Digital Services through a unified portal or Digital Service channel with single sign-on function.

(Lead Organization)

- Concerned Ministry/Division

(Future Model)

- A certificate issuing service that can access e-Government services by accessing various government administrative systems
- Centrally manage and centrally manage certificate usage for certificate managers for seamless certificate distribution
- Certificate protection service with per-user policy settings

(Expected Benefits)

- Prevention of accidental leakage of certificates by preventing illegal use, illegal copying and leakage of certificates of internal and external users
- Ensure safety and reliability through the use of certificates with enhanced information security through identity verification

Resident Registration System

Resident Registration System is mainly designed and implemented in order to delivers convenience for citizens' daily lives with integrating and tailoring services various administrative tasks such as welfare, education and election based on their resident registration information.

(Lead Organization)

- Ministry of Housing and Public Works

(Future Model)

- Providing prompt and transparent public service based on the identity information of citizens
- Provide administrative services that do not need to file civil documents or required documents by sharing resident registration information between agencies

(Expected Benefits)

- Provision of medical services and education that are closely related to the daily life of the citizens, providing customized services and convenience
- Improving the efficiency and equity of social public service provision due to the identification of personal information
- Establishment of an information system to speed up the work by providing fast and transparent public administration services

Information System of Criminal Justice Service

Information System of Criminal Justice Service is an digitalized management platform for criminal justice agencies to utilize a standardized information system for investigation, indictment, adjudication, and law enforcement, while sharing and commonly using accumulated information and document from the process via online with integrating end-to-end process related to criminal justice service and enabling collaboration among concerned agencies more efficiently and effectively.

(Lead Organization)

- Ministry of Home Affairs

(Future Model)

- Standardized Information System and Information Sharing among Criminal Justice Organizations
- One-stop viewing for the status checking of criminal cases, penalties

- Personalized Portal based on role and/or personal setting

(Expected Benefits)

- To reduce time, visit and cost with using the standardized information system and real-time information sharing
- To improve transparency, accountability and responsiveness of law enforcement organizations
- To provide better services online such as appealing, status tracking, deposition, payment of fine

Food Information Network System

Food Information Network and Service Portal integrates, shares and provides any kind of information for food and food safety collected and managed by different government agencies, especially in line with food chain from the farm to fork in order to make sure food safety both in the country and overseas in case of export. It will ensure quality of social services with increased food safety and encourage private sector to pay special attention to food safety.

(Lead Organization)

- Ministry of Food

(Future Model)

- Control tower of practical food safety management such as food safety research, processed food safety management, food poisoning prevention and food safety information provision, imported food inspection, and sanitation management for group foodservice

(Expected Benefits)

- Consistency and transparency of information from production to consumption reduces consumer anxiety about food safety
- Improving national health by communicating food safety information to vulnerable groups and blind spots
- Food safety management of government agencies ensures the quality of social services with the increase of people's trust and food safety

National Drug Safety Management and Disease Control System

National Drug Safety Management and Disease Control System digitalizes all processes from accident prevention to prompt response, provides information services and online consultation, and supports disease control, especially epidemic diseases in the early stage and the uncared for diseases due to poor hygiene or food supplies.

(Lead Organization)

- Ministry of Health and Family Welfare

(Future Model)

- It reports all processes of handling, such as manufacturing, importing, distribution, and use of drugs, as a computerized system, and tracks the distribution route from the production of drugs to the dispensing of medicines

(Expected Benefits)

- A system to prevent abuse of raw materials of drugs is also established at the same time to improve public health
- It is possible through the exchange, storage, transfer, amendment approval and disposal application system of drug purchase book, sales book, administrative procedure is simplified and efficiency of drug safety management is improved.

National Science and Technology Information Service Portal

National Science and Technology Information is knowledge portal providing all information on research and development funded or supported or managed by mainly government agencies, international organizations or even private institutions based on National Science and Technology Information Platform for knowledge database, contents search.

(Lead Organization)

- Ministry of Science and Technology

(Future Model)

- It collects science and technology information from all over the world and provides it to domestic companies and research institutes to serve as a guide for advanced R & D
- Providing researchers with high quality information to make national science and technology innovation.
- As a science and technology information service platform, it provides search services for content and specialized search services by content type.

(Expected Benefits)

- Provide customized information analysis services for researchers and SMEs to make timely decision-making
- By providing various types of information collectively, various types of information search can shorten the search time
- Support comprehensive coordination of national R & D projects and share information on national R & D projects and science and technology information that are individually managed by each department.
- Saving budgets by avoiding duplication of research and development

Fishery Information Management System and Service Portal

Fishery Information System and Service Portal provides information and Digital Services in structured and proactive manner, especially in order to increase catch and quality. It also provides innovative marketplace services and online shopping mall for both wholesale and retail. Fishery Information System and Service Portal provides total services for both information and consultation from fishery building, farming to domestic and overseas sales.

(Lead Organization)

- Ministry of Fisheries and Livestock

(Future Model)

- Establishment of important information service for fishery production with the aim of promoting fishery resource management policy more efficiently
- Providing useful information to fisheries producers and organizations by providing information related to the sale of domestic and overseas fisheries products

(Expected Benefits)

- Improving the quality of life of fishermen and fishing villages and improving quality of fisheries information service for the people
- The implementation of efficient fisheries administration leads to a reasonable distribution of fishery products, thereby increasing fishery income of direct producer fishermen and fishery groups.

Intellectual Property Management System and Patent Service Portal

Intellectual Property Management System and Patent Service Portal allows users to apply for patents conveniently, anywhere and anytime by providing all latent administrative online, from filing and receiving of applications, examination, to registration. It upgrades current patent systems including a database of over 300 million cases of patent technologies from around the world and search functions for previously registered patents.

(Lead Organization)

- Ministry of Industries

(Future Model)

- Providing patent management services such as filing of application, inquiry of patent and patent right, and inquiry of administrative information about patent administration procedure so that applicant can manage his own application and patent right efficiently
- Provision of services such as examination progress of each patent right and inquiry deadline

(Expected Benefits)

- Reduction of manager's work on complicated patents, trademark system and dates

- Systematically manage the applicant's intellectual property rights and enhance competitiveness and protection of intellectual property

National Logistics Information System

National Logistics Management System provides delivery flow at single glance, which comprehensively manages the entire mailing process, from reception, shipment, to delivery and provides tracking information in real time. It is integrated with e-Customs Single Window, Cargo Management System at both airport and port, and Trade Information Portal in order to provide full-scale services based on end-to-end process.

(Lead Organization)

- Ministry of Road Transport and Bridges

(Future Model)

- Establishing a close-contact logistics infrastructure that reaches the public
- Provide real-time location of vehicle by connecting system to wireless network

(Expected Benefits)

- Strengthening national logistics competitiveness through strengthening logistics environment and security and expansion of domestic logistics base
- Reduce national logistics costs through efficient logistics system establishment and activation
- Simplify and streamline tasks such as government reporting and reporting with logistics activities

Intelligent Transportation System

Intelligent Transportation System provides information on traffic flow, arrival time for public transportation at main stations, traffic accidents, etc. based on information collected from sensors on roads and public transportations and automated toll collection system. Monitoring Center with Intelligent Transportation System monitors traffic status and takes required actions immediately.

(Lead Organization)

- Ministry of Road Transport and Bridges

(Future Model)

- Real-time analysis of traffic situation by linking traffic information of EVI System, and implementation of business automation services such as road traffic management, traffic accident detection and overhaul control

(Expected Benefits)

- Increase traffic convenience and traffic through effective response to serious traffic problems such as traffic congestion

Livestock Information Management System

Livestock Information System provides information and Digital Services in structured and proactive manner, especially in order to increase quality and profit with providing specific information types of livestock and growth stage. It also provides innovative marketplace services and online shopping mall for both wholesale and retail. Livestock Information System provides total services for both information and consultation from livestock farming building to sales.

(Lead Organization)

- Ministry of Fisheries and Livestock

(Future Model)

- Provide services that can be easily understood and used by farmers such as livestock safety management certification and object management for livestock farms to produce high quality safe livestock products
- Provides records management service for distribution and consumption in production of livestock products such as farm and cattle status, feed / drug management, disinfection management, shipment management, management standard, examination

(Expected Benefits)

- Ensuring the safety, soundness and quality of products or food by continuously managing the entire production and distribution consumption of livestock products

e-Court System

e-Court System is a system to manage court's work process from case filing to the conclusion of decision registration.

(Lead Organization)

- Supreme Court

(Future Model)

- Case Management System: manage the work process of the court online
- Document Management System: manage documents and related records, provide search function
- e-Courtroom System: Digitized court room to support the proceedings during adjudication
- Online Petition Service Portal: Online filing service for the public

(Expected Benefits)

- Efficient proceedings with well defined workflow
- Systematic e-documents for archiving and managing
- Support the work of judges during adjudication in the court room
- Enhance accessibility to the public by providing online petition channel

4.3. Infrastructure

Expand infrastructure to secure foundation of developing Digital Services.

■ Government Network

- Establish InfoSarker phase 3
- Expand government network to all Union Council levels nationwide which is on process through InfoSarker Phase 3

■ National Data Center

- Establish 3rd National Data Center for preparation of disaster
- Promote to utilize National Data Center
- Establish management system for services

■ E-Government Security Center

- Expand application of e-Government security center system
- Establish CIRT

No.	Digital Service	Duration
1	Bangladesh GovNet Enhancement	Long term
2	Government Integrated Data Center	Long term
3	IT Service Management System	Short term

[Table III.4-3] Prioritized initiatives of infrastructure improvement

Bangladesh GovNet Enhancement

BanglaGovNet has been implemented and used by central government, Upazilla offices and Union Digital Centers, but bandwidth needs to be improved and network connectivity should be extended to last mile of all government offices in rural areas.

(Lead Organization)

- ICT Division

(Future Model)

- Improvement of bandwidth
- Extension of connectivity to last mile of all government offices
- Separation between intranet and public internet
- Network duplexing
- Promotion of private sector's participation on network improvement

(Expected Benefits)

- To accelerate implementation of e-Government initiatives aligned with government innovation
- To improve accessibility of Digital Services for both citizen and business with realizing practical benefits
- To reduce digital divide across the country and contribute to improve quality of life

Government Integrated Data Center

Bangladesh National Data Center has been implemented by ICT Division. To maximize the performance of the government's IT resources, it is necessary to expand more the government integrated data center with latest technology. There should be a regulation that all IT resources belong to government organization should be planned to set in National Data Center first.

(Lead Organization)

- ICT Division

(Future Model)

- Regulation of priority for installing IT resources in National Data Center
- Virtualization
- Cloud Computing
- Mobile Device Management
- Artificial Intelligence based IT Resource Management System

(Expected Benefits)

- Maximize the utilization of IT resources by having promotion regulation of NDC
- Secure the stability of IT system by virtualization of IT infrastructure
- Guarantee the diversity and compatibility by adopting Mobile Device Management
- Rapid and thorough IT resource management by adopting AI technology

IT Service Management System

IT Service Management System manages configuration, changes, incident, IT asset, security, etc. based on agreed service level and provides dashboard to display the real-time status of current services. It is integrated with Bangladesh National Digital Architecture Management System to ensure all the IT resources up to date and IT governance compliant with Service Oriented Architecture governance (SOA).

(Lead Organization)

- ICT Division

(Future Model)

- Define IT services and establish processes to manage and improve quality of service



- Establish operating system for IT investment / management / control / improvement
- Established ITSM system to support automated performance index management, IT governance and SLA according to service level agreement (SLA)

(Expected Benefits)

- Secure a preemptive response system to the evolving new future IT industry environment
- Enhance IT service competitiveness and improve service quality to improve user satisfaction with IT service provision through effective information resource management





5. Legal Framework and Governance for e-Government

5.1. E-Government Act

To improve the legal basis for e-Government, e-Government Laws should be enacted separately from ICT act and Right to Information act.

Apart from existing ICT related laws and regulations, e-Government legislation stipulates the principles, implementation system, provision of services by government organizations, and strategy formulation of e-Government related initiatives.

e-Government act should address the following basic principles.

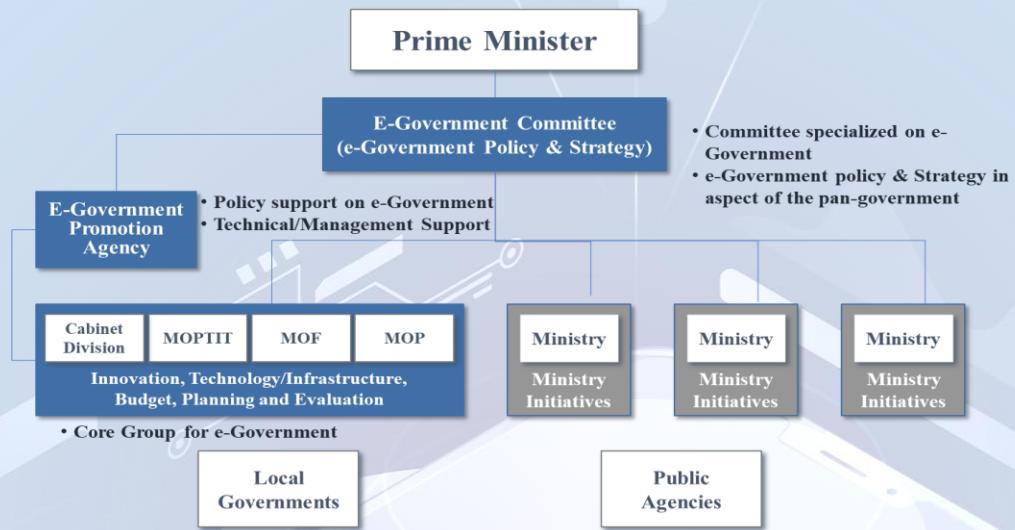
- Informatization of public services for citizen
- Promote national benefits using ICT
- Innovation in Government work and improvement of productivity and efficiency
- Ensuring safety and reliability of information systems
- Protection of personal information and privacy
- Expansion of public disclosure and sharing of administrative information
- Prevent redundant investments and promote interoperability
- Securing operational ability using information technology for delivering services to citizen
- Prioritize the benefits of the people when delivering Digital Services

e-Government act stipulates the following tasks that government organizations must perform when establishing and providing e-Government systems.

- Delivering public services without mandating visit
- Management and provision of public service registration
- Ensuring accessibility of e-Government services
- Security measures for e-Government services
- Digital Signature Utilization
- Principle of consent for the use of personal information
- Formation of the e-Government Master Plan
- Applying Bangladesh National Digital Architecture
- Business Process Re-engineering first during implementing Digital Services

5.2. Proposed e-Government Committee

Besides the existing ICT related promotion system, governance for clear roles and responsibilities should be defined for effective implementation of e-Government.



[Figure III.5-1] To-be Model of Governance

e-Government Governance is composed of e-Government Committee, e-Government Promotion Agency, Cabinet Division, MoPTIT, Ministry of Planning and Ministry of Public Administration.

■ e-Government Committee

- Establish e-Government related policies
- Establish national policy/plan for e-Government
- Review and approve e-Government plan of each ministry
- Review and assess the performance of e-Government related projects

■ e-Government Promotion Agency

- Secretarial work for e-Government committee, supporting activities for establishing policies
- Develop implementation plan of initiatives for shared service
- Project management of shared service related projects
- Technical support for e-Government related projects
- Formulate the draft document of e-Government Master Plan & related policy
- Research technical innovation for generating ideas to enhance features or new development of existing systems by using new technology
- Support to establish Information Strategic Planning for each ministry
- Support for e-Government promotion

■ Cabinet Division

- Support for national e-Government related policies
- Support for establishing national policy/plan for e-Government
- Survey requirements of e-Government related initiatives for each ministry
- Reviewing & Monitoring e-Government related Annual Performance Agreement (APA) of each ministry
- Enact e-Government act

■ MoPTIT

- Technical support for e-Government initiatives
- Establishment and implementation of ICT infrastructure and necessary for e-Government business
- Support activities of ICT related capacity building
- Develop Central Network Architecture and Promote its utilization
- Establish a basic plan to systematically introduce and spread BNDA

■ Ministry of Planning

- Review each ministry's plan
- Research for the methodology for project management and share the result to each ministry
- Conduct population census and other necessary surveys for analysing national statistical data
- Guide and coordinate with ministries and divisions on statistical standards and methods
- Monitor and evaluate the result of e-Government related projects

■ Ministry of Finance

- Budget review and allocation of each ministry's plan
- Settlement for each ministry's e-Government related task performance

■ Ministry of Public Administration

- Improvement of relevant laws and regulations for efficient management of administrative information
- Public Service Innovation Research
- Standardization of administrative work

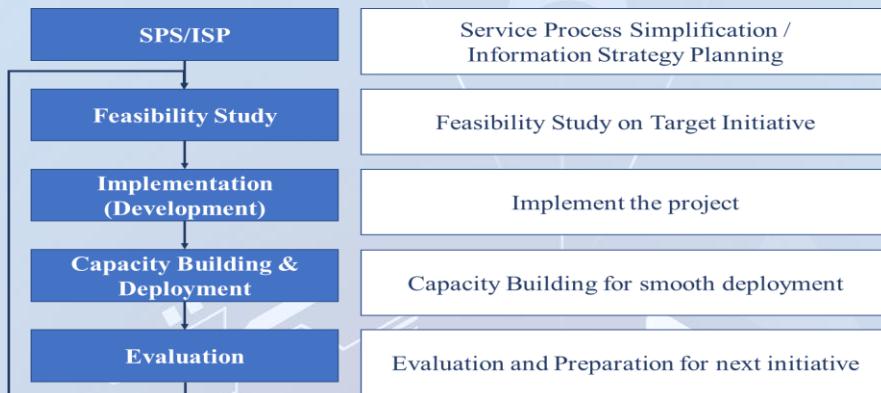
■ All ministries

- Establish e-Government basic plan for each ministry
- Implementation of e-Government projects in accordance with the approved e-Government basic plan
- Implementation of establishment and operation of information systems based on BNDA guidelines
- Implementation of Service Process Simplification (SPS) for e-Government projects

5.3. Proposed Informatization Procedure for each Ministry

To successfully implement e-Government, it is important that all ministries should participate on activities of formating e-Government. To initiate right direction, there needs to organize standard procedure for informatization.

As been described as above, under e-Governemnt Committee's direction, each ministry is to establish the Information Strategy Planning and initiate the implementation project to improve the public service. Following procedure is the proposed procedure for establishing informatization.



[Figure III.5-2]Proposed Procedure for Informatization

Various e-Government initiatives are being implemented in Bangladesh. However, in many cases, there are many services providing simple information, and there are not many integrated services with interoperable functions. To integrate services or develop services over a certain scale, Service Process Simplification is required prior to develop services.

SPS/ISP is the step for establishing the ICT strategy of each ministry and measuring the optimized way for improving the public service. Each ministry launch the project for SPS and ISP to establish mid-long term ICT strategy. Through the result of ISP, the ministry identifies the initiatives to develop systems (services).

Feasibility Study is conducted to review if the initiative is fit to goal of improvement and measure technical feasibility. Prior to each implementation project, it is recommended to launch feasibility study project unless the implementation initiative is small scale.

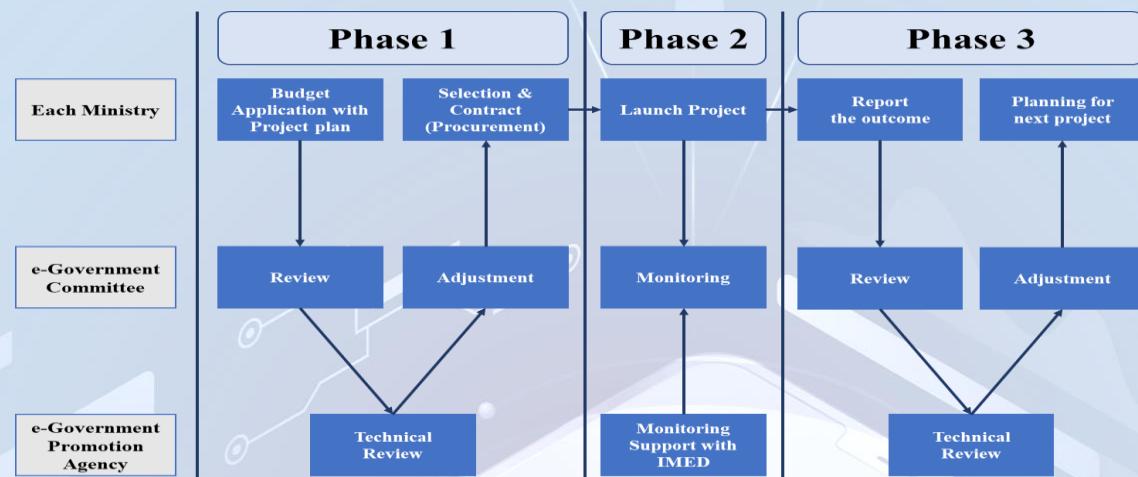
At the stage of implementation, there are 3 steps: System analysis & Requirement specification, Development, Integration and Testing. All IT system development may align with BNDA instruction. Citizen centric service may reference Citizen Core Data Structure (CCDS). Servers should be considered to be managed by National Data Center first. Hardware configuration diagram should be consulted with National Data Center operating team.

For smooth acceptance and deployment, it is necessary to conduct capacity building activites upon applying new system to the service. Training program of new system helps stakeholders to observe better understanding and operating skills.

Evaluation process is conducted as a last step for a cycle for informatization. Through the evalution conducted, the ministry may update Information Strategy Planning and prepare for next initiative to implement.

5.4. Proposed Project Management Process

There are three phases in project management. The first phase is the planning stage, the second phase is the execution stage and the last phase is the evaluation stage.



[Figure III.5-3]Project Management Process for e-Government

In phase1,

there are two step for reviewing the project plan. e-Government Committee reviews the project plan with 7 aspect: Clarity, Urgency, Redundancy, Possibility of Private Investment, Effectiveness, Environment, Appropriateness of budget. E-Government Promotion Agency reviews the feasibility of implementation by conducting technical review. The agency can also guide the project plan with specific technical advise such as system design, hardware, database and utilizing latest technology.

In phase2,

the execution of the project should cover both the development of the system and change management. The recipient organization should be prepared when deployment occurs. Operation training program should be produced. Governance for the new system should be established. Budget for adopting the new system should be scheduled.

In phase3,

e-Government Committee reviews the outcome of project. Based on the ministry's ISP, e-Government Committee reviews if the project's outcome is aligned to its purpose and ISP schedule. After the reviewing process, the project schedules next initiative.

Implementation Plan

IV. Implementation Plan

1. Roadmap

Implementation of e-Government is divided into 3 phases: (phase 1) Foundation of e-Government, (phase 2) Service Integration, (phase 3) Modernization.



[Figure IV.1-1]Roadmap for e-Government

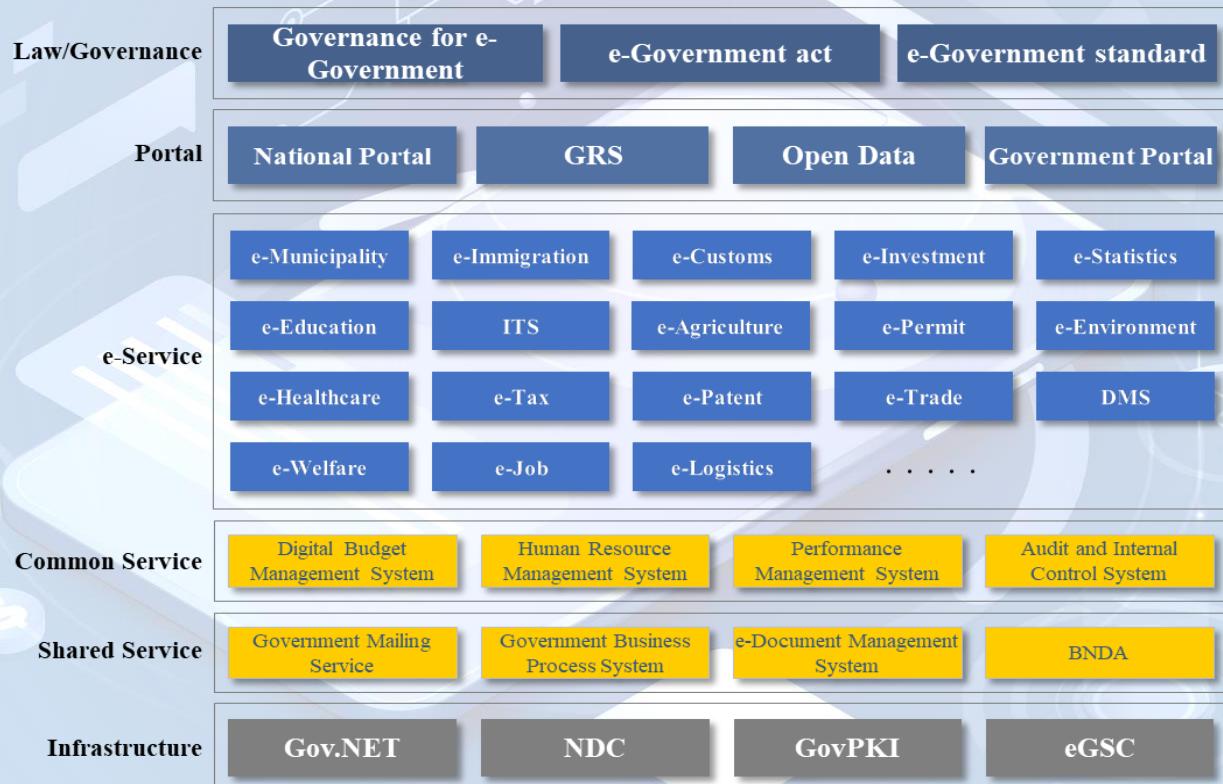
- **Foundation of e-Government (2019-2021)**
 - Enact e-Government act
 - Establish governance of e-Government
 - Implement Prioritized initiatives
 - BNDA, SPS
 - Expand e-Government Security Center
- **Service Integration (2022-2023)**
 - Implement Strategic initiatives
 - Integrate services
 - NDC First policy

- Government-wide Service of e-Government Security Center
- **Modernization (2024 -)**
 - Modernize Digital Services using BigData, AI

2. e-Government Framework

e-Government for Digital Bangladesh

Make Citizens' Lives Easier · Businesses Competitive · Government Innovative



[Figure IV.2-1] Bangladesh e-Government framework

3. Legal Framework and Governance for e-Government

3.1. e-Government Act

The e-Government Act, apart from ICT-related laws, should be enacted to build the foundation of e-Government. It addresses the principles of e-Government, the provision of services by government agencies, and the establishment of strategies for e-Government-related projects.

- Implementing Agency : Cabinet Division
- Cooperation Agencies : MoPTIT, MoF, MoP, MoLGRD, MoPA.
- Schedule
 - 2019 : Preparation of the e-Government Act (Draft)
 - 2020 : Government Approval of the e-Government Act (Draft)
 - 2021 : Enactment of the e-Government Act

3.2. Governance for e-Government

The governance for e-Government will be created to effectively implement e-Government. It will provide roles and responsibilities of e-Government Promotion Agency.

- Implementing Agency : Cabinet Division
- Cooperation Agencies : MoPTIT, MoF, MoP, MoLGRD, MoPA.
- Schedule
 - 2019 : Designation of key agencies in e-Government
(Cabinet Division, MoPTIT, MoF, MoP, MoLGRD, MoPA)
 - 2020 : Formation of e-Government Committee
(Heads of Cabinet Division, MoPTIT, MoF, MoP, MoLGRD, MoPA)
 - 2020 : Establishment of e-Government Promotion Agency
 - 2020 : Launching the governance structure for e-Government



3.3. Service Process Simplification (SPS) for e-Government systems

SPS should be carried out before implementing e-Government systems. Initially, SPS policy applies only to the major e-Government systems. Later, SPS will be carried out for all e-Government systems.

- Implementing Agencies : Concerned ministries
- Schedule
 - 2019 : Preparation of SPS for e-Government systems
 - 2020 : SPS for the major e-Government systems
 - 2021 : SPS for all e-Government systems

4. Government-to-Government(G2G) Systems

The G2G systems are categorized into Shared Services, Common Services and Ministerial Services for effective implementation and management.

- Implementing Agencies by category
 - Shared Services : ICT Division
 - Common Services : Service Providing Agency
 - Ministerial Services : Each Ministry
- Schedule
 - Phase 1 (2019-2021) : Prioritized Initiative, Short-term Initiatives
 - Phase 2 (2022-2023) : Mid-term Initiatives
 - Phase 3 (2024-) : Long-term Initiatives

No.	Services	Category	Duration
1	<i>National Statistics Data Warehouse – Priority initiative</i>	Ministerial	Short-term
2	Integrated Budget and Accounting System	Common	Short-term
3	Project Management Information System	Common	Short-term
4	Public Asset Management System	Shared	Short-term
5	Performance Management System	Common	Mid-term
6	Electronic Human Resources Management System	Shared	Short-term
7	Integrated e-Document and Contents Management System	Shared	Mid-term
8	Public Information Sharing System	Shared	Long-term
9	Audit and Internal Control System	Ministerial	Short-term

5. Government-to-Citizen(G2C) and Government-to Business(G2B)

Public information services (G2C, G2B) for citizens and corporates to support citizens' lives and business activities are implemented by priorities in phased approach.

- Implementing Agency : Service Providing Agency
- Schedule
 - Phase 1 (2019-2021) : Prioritized Initiative, Short-term Initiatives
 - Phase 2 (2022-2023) : Mid-term Initiatives
 - Phase 3 (2024-) : Long-term Initiatives

No.	Service	Remarks
1	<i>Digital Municipality Service System – Prioritized</i>	Short-term
2	<i>e-Customs Service Single Window – Prioritized</i>	Mid-term
3	<i>Bangladesh Investment Single Window – Prioritized</i>	Mid-term
4	<i>e-Immigration Information System – Prioritized</i>	Short-term
5	National Job Portal	Short-term
6	Skills for Employment Management System	Short-term
7	Environmental Information Management System	Short-term
8	Public Procurement Reform III	Short-term
9	Grievance Redress System Innovation	Mid-term
10	Bangladesh National Portal Improvement	Short-term
11	Land Management System	Long-term
12	Agricultural Information System	Short-term
13	Integrated Disaster and Safety Management System	Mid-term
14	Industry and Company Network Service	Short-term
15	Integrated Tax System and Tax Filing Portal	Short-term
16	Integrated National Social Welfare System	Mid-term
17	Government Open Data Portal	Mid-term
18	Integrated National Healthcare Information System	Mid-term
19	Integrated National Education Information System	Long-term

20	Legislation Management System and Legal Information Service Portal	Mid-term
21	Integrated Licensing and Certificate Management System	Short-term
22	Resident Registration System	Mid-term
23	Information System of Criminal Justice Service	Long-term
24	Food Information Network System	Short-term
25	National Drug Safety Management and Disease Control System	Short-term
26	National Science and Technology Information Service Portal	Short-term
27	Fishery Information Management System and Service Portal	Short-term
28	Cultural & Religious Heritage Management System	Short-term
29	Intellectual Property Management System and Patent Service Portal	Short-term
30	National Logistics Information System	Mid-term
31	Intelligent Transportation System	Long-term
32	Livestock Information Management System	Short-term
33	Water Resource Information Portal	Short-term
34	Online National Water Resources Database (NWRD)	Mid-term

6. Infrastructure for e-Government Systems

The infrastructure for e-Government should be implemented to secure the operation of e-Government systems by priorities in phased-approach.

- Implementing Agency : ICT Division, MoPTIT
- **Schedule**
 - Phase 1 (2019-2021) : Short-term Initiatives
 - Phase 2 (2022-2023) : Mid-term Initiatives
 - Phase 3 (2024-) : Long-term Initiatives

No.	Service	Remarks
1	Bangladesh GovNet Enhancement	Long-term
2	Government Integrated Data Center	Long-term
3	Strengthening of CIRT	Mid-term
4	IT Service Management System	Short-term

Conclusion

V. Conclusion

In Bangladesh, numerous e-Government projects are underway. However, the e-Government governance to manage all e-Government projects has not been established yet. The services and systems are being implemented in the each ministry's policy.

The expected outcome from establishing e-Government are:

- (1) *The budget input for redundant and similar projects will be reduced*
- (2) *Shared services will be implemented more efficiently*
- (3) *With the organized e-Government policy, there will be decreased number of incomplete projects or pending-status projects.*

The e-Government master plan outlines the e-Government over 5 years. This plan aims to build consistent policies and governance required in e-Government implementation. It also includes a recommendation that establishes the processes required for efficient e-Government implementation and the prioritized projects..

Currently, the Digital Accelerator Program identifies 1,856 services and systems to be implemented by 2021, and plans to build each service by each ministry/division.

If the e-Government policies and governance are established according to the recommendations in the e-Government Master Plan, and the services and systems in Digital Accelerator Program are managed and completed in a consistent way, it will make a significant contribution to the implementation of national ICT policy.

Way Forward:

1. **Approve** the e-Government Master Plan report in ICT Division
2. Forward the e-Government Master Plan report to Cabinet Division with a request to take initiative to form **e-Government Committee** and notify ministries to take projects/initiatives as suggested in the e-Government Master Plan report
3. e-Government Committee may **follow the guidelines** suggested in the e-Government Master Plan report and start **implementing e-Government initiatives**

Appendix

Appendix

1. Digital Municipality Services System

1.1. Background

Access to Information (a2i) Programme, ICT Division, created the Digital Service innovation fund and implemented a project to build a system on providing the Online Holding Tax & Water Billing Service (payment of local tax related to local government administration), Automated Property Management Service (property management), Online Councilor Certificates Service (issuance of certificates), and E-trade License Service (issuance of licenses).

The five services are currently provided by certain Municipalities/City Corporation in the form of a pilot project. The Bangladesh government hopes to expand the services throughout the country after building an integrated system for Municipalities/City Corporation.

1.2. Overview

In order to join the ranks of middle-income countries by 2021, which marks the 50th anniversary of independence after declaring independence in 1971, the Bangladesh government announced the objectives for Bangladesh Vision 2021 in December 2008. The Bangladesh Vision 2021 has set eight interconnected objectives and 85 activities and standards in order to achieve such objectives. The eight objectives are as follows.

- Realizing participatory democracy
- Building an efficient, responsible, transparent and decentralized administrative system
- Reducing poverty and becoming a middle-income country
- Building a healthy nation with healthy citizens
- Developing creative talents
- Developing local economies and commercial hub
- Fostering sustainable eco-friendly industries
- Building a fair society which brings benefit to the majority of people

The digital municipality services system is an administration system to enhance convenience by transforming the existing document-based municipality service into one-stop service through ICT. This system is expected to bring about effects as follows.

- Enhancing citizens' convenience
- Enhancing work efficiency
- Securing transparency in local administration
- Building capacity to operate information assets

This system reforms and informatizes municipality services on local tax payment, property management, and issuance of certificates and licenses, reduces the number of visits made by citizens and saves time and money, thereby enhancing convenience of citizens. Moreover, under this system, different work processes of local governments are standardized and streamlined in order to enhance work efficiency. Finally, it is expected that this system will induce local service officers and citizens of Bangladesh to be familiar with using information by encouraging the former to build capacity to use ICT and the latter to actively participate in using information assets.

1.3. Target Image and Key Features

1.3.1. Scope of the Project to Build a System for Digital Municipality Services

- Integrating the existing five separate municipality information systems into a single system
- Building the platform-based system by integrating common modules and improving the system so that new services can be easily added
- Expanding PC-based services to mobile services
- Sending notifications for each stage of work process

1.3.2. System Configuration

Common feature component

- *Online Holding Tax*
- *Water Billing Service component*
- *Automated Property Management Service component*
- *Online Municipality/City Corporation Certificate Service component*
- *E-trade License Service component*

Feature	Details
Administrative portal	<ul style="list-style-type: none"> • Administrative portals of local governments suitable for each region • Different menu for users with different authorization levels • Link of related website • Manager/user screen • Bulletin board

Integrated account	<ul style="list-style-type: none"> Integrated database for user information Authority set for each user Different menu and access to features by authority Easy-to-add new services with the use of Single Sign-On module
Document box	<ul style="list-style-type: none"> Save and manage documents
Mobile service	<ul style="list-style-type: none"> Instructions for application of municipality services View the application status of municipality services View the result of municipality services Send citizens' requests (using the pull feature) View administrative portals

[Table V.1-1] Common Feature Component

1.3.3. Online Holding Tax

The information-oriented service has been operated by Jhenaidah municipality since March 19, 2017 as a pilot project. The main service is to charge, view and pay holding tax (quarterly). Under the online payment module currently in operation, the payment should be made with account transfer, debit card or credit card via the SSL Comerz to a designated bank. 9,000 out of the total population of about 18,000 in the model area are using the system. The holding number, cell phone number, and NID are used for personal authentication and identification, and the primary key is cell phone number.

The digital municipality services system includes the features of the existing system and aims to promote work efficiency by standardizing work processes.

User	Feature	Details
Citizen	Holding Tax Service	<ul style="list-style-type: none"> View tax payment history List of taxes to be paid View the status of tax payment process View details of tax payment Pay taxes Notification box (PC push pop-up) Appeal box (PC pull feature)
	Main service page	
	Notice	View list/posting
	Management of taxpayer information	<ul style="list-style-type: none"> Manage payment information Manage necessary information on holding tax

		Manage necessary information on water billing
	Language	English/Bengali
	Service guide help center	Provide instructions on how to use services
		1:1 online query
Manager		Tax calculation module
		Work process module for holding tax
		Module to manage work process
		Billing statistics
		Module to manage fully paid taxpayer
		Module to manage delinquent taxpayer
		View taxpayer information
		Billing process module
		Notification module (mobile application /SMS/PC)
		Citizens' complaint management module
	Management of manager information	Manage authority
	Main service page (for managers)	
	Workflow	Adjust workflow (simple work process/standard work process)
	Language	English/Bengali
	Notice	Write/edit/delete/renew
	Management of 1:1 online query	View/answer questions

[Table V.1-2] Main Features of Online Holding Tax

1.3.4. Water Billing Service

Water Billing Service is a public service which provides payment function through online and information of water billing for each user. The system provides the history data of water billing payment. It is also available for each user to view the status of the service process. There will be notification function for citizens.

The following is a conceptual model of Water Billing Service.

User	Feature	Details
Citizen	Water Billing Service	View tax payment history
		List of taxes to be paid
		View the status of tax payment process
		View details of tax payment
		Pay taxes
		Notification box (PC push pop-up)
		Appeal box (PC pull feature)
	Main service page	
	Notice	View list/posting
	Management of taxpayer information	Manage payment information
		Manage necessary information on holding tax
		Manage necessary information on water billing
	Language	English/Bengali
	Service guide help center	Provide instructions on how to use services
		1:1 online query
Manager	Water Billing Service	Work process module for water billing
		Module to manage work process
		Billing statistics
		Module to manage fully paid taxpayer
		Module to manage delinquent taxpayer
		View taxpayer information
		Billing process module
		Notification module (mobile application/SMS/PC)
		Citizen's complaint management module
	Management of manager information	Manage authority
	Main service page (for managers)	
	Workflow	Adjust workflow (simple work process/standard)

		work process)
Language		English/Bengali
Notice		Write/edit/delete/renew
Management of 1:1 online query		View/answer questions

[Table V.1-3] Main Features of Water Billing System

1.3.5. Automated Property Management Service

The system is developed and is being operated in Narayanganj City Corporation as a model area. It is the information service system to efficiently manage property owned and managed by local governments. The Automated Property Management Service includes all of the features of the system already developed and operated and aims to provide efficient property management services by standardizing work processes.

User	Feature	Details
Citizen	Main page	List of leased property
		List of leasable property
		Notice
		Contact and online query
	Management of bidder information	Register/edit/view information, etc. necessary for bidding
	Management of bidding	View bidding information/participate in/cancel bidding
	Management of lease application	Apply for lease/cancel application/return/view application
	Management of purchase application	Apply for purchase/cancel application/return/view application
	Management of a contract	View a contract/consent
	Management of payment information	
Manager	Instructions on how to use	
	Access to work process	
	Main page	Status of property management
Manager	Management of land property	Register/lease/dispose of/view property
	Property management	Manage the availability/unavailability status of property

Project registration and management	Register/edit/delete/view project
Project management	Information on the overall project management such as viewing status, report, etc.
Access to the bidder information	View bidding history
	View the bidder information
Management of contract information	Manage a list of successful bidder candidates
	Select a successful bidder
Management of a contract	Issue a contract/consent
Management of payment information	
Management of lease information	Manage information on leased property
Management of income/expenditure	
Completion of report	Create/print a report
Management of ledger	
Management of property use policy	Register/edit/delete/view regulations
Management of work process status	PC/Mobile App/SMS push trigger

[Table V.1-4] Main Functions of Automated Property Management Service

1.3.6. Online Municipality/City Corporation Certificates Service

This service aims to enable online application for the issuance of an identity certificate, marriage certificate, citizen certificate, inheritance certificate, etc. The system regarding this service has been developed with the Ramgoti Pouroshova (Municipality) as a model area. Under the existing system, an original certificate issued is delivered offline and users can apply for the issuance of certificates and view the result online.

User	Feature	Details
Citizen	Main page	List of certificate service
		Notice
		Contact and online query
		List of applied certificates
	Management of applied certificates	View the work process of applied certificates
		Edit/cancel applied certificates

	Management of identity certificates	Apply/cancel
	Management of marriage certificates	Apply/cancel
	Management of citizen certificates	Apply/cancel
	Management of inheritance certificates	Apply/cancel
	Management of issued certificates	View/print
	Management of payment	View payment process/status/history
	Management of other certificates	Apply/cancel
Manager	 Main page	Status of certificate application
		Status of certificate issuance
		Status statistics of certificate application/issuance
	Management of applied certificates	Screen whether to issue a certificate applied by a citizen
	Issuance of certificates	Issue certificates
	View the history of certificate issuance	
	Management of payment information	View the payment process status
	Management of work process status	PC/Mobile App/SMS push trigger

[Table V.1-5] Main Features of Online Councilor Certificates Service

1.3.7. E-Trade License Service

The E-Trade License Service is a service to issue business certificates for running a business in Municipality/City Corporation. The work process is same as the process of issuing a certificate under the Online Municipality/City Corporation Certificate Service.

User	Feature	Details
Citizen	Main page	Notice
		Contact and online query
	Management of applied e-trade license	List of applied e-trade license
		Progress status of application of e-trade license
		Revise application of e-trade license
	Management of e-trade license	Cancel applied e-trade license
		Apply/Cancel

	Management of issued e-trade license	View/Print
	Management of payment	[Result/View status/History] of payment
Manager	Main page	View applied list of e-trade license
		View issued list of e-trade license
		View statistic data of applied/issued e-trade license
	Management of applied e-trade license	Authenticate work of e-trade license
	Management of e-trade license	Issue e-trade license
	Management of issued e-trade license	
	Management of payment information	View payment status of authentication fee for e-trade license
	Management of work process status	PC/Mobile App/SMS push trigger

[Table V.1-6] Main Features of e-trade License Service

1.4. Tasks

1.4.1. Stakeholder Analysis

- ICT Division



As a part of the ICT policy under the 7th five-year plan, the ICT Division supports the social and economic development with information-oriented government service in order to achieve the objective of Digital Bangladesh. It is the key ICT organization which manages the National Data Center, which is in charge of installing and operating equipment, and is in charge of supporting the ICT technical staff. In this project, the ICT Division installs and operates equipment and provides maintenance. The equipment will be installed in the NDC.

- Bangladesh Computer Council



The Bangladesh Computer Council (BCC) is an autonomous organization under ICT Division. If ICT Division builds ICT policies in order to achieve the objectives of Digital Bangladesh, BCC build actual plans and performs tasks. In this project, BCC builds capacity for operation and maintenance of equipment.

- **Access to Information (a2i) Programme**



a2i is an innovative programme under ICT Division which aims to achieve the objectives of Digital Bangladesh and receives technical and financial support from the UNDP/USAID. It is a special programme to promote interagency projects and support nationwide development from planning to implementation of innovative projects beyond the distinctive works of each division. The main project is the informatization of government services under Bangladesh Vision 2021. In this project, a2i supports the analysis of requirements for municipality services system already developed and operated and coordinates interagency cooperation.

- **Local Government Division**



Local Government Division is a policymaking division that establishes policies for social, economic and infrastructure development and enhances livelihood of citizens. Local Government matters relating to the local government including local government institutions. It also matters relating to drinking water and develop rural water supply, sanitation and sewerage system. The organization develop and maintain Upazila roads, Union roads and Village roads including bridges and culverts as allocated by the Government. Local Government Division serves as the Key Stakeholder of the pilot project.

- **Municipality Office**

The Municipality Office operates the Digital Municipality Services System after its establishment, charges and receives holding tax and water billing of citizens, and receives the application for and issues certificates and licenses. In the pilot project, the Municipality Office supports the workflow analysis to identify work processes out of the requirement analysis and standardization of municipality work processes. As an operating entity, the Municipality Office is subject to capacity building for operation and use of information.

To successfully run the pilot project, the role of each division should be clarified for organic cooperation between different divisions. Therefore, the document which clarifies the role of all stakeholders should be signed, and the pilot project implementation committee should be formed for the operation of the pilot project.

Moreover, the pilot area should be selected fairly and swiftly in the farsighted perspective of national development, and the Committee should include a manager of the municipality office under the pilot project so that he/she does not have to travel long distances often.

1.4.2. Requirement Analysis

The analysis of requirements can be broadly divided into five categories.

- Analysis of features of the existing municipality services system
- Analysis of work process of municipality services
- Analysis of equipment installation environment
- Measurement of how capable the manager of the municipality office is in using information
- API identification of an external ICT service to be connected and analysis of relevant requirements

It is necessary to closely cooperate with a2i for the analysis of the existing municipality services system, with the LGD and the Municipality Office for the analysis of work process of municipality services, and with the ICT Division and the National Data Center Team for the analysis of equipment installation environment. Also, it is necessary to cooperate with the LGD and the Municipality Support Unit to measure the capacity to use information by the manager of the municipality office, with the BCC to establish capacity building plans, and with the ICT Division to identify API of an external ICT service to be connected and analyze relevant requirements such as the NID API, Payment Gateway API, the interface of ICT-connected services managed by the National Data Center.

1.4.3. System Analysis/Design Activities

The following activities are carried out for system analysis and design.

- User analysis by authority
- Standardizing workflow
- Examining the ICT infrastructure in the project area
- Examining the equipment installation site
- Analyzing data for DB configuration
- Screen-based analysis and design of features

The user type should be analyzed in order to grant authority. Citizen users may be classified into underage head of household, single mother head of household, a man of merit, a citizen, etc. The type of manager should be categorized by work process since managers at different levels have different work processes. Such user analysis should be made in cooperation with the LGD and the Municipality Office. Moreover, workflow should be created based on the administrative work processes of divisions and standardization of work processes.

It is important to examine the ICT Infrastructure in operation sites, and more specifically, electricity,

Internet connection, whether there are office PCs, the use of PC by citizens, mobile device penetration, the capacity of the Municipality Office to use IT devices, etc. in model areas. The action plan suitable for each environment should be created. Support for technical devices and staff should be provided in cooperation with the Local Government Division, and capacity building of operational staff, configuration of operational group should be performed along with the Local Government Division.

The equipment should be installed together with the National Data Center Team under the ICT Division. The development environment should be created, and the hardware maintenance plan should be established in cooperation with the NDC. The equipment should be purchased only when there are local maintenance companies so that the maintenance of hardware is possible in Bangladesh. If not, a separate hardware maintenance plan should be established.

For the DB configuration, after building workflow by closely cooperating with the LGD and the Municipality Office, the data necessary for each work process should be analyzed and designed. The design of DB table should take into account that the new system can spread throughout Bangladesh and hundreds of millions of transactions can take place.

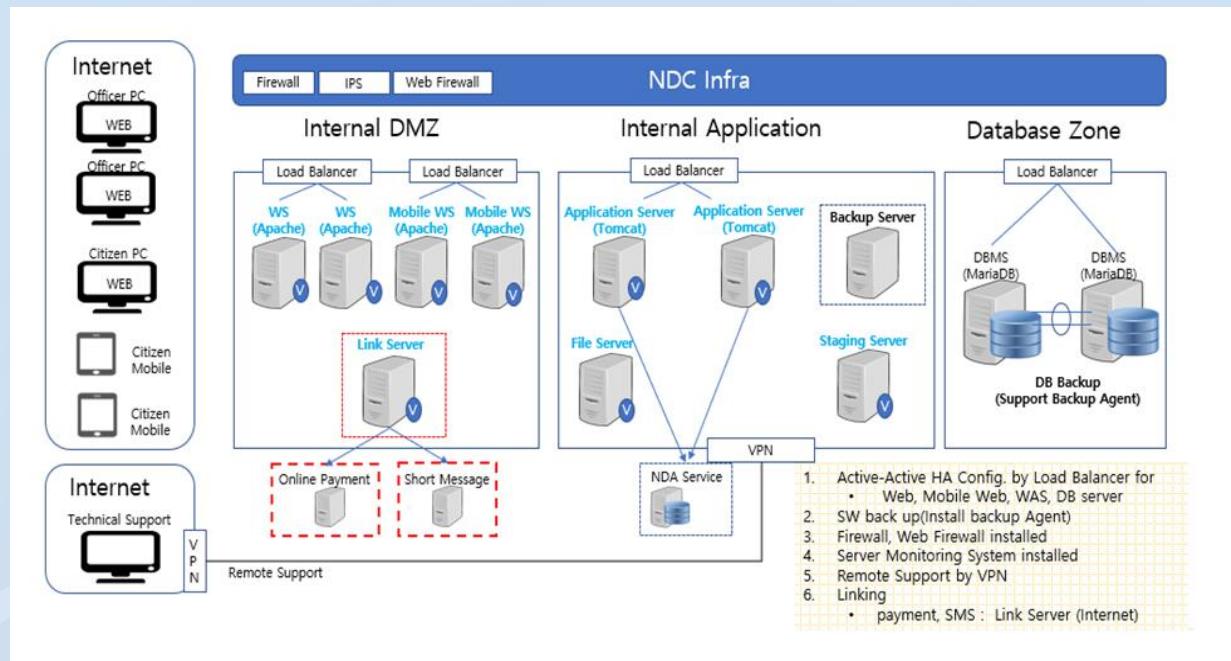
It is important to incorporate requirements of managers based on screen-based analysis and design of features. It is also crucial to create the user interface suitable for administrative culture of Bangladesh and consider accessibility of features.

1.4.4. Implementation

The system implementation can be broadly categorized into the development and implementation of software and the installation of hardware.

To successfully develop system, the system needs to be aligned with BNDA instruction. The schema of database should follow the Citizen Core Data Structure (CCDS) standard. For the verification process, either using NID or SMS verification, the system should ensure each user have single ID. All official documents generated by the system should be guaranteed as atomicity. There should not be allowed to duplicate to fake one.

The equipment of the system should be in National Data Center. The equipment should be consensus with the policy of NDC. National Data Center is utilizing the structure of virtualization to maximize the utilization of IT resources. Therefore, the equipment requirement of the system follows as NDC requested which is described as below.



[Figure V.1-1] Diagram of Equipment

Equipment	Specifications	Quantity
DB server	CPU: 2.1GHz * 8Core * 4CPU Memory: 256GB HDD: 960GB (SAS SSD) * 5EA	2
Application server	CPU: 2.1GHz * 16Core * 4CPU Memory: 256GB Disk: 960GB (SAS SSD) * 2EA	3
SAN Switch	24 Port SAN Switch 8G SFP * 24EA	2
Server Rack	42U Rack (bPDU * 4EA) LCD 8500 1U Console * 1EA 8 Port KVM Switch	1
L2 Switch	24G 4SFP + HI Switch 10G SFP * 4EA	4
PC, Monitor	CPU: i5 3.2 GHz 24inch Monitor Wired Keyboard, Mouse	40

[Table V.1-7] Specifications of Equipment

The plan for capacity building should be established in cooperation with the BCC and the LGD. The capacity building plan can be mainly classified into two types: training course for operation and for maintenance. It is recommendable to prepare operational manual / technical manual of the system.

1.4.5. System Stabilization

In this phase, after the installation of equipment, the system is successfully installed and is operationally and technically stabilized by running a pilot project. It is necessary to record many unexpected findings from the pilot operation of the system, determine the maintenance method, and build a maintenance plan. The final examination should be made on workflow or education and training methods.

1.5. Action Plans

	M+0	M+1	M+2	M+3	M+4	M+5	M+6	M+7	M+8	M+9	M+10	M+11
User Requirement												
System Design												
Implementation												
Installation												
Capacity Building												
System Stabilization												

[Figure V.1-2] Implementation Schedule of Digital Municipality Services System

Under this project, the system is slated to be completely established in model areas based on a year-long plan by running a pilot project after developing the system and expanded throughout Bangladesh based on a three-year plan. In the first year, the development plan will be established, in the second year, pilot projects will be conducted and in the third year, a plan will be established to expand the system.

2. Customs Modernization & Single Window System

2.1. Background

- In the Doing Business 2017, a World Bank Group flagship publication, Bangladesh ranked bottom, standing at 173 on Trading Across Borders, which implies the country needs system modernization to improve its international competitiveness.
 - Without a computerized customs clearance system, import and export documents and cargo management is done manually. The country will not be able to efficiently respond to increasing export and import volumes.
 - Due to the lack of data standardization between the National Board of Revenue and Partner Government Agencies (PGAs), applicants have to submit respective declarations to all the organizations. This also creates a weak link in customs and border control.
 - While customs workload continues to expand due to a growing number of multinational businesses and globalization, Bangladesh's automation level is insufficient to adopt global customs frameworks.
 - No standards or systems are in place to evaluate the diligence or criminality of the applicants. Such evaluation is done by customs officials. The introduction of comprehensive risk management tools is urgently needed.
 - Although partnership among countries, organizations, and private and public sectors based on the ISCM Guidelines of World Customs Organization (WCO), UCR, and CDM becomes ever more important, the country does not have conditions to support it.
- 1) ISCM Guidelines (Customs Guidelines on Integrated Supply Chain Management): Amidst the increasing threat of international terrorism and organized crime, WCO's customs guidelines enable effective, advanced customs monitoring, cooperation between Customs, other law enforcement agencies and businesses, facilitates global trade, and ensures security.*
- 2) UCR (Unique Consignment Reference Number): A reference number for international cargo shipping, storage, loading, and tracking by Customs provides the minimum information of a unit of shipment of goods manufactured by a company.*
- 3) CDM (Customs Data Model): A set of carefully combined data sets traders need to submit to Customs for customs procedures such as cargo arrival, departure, shipping, and customs. The standardized model is widely used by WCO members and the G7 countries.*

2.2. Overview

2.2.1. Goals.

- The project is “the implementation project of customs modernization & single window system in Bangladesh.”
- Formed under the National Board of Revenue, Bangladesh Customs has a computerized customs duty calculation system for customs clearance only while manually handling import and export documents and shipments. The country’s ability to respond to increasing export and import volumes is limited.
- Customs’ systems and relevant agencies do not share customs data. Applicants should submit paper documents to individual organizations, forcing them to manually enter data on their separate systems. The inconvenient practice cause unnecessary delays, and thus requires system improvement.
- To address this issue, the project aims at the modernization of customs systems enabling fast Customs clearance and the implementation of Single Window systems. This would improve user convenience, reduce costs, increase the transparency and efficiency of customs administration.
- Customs modernization and Single Window system would;
 - enhance the efficiency and reliability of customs administration,
 - provide fast, transparent administration services meeting the user’s needs,
 - cut costs by avoiding unnecessary visits to government agencies, and
 - strengthen the country’s competitiveness by facilitating international trade.

2.2.2. Scope

- Customs modernization and implementation of Single Window system
 - Implementation of an Internet customs portal for users and customs administration information system for internal use (customs system, shipment management system, and business support system)
 - Implementation of a Single Window customs system and connectivity to all related organizations
 - Implementation of the Internet customs portal and information transfer between the Single

Window customs system and the cargo management system.

- Introduction and installation of hardware and software for the Internet customs portal, customs administration information systems and the Single Window customs system
- System operation and maintenance
- Training
 - Training on how to operate and maintain the Internal customs portal, the customs administration information system, the Single Window customs system and the business support system.
 - Standard electronic formats such as EDI or ebXML to build the Single Window Customs System
 - Provide both overseas and local training on the Single Window Customs System

2.2.3. Expected Effects

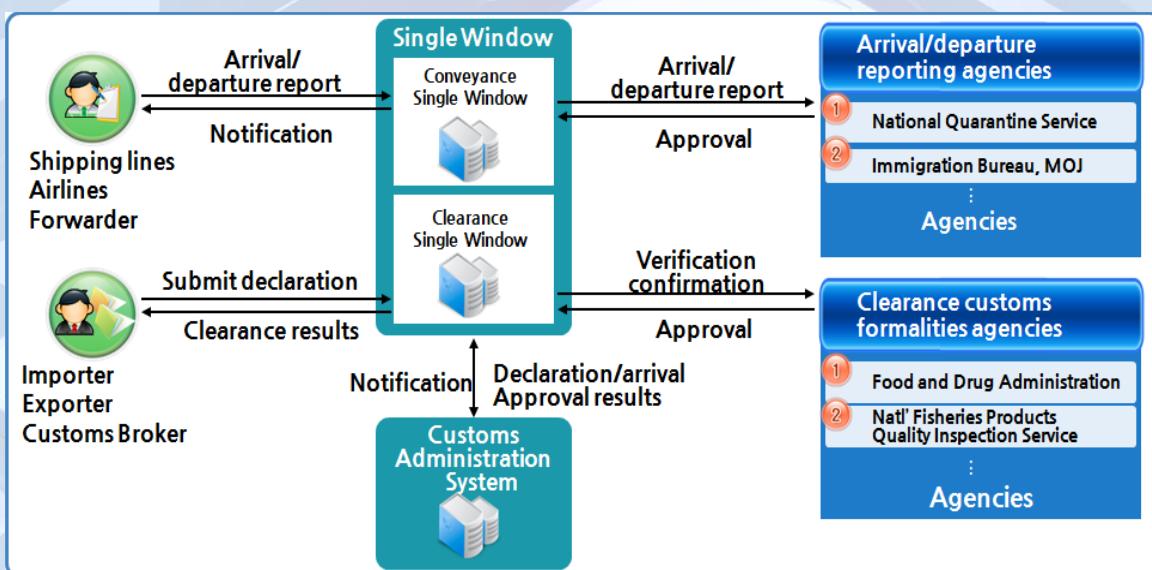
- The project will allow Bangladesh Customs to provide fast, transparent administration services meeting the user's needs at the Single Window system connected to all related agencies, thereby improving the efficiency and reliability of customs administration.
- Also, applicants will no longer have to visit different agencies, saving costs in transportation, documents, labor and logistics.
- Facilitated customs will help attract foreign investment and increase international trade, ultimately boosting national competitiveness.
- In addition, e-Government system maintenance training can indirectly trigger the development of the ICT industry in Bangladesh.

2.3. Target Image and Main Functions

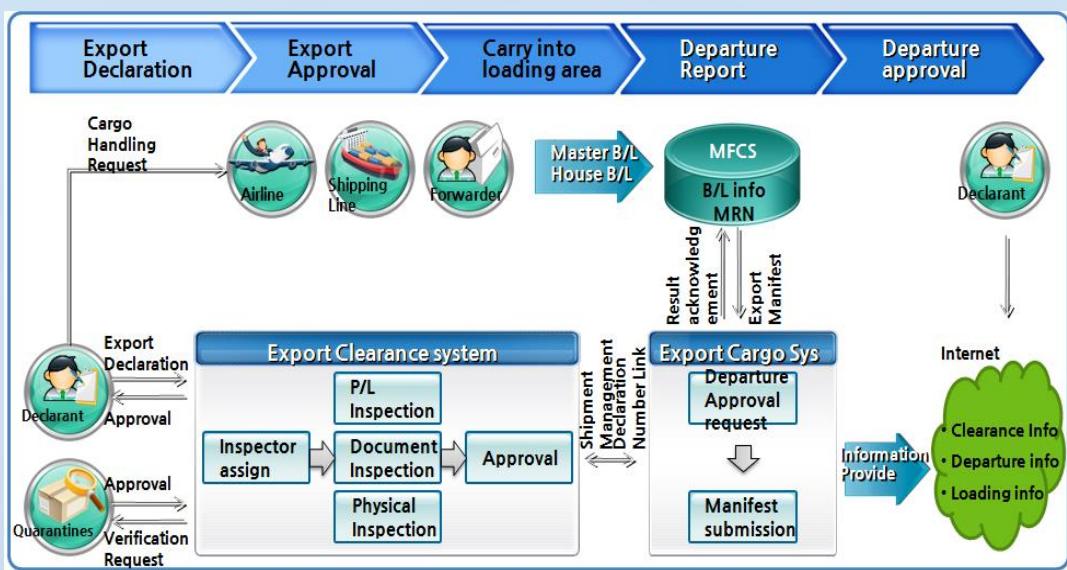
The project consists of three sub projects: the Internet customs portal (front office) for users, the customs administration information system (back office), and the Single Window customs system.

- The Implementation of the Internet Customs Portal
 - Submit customs declarations
 - Register and track shipments

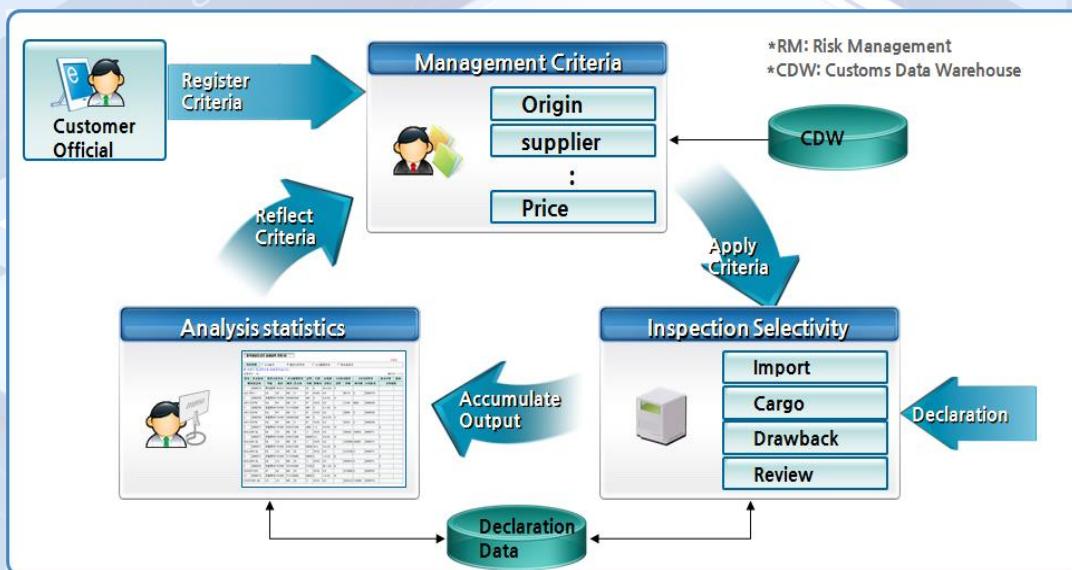
- My Page / Help Desk
- The implementation of the Single Window Customs System
 - PGA forms and requests
 - PGA Application Service Providers (ASPs) (by organization)
- The implementation of the customs administration information system
 - Import and export customs procedures
 - Handling of import and export shipments
 - Customs duty and tax collection
 - Customs duty and tax drawback



[Figure V.2-1]Single Window Conceptual Diagram



[Figure V.2-2] Export Customs and Cargo Handling Process



[Figure V.2-3] Data Analytics-enabled Cargo Risk Management System

The target model of this project has three sub systems – the Internet Customs Portal, the Customs Administration Information System, and the Single Window Customs System.

System	Category	Function	User
Internet Customs Portal	Export/import declaration	Application for import/export declaration, Q&A, Payment of commission	Customs broker
	Cargo registration	Arrival declaration, Q&A, Payment	
	e-Tracking	Cargo tracking, Cargo location	All
	Customer Service	Write, edit, or delete postings	All
	User management	Create, approve, or close accounts	Customs officer
	Unified search	Keyword search, content search, title search	All
	Statistics	Customs statistics, cargo tracking, import/export statistics, statistics by item, continent/economic block/country, statistics by region/customs, statistics by industry/business, statistics by purpose/character	All
	Additional information	Customs and trade laws, announcements, published rulings, international agreements, planned laws, law history	All
	My page	Provide personalized screen	Customs broker
	Single Window	Select documents to submit to PGAs, write declarations, convert into customs declarations	Customs broker
Customs Administration Information System	Import	Declaration processing, bill issuing	Customs officer
	Export	Declaration processing, bill issuing	
	Imported/Exported cargo	Register, accept, search for, manage manifests	
	Duty Collection	Duty and taxes/tax invoices/delayed payment	
	Duty drawback	Drawback claim handling, certificates issuance	
	Single Window	Check PGA requests/progress	
Single Window Customs System	Interface with import/export declaration data	Search declaration data, error verification	PGA
	Fee management	Register the breakdown of fees for requests to PGAs	
	PGA request management	Register information on the PGA forms and attached documents	
	PGA documentation management	Manage license/permit forms of PGAs	
	PGA ASPs	Approval results notification and approved information processing	
	PGA approval information provision and management	Manage information providers and provided information	
	Approval information management	Search for approved items	Customs Officer

	BSTI (grant approval)	View/Approve PGA form and notify results	PGA
	DGDA (grant approval)	View/Approve PGA form and notify results	
	NPPO (grant approval)	View/Approve PGA form and notify results	
	BAEC	View/Approve PGA form and notify results	
	BCSIR	View/Approve PGA form and notify results	
	DLS	View/Approve PGA form and notify results	
	BIDA	View/Approve PGA form and notify results	

[Table V.2-1]Main Functions

2.4. Tasks

For the successful completion of the project and the attainment of objectives, we defined three tasks and nine action items. The tasks include the implementation of the Internet Customs Portal, the Single Window Customs system, and the Customs Administration Information system.

2.4.1. The Implementation of the Internet Customs Portal

The Internet Customs Portal is a front office that importers, exporters or customs brokers/C&F Agent access to declare imported or exported goods. Users can go through customs procedures for example, submitting import/export or freight declarations on My Page.

Importers, exporters and customs brokers/C&F Agent can use the following functions for customs clearance.

Category	Sub-Category	Function
Import/export declaration	Export declaration	Submit export declarations, check request status, pay fees
	Import declaration	Submit import declarations, check request status, pay fees
	Help Desk	Guide map on how to submit import/export declarations, required documents, fees, procedures, related laws and regulations, item/tariff rates, rulings
	Electronic formats	Create and search for export-related e-documents, manage electronic templates, send/accept electronic forms, change forms, integrated document management
	Examination Process	Import/export clearance system, examination status, status alert
	Results notification	Notification of import/export declaration examination results
Cargo declaration	Arrival declaration	Submit arrival declarations, check request status, pay fees
	Departure declaration	Submit departure declarations, check request status, pay fees

	Transportation declaration	Submit transport declarations, check request status, pay fees
	Carry-in report	Submit carry-in reports, check request status, pay fees
	Carry-out report	Submit carry-out reports, check request status, pay fees
	Help Desk	Guide map on how to submit cargo declarations, required documents, fees, procedures, laws and regulations, rulings
	Electronic formats	Create and search for electronic cargo declaration documents, send and accept electronic templates, change electronic forms, integrated document management
	Examination status	Cargo declaration system, examination status, status alert
	Results notification	Notify cargo declaration examination results
e-Tracking	Cargo tracking	Track cargo status, locate cargo
	Cargo of interest	Register cargo of interest, E-mail alert
Customer service	Posts uploading	Write, edit, or delete posts
	Notice	Notice for users
	Information Plaza	Information Plaza
	Information management	Content management, partners, content provider management
	Q&A	Q&A
	FAQ	F&A
	Consultation service	Introduction, online consulting, contact, reservation (visit), consultation history
User management	Sign in (approve/close)	Create, approve, or close accounts
	Customer management	Request history, petition/proposal history, assessment results, fines/penalties, customs history
	Information shared with stakeholders	Information on customs brokers, shipping lines and airlines
	Customer orientation analysis	Analysis on customer profiles and history
	Compliance data	Compliance status and trend, compliance level comparison, analysis on areas of low compliance level, cases of compliance failures, improvement cases, collection of compliance cases
Integrated search	Search management	Indexing
	Search service	Keyword search, content search, title search
	Search interface	Management of other system search interfaces, search sever management
Statistics	Trade statistics	Customs statistics, cargo status, import/export statistics, statistics by item, statistics by continent, economic block, country, statistics

		by region/customs, statistics by industry/business, statistics by purpose/character
	Export statistics	Export customs statistics, export customs clearance status, export customs clearance history
	Import statistics	Import customs statistics, import customs clearance status, import customs clearance history
Additional information	Laws and regulations	Customs and trade laws, announcements, published rulings, international agreements, planned laws, law history
	Glossary	Trade glossary, technical terms, add new terms, glossary management
	Item classification	Inquiry and search for HS CODE
My page	My Information	Find the user information registered on the Single Window Portal
		Register or change the user information
	Change Password	Change the user password
	My Page Settings	Provide personalized screens
		Home screen and other settings
	User history / Statistics	Content registered by the user, content view numbers
		Portal use history
	My Page Classification	Register mapping rules for mapping content to users
		Map content to users based on the content mapping rules

[Table V.2-2] Functions of the Internet Customs Portal System

2.4.1. The Implementation of the Single Window Customs System

The Single Window Customs System has three sub systems: internet portal for applicants, the Single Window (other organizations) for receiving requests for verification of requirements (PGA forms) and issuing approval documentation, and the Single Window (Customs) for accepting, examining, and processing export and import declarations. The Internet portal part of the Single Window Customs System provides the following functions.

Category	Sub-Category	Function
Single Window Customs	Write PGA forms	
	Send PGA forms	
	Request status	Received
		Pending status

		Notification
PGA requests	New	
	Resend	
	Undo	
	Print	Print permits/certificates
	Write import declarations	
Payment Management	Fees	Register the breakdown of handling fees for requests by organization
	Payment status	Enter payment information and search for payment history

[Table V.2-3] Functions Provided on the Internet Portal (applicants)

The Single Window Customs System also offers the following back-office functions (the Single Window for Customs).

Category	Sub-Category	Function
Connecting to import/export declarations	Import declarations	Connect to modules processing electronic import declarations on the existing Internet export/import declaration system
	Export declarations	Connect to modules processing electronic export declarations on the existing Internet export/import declaration system
PGA approval management	Approval/permit requests	Register PGA forms and attachments
	Status	View the status of PGA forms
	Certificates	View and print certificates/permits (after the notification of approval results)
	My Documents	View PGA requests and their approval data and register the request information for reuse
PGA documentation management	Document management	Manage permit/approval forms of PGAs
	Item management	Manage items on the permit/approval form of PGA
	Attached document management	Manage required attachments for requesting PGA permits/approvals
	Document history management	Upload changes in forms and find document history

[Table V.2-4] Functions of the Single Window (Customs)

Organizations verifying requirements can use the following functions on the Single Window (verifying organizations).

Category	Sub-Category	Function
PGA ASPs	Request acceptance	View PGA requests and validate errors
	Status registration	Update and register the request's status
	Approval results registration	Notify the approval results and process approval data
		Print approved certificates
	Statistics and reports	View statistics by PGA request, approval, period, or regions
		Print PGA request/approval reports
	Company/User management	Manage PGA user/company information
PGA approval data manager	Management of requesting organization information	Manage the information of sub organizations that can submit PGA requests
	Information sharing agencies	Manage local agencies sharing data as well as provided data
	Information recipients	Register and manage country/organization/ user information
	Approval data search	Search for approval data
	Statistics	Statistics on approval search by country and organization

[Table V.2-5] Functions of the Single Window (Verifying Organizations)

Organization	Function
Bangladesh Standard and Testing Institution (BSTI)	<ul style="list-style-type: none"> • Apply for and request quality certificates • Connected to customs declarations
Chief Controller of Imports and Exports (CCI&E)	<ul style="list-style-type: none"> • Register import and export businesses and issue documents • Connected to customs declarations
Directorate General of Drug Administration (DGDA)	<ul style="list-style-type: none"> • Apply for and request permits and certificates • Connected to customs declarations
National Plant Protection Organization (NPPO)	<ul style="list-style-type: none"> • Apply for and request plant inspection certificates • Connected to customs declarations
Bangladesh Atomic Energy Commission (BAEC)	<ul style="list-style-type: none"> • Apply for and request radiation inspection certificates • Connected to customs declarations
Bangladesh Council of Scientific and Industrial Research (BCSIR)	<ul style="list-style-type: none"> • Apply for and request explosion hazard inspection certificates • Connected to customs declarations
Department of Livestock Services (DLS)	<ul style="list-style-type: none"> • Apply for and request animal inspection results • Connected to customs declarations
Bangladesh Investment Development Authority (BIDA)	<ul style="list-style-type: none"> • Apply for and request foreign investment certificates • Connected to customs declarations

[Table V.2-6] Documents and tasks by requirement

Individual PGAs issue and take care of the following services

- BCSIR: Bangladesh Council of Scientific and Industrial Research
- BAEC: Bangladesh Atomic Energy Commission
- DGDA: Directorate General of Drug Administration
- NPPO: National Plant Protection Organization
- DLS: Department of Livestock Services

2.4.2. The Implementation of the Customs Administration Information System

As a back-office system supporting the Internet customs portal (front office), Bangladesh's Customs Administration Information System delivers import customs clearance, export customs clearance, import/export cargo, duty collection and drawback, the integrated Single Window system.

The Customs Administration Information System provides the following functions.

Category	Sub-Category	Function
Import	Import declaration processing	Process declarations
		Bill issuance
		Change/withdrawal
		Request registration
		Import requirements /tariffs
		Country of Origin
		Express goods for list-clearance
		Troubleshooting
	Tax correction	Tax correction
	Import C/S (Cargo Selectivity)	Headquarters C/S
		Local customs C/S
		C/S standard management
	Immediate carry-out	Declaration management
		Change management
		Troubleshooting

 Information management	Post management	Selection/distribution/registration for payment
		History search/registration
		Statistical data
	Customs broker management	Declarant mark management
		Personal information management
		Error scores
	Import customs (Manager)	Import clearance status
		Automated clearance status
		Analysis results
		Immediate carry-out statistics
	Import customs (Manager)	Declaration distribution management
		Payment
		Customs clearance status

[Table V.2-7] Functions for Import Customs Clearance

The Customs Administration Information System (back office) provides the following functions for export custom clearance.

Category	Sub-Category	Function
Export	Export declaration processing	Examine export declarations
		Change, cancel, reject declarations
		Cancel acceptance
		Analyze/Supplement
		Troubleshooting
	Non-shipment	Shipment/Non-shipment
	Export C/S	Headquarters C/S
		Local customs C/S
	Simplified Export	Items for simplified export declaration

	Declaration	Examine declarations
Export clearance (Manager)		Register inspectors and distribute declarations
		Approval by manager
		Register examiners and distribute declarations
		Clearance status
		Inspector management
		Examiner management

[Table V.2-8] Functions for Export Custom Clearance

The Customs Administration Information System (back office) provides the following import/export cargo functions.

Category	Sub-Category	Function
Import/export cargo	Inward Foreign Manifest (Airlines)	Cargo manifest
		Items to be controlled
		Change manifests
		Unloading results
	Inward Foreign Manifest (Ships)	Cargo manifest
		Items to be controlled
		Change manifests
		Declaration of unloading
		Unloading report
	Outbound Manifest	Examine/change airline cargo manifests
		Examine/change ship cargo manifests
		Search for Outbound Manifest
	Transshipment cargo	Transshipment cargo
		Change transshipment
		Manual registration

		Non-shipment management of transit/DT cargo
Carry-in/carry-out	Carry-in	
	Carry-out	
	Inventory management	
	Print reports	
	B/L Partition/Combination	
Bonded transportation	Examine declarations/approval requests	
	Bonded transportation management	
	Manual registration for bonded transportation	
	Inspection items management	
Cargo management	Bonded area destruction/devastation	
	Extension of carry-out period	
Container carry-in/carryout	Container carry-in	
	Container carry-out	
	Container inventory	
	Container information	
Information management	Manage automated targeting standards	
	Search for manifest selectivity	
	Mark management	
	Import cargo statistics	
	Export cargo statistics	
	Cargo tracking	
Manager	Assign examiners	
	Statistics	
	Items to be controlled	

[Table V.2-9] Import/ Export Cargo Functions



The Customs Administration Information System (back office) provides the following functions for duty collection and drawback.

Category	Sub-Category	Function
Collection	Duty calculation /Delinquency	Duty/tax payment
		Tax invoice management
		Penalty/drawback
		Delinquency management
		Integrated payment
		Use and profiting/adjustment deferment
		Demand Notice for Tax Payment/Deficit Disposal
	Security/Fees	Security management
		Fee management
	Collection report	Certification of calculation
		Duty invoice
		Revenue settlement
		Closing of collection report
Customs drawback	Manager	Approval
		Settlement
	Number of functions	
	Drawback requests processing	Accept claims and pay drawbacks
		Drawback payment
	Certificates	Certificates issue status
		Change certificates
	Basic data management	Basic data
		Assessment data management
		Company management
	Statistics and status review	Processing status
		Raw materials usage management
		Information search

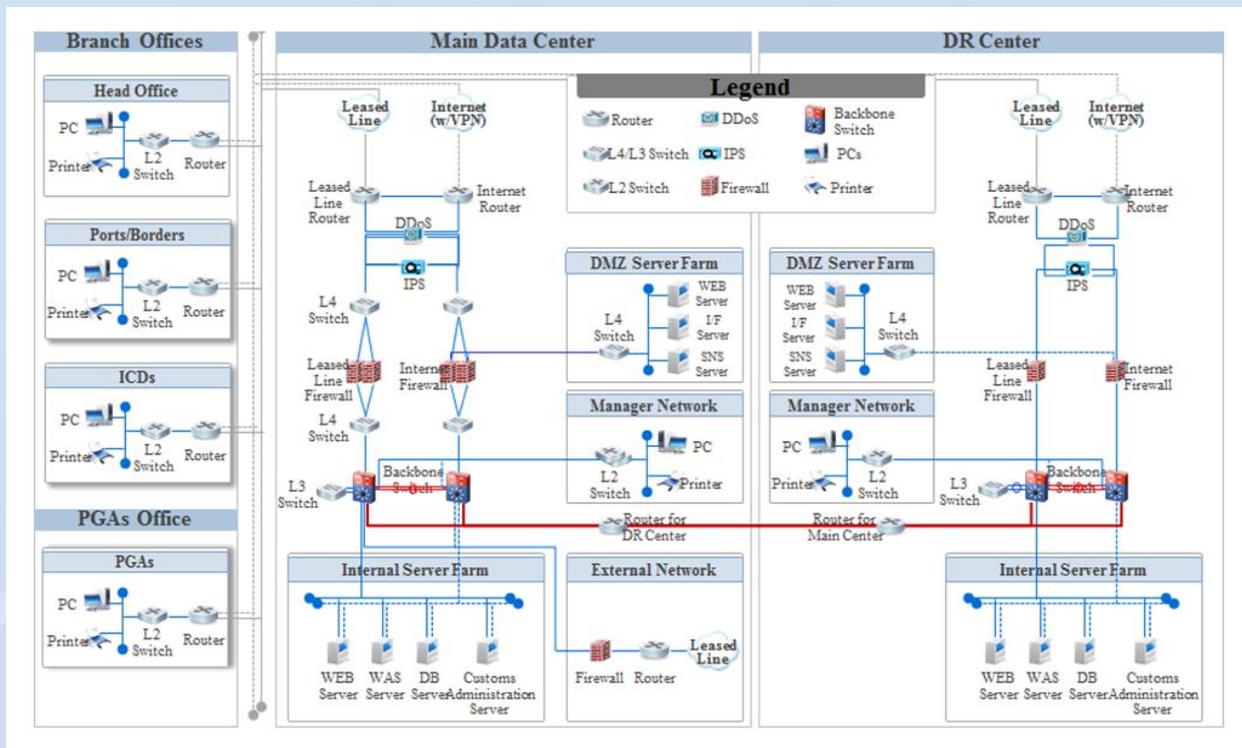
		Statistics
		Statistical records
Examination management (Manager)		Manage examiners
		Settlement registration

[Table V.2-10] Functions for Duty Collection and Customs Drawback

The Customs Administration Information System (back office) provides the following functions for PGA approval data management.

Category	Sub-Category	Function
PGA approval data management	Approval data	View PGA approval data (customs officials)
		View the details of approval data
	References	Search for information such as country code, currency units, transportation units, measurement units
	Organization Information management	Manage information on agencies with PGA approval data and related forms
	Permit/approval statistics by import/export declaration	View statistics on PGA approval by import/export declaration, period, organization, item

[Table V.2-11] Functions for PGA Approval Data Management



[Figure V.2-4] Functions for PGA Approval Data Management Functions

Systems for PGAs will be developed and connected in phase according to the pre-defined order of priority. Request functions will be provided on the Internet Customs Portal, approval functions on the web servers of individual organizations. Approved documents will be converted into declarations on the Internet Customs Portal to be sent to the Customs Administration Information System.

Hardware and DR Center requirements for Bangladesh Customs' Customs Modernization and Single Window System can be found below.

No.	Hardware	Quantity	No.	Hardware	Quantity
1	Web Server	8	17	L2 Switch	6
2	WAS Server	5	18	L3 Switch	4
3	DB Server	5	19	L4 Switch	6
4	I/F Server	4	20	L2 Switch (Office)	12
5	Archiving Server	2	21	Laser Printer (Office)	200
6	Backup Server	2	22	PC (Office)	4000

7	SMS & NMS Integrated management system	4	23	Laptop PC	200
8	Data Storage	2	24	Web/WAS/DB Server (PGAs)	8
9	LTO	4	25	Web/WAS/DB Server (Call Center)	2
10	Server Rack	6	26	IP PBX Server (Call Center)	2
11	Network Rack	4	27	OAM Server (Call Center)	1
12	IPS	2	28	Recording Server (Call Center)	2
13	DDOS	2	29	Voice Media Gateway (Call Center)	1
14	Backbone Switch	4	30	L3 Switch (Call Center)	2
15	Firewall	6	31	POE Switch (Call Center)	1
16	Router	6	32	Equipment for Call Center	10

[Table V.2-12] Hardware Requirements

The following are the software requirements for Bangladesh Custom's Custom Modernization and Single Window System Implementation.

No.	Software	Qty.	Requirements
1	Web Server (System S/W)	13	<ul style="list-style-type: none"> Standard protocol support, easy management, multi-support, flexible development environment support
2	DBMS	13	<ul style="list-style-type: none"> Compatible with standard SQL ODBC, JDBC, C/C++ Precompiler Process License (export)
3	Web Server (System S/W)	8	<ul style="list-style-type: none"> Standard protocol support, easy management, multi-support, flexible development environment support
4	WAS Server (System S/W)	8	<ul style="list-style-type: none"> Management S/W for web application server License for the Was server
5	Web Reporting Tool	2	<ul style="list-style-type: none"> Supporting all OS (Window, UNIX, Linux, etc.) Supporting DBMS connection Supporting function of group section Supporting various file format (Doc, TXT, Excel, PDF, RTF, Image, XML, HTML, etc.)
6	WAS Performance Management	2	<ul style="list-style-type: none"> Real-time Application Service Monitoring Various types of built-in dash boards

			<ul style="list-style-type: none"> • Detects memory leaks
7	DB Tuning S/W	2	<ul style="list-style-type: none"> • Real-time session monitoring for each DB instances • Various types of built-in dash boards • DBMS status monitoring (Session, SQL, Lock, Latches, etc.) • Trend analysis (sessions, SQLs, waits, OS, and redo trends) • Report & Statistics
8	Backup S/W	2	<ul style="list-style-type: none"> • LTO Backup • Server Backup Agent.
9	DB Security S/W	2	<ul style="list-style-type: none"> • DB Encryption
10	Search Engine	2	<ul style="list-style-type: none"> • Archiving Search Engine • Support various OS (Windows, Linux, Unix) • Provide DB index
11	Call Center Package	1	<ul style="list-style-type: none"> • CTI, IVR • Recording • Call reception and consulting • Dashboard

[Table V.2-13]Software Requirements

2.5. Timetable

Category	Year 1				Year 2				Year 3				Year 4			
	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
1. Consulting Service																
1) Consultant selection																
2) Basic design and proposal preparation																
3) Selection of the Contractor																
4) Inspection																
2. Implementation of Customs Modernization and Single Window System																
1) Customs Administration Information System																
2) Single Window Customs System																
3) Hardware/software installation																
3. Training																
1) Local																
2) Overseas																
4. Operation and maintenance																

[Figure V.2-5] Schedule of Custom Modernization and Single Window System

3. Investment Single Window

3.1. Background

Currently, Bangladesh government agencies and organizations are working in silos. With the goal of implementing systems to streamline their work processes and provide relevant services, the Investment Single Window will encourage the cooperation among stakeholders, secure the interoperability of the information systems and services, and ultimately set up the single window to provide one-stop services. This will enable the government to pursue the government-wide e-Government initiatives.

Investment administration services will be simplified to improve the current one-stop services and add new ones. Also, services will be expanded to other government agencies promoting investment to facilitate the use of the Investment Single Window inside and outside the Bangladesh government. Related administration services will be more computerized while systems and databases of government agencies will be connected so that the Investment Single Window can become more efficient, effective a one-stop service center.

By accelerating the introduction of e-Government for 18 ministries working with BIDA, public and private organizations working on drawing investment to Bangladesh, the Single Window will not only support local and foreign investment businesses but also help form better business conditions in fast-changing economic and technological environments and promptly respond to various global regulations.

3.2. Overview

3.2.1. Goal

To provide one-stop services that will boost BIDA's local and foreign investment, the project was designed to streamline administration work processes of concerned government organizations and agencies for faster processing; implement the Investment Single Window for online services; continuously improve the Single Window in respond to internal and external changes and user requirements during the system operation; expand both the use of the Single Window and its individual services; provide conditions for additional service development; and upgrade the capabilities of related personnel.

3.2.2. Objectives

The Single Window system will serve as an online one-stop service center to stimulate local and foreign investment. BIDA will streamline investment related work procedures of 18 ministries, affiliated public and private agencies and build an information system to provide services online, which will be then linked to services of related organizations to empower the Single Window system.

Local and foreign investors can find all investment information and services and submit investment proposals and other documents on the Investment Single Window, facilitating investment process.

The active promotion of the online one-stop services for local and foreign investment will help attract more investment through the system. Its success cases will present the foundation for encouraging investment on the one-stop system and drawing more investment into Bangladesh.

- Increase foreign direct investment

After the announcement of ‘Digital Bangladesh Vision 2021’ as its national vision in December 2008, the current Bangladeshi government has been trying to become a middle-income country by 2021 by utilizing ICT in various areas. Still, the country has seen huge fluctuations in foreign direct investment (FDI), which has not been helpful in its economic development: in 2015, FDI inflow into Bangladesh increased 23.9% compared to the previous year. But the number fell to 9.2% in 2016.

The Investment Single Window will allow foreign investors to have an accurate understanding of local business environments and shape optimal investment plans, helping them make prompt investment decisions. One-stop services available on the system will provide them with all the information and services they need for investment and business operation without any delay. All in all, this helps deliver early return on investment and find opportunities for reinvestment as well as ensures stable business operation. In better conditions, investors will be able to achieve their intended business outcomes more easily, which will lead to more FDI and reinvestment.

- Improve user satisfaction

Services provided by multiple ministries and affiliated organizations will become available on the BIDA’s single window system, making it a one-stop service center. The new single window will save time and costs throughout the entire investment process from business planning to the final decision making as unnecessary visits to ministries and public and private organizations will be avoided with all work done online, enhancing the satisfaction level of local and foreign investors.

The system will not only provide one-stop services for local and foreign investors but also reduces unnecessary visits to apply for and obtain permits and time spent on such visits. Bangladeshi manufacturing companies will be satisfied with the Single Window to expedite import and export procedures as it enhances their competitiveness and efficiency.

- More innovations at the ministries and affiliated agencies

In order to deliver one-stop services that BIDA wants at the ‘Investment Single Window’, 18 concerned ministries should reform their work process. Also, the 18 ministries, affiliated organizations, private organizations need to not only cooperate and share information but also connect and integrate their systems.

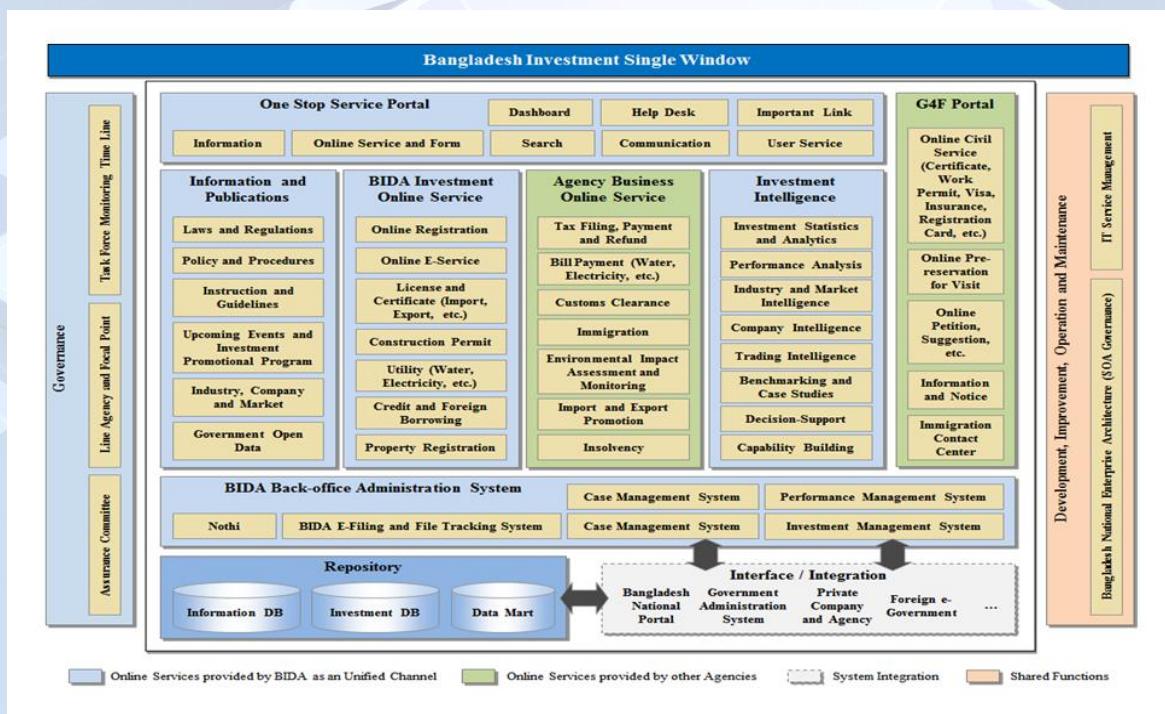
Following the timetable, all the relevant ministries, affiliated government and private organizations will simplify their work processes and develop online services. This will accelerate the government' innovation initiatives in streamlining administration processes and introducing information systems, expanding services for the public, businesses and foreigners and linking and integrating different organizations.

- Achieve a higher position in Doing Business by the World Bank

'Doing Business' covers 11 areas of business regulations – ease of doing business, starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency. BIDA will enter agreements with relevant organizations to streamline work processes in order to reduce time going through administrative procedures and provide services online. With the taking effect of the one-stop service law, relevant agreements would become legally binding to an extent.

BIDA aims at ranking within top 100 among 190 economies by 2021, moving up from the current (2018) ranking of 176 in Doing Business by the World Bank Group.

3.3. Target Image and Main Functions



[Figure V.3-1]Target Model

3.4. Tasks

The project scope of the target system is shown in the above picture. The Investment Single Window's conceptual diagram includes the implementation of the one-stop service portal; streamlining of investment procedures of BIDA and individual organizations; service development; developing systems for individual organizations and connecting them to and integrating with the one-stop service portal; and the implementation of an integrated database for local and foreign investment. Now in Phase 1 of the project, some services are already available or in the process of implementation. These services mostly focus on the life cycle of a business: starting a business, dealing with construction permits, getting water, electricity, and gas utility services. Starting with Phase 2, Bangladesh government will solicit opinions from local and foreign investors to identify relevant services from different organizations and provide more value-added services, eventually building a personalized portal for the user. Also, the Investment Single Window as a one-stop service center will facilitate services required for business operations as well as make it easier to make investment in the country. To do so, systems, services and even databases of various public and private organizations and schools will be connected to the single window.

To make individual services provided by different organizations part of the one-stop services, BIDA will plan, negotiate, and discuss with relevant organizations. In order to make the investment process simple and easy for local and foreign investors and provide accurate one-stop services online as defined by the one-stop service law, the progress of services will be monitored on the dashboard. Also, functions such as alerts to persons in charge, reporting to the manager or an organization of higher authority, email and SMS services, service progress view will enable immediate responses.

The Investment Single Window will not only provide smooth, fast services for investors with simplified procedures online but also present customized services depending on the purpose, location, target or method and help make more informed decisions faster by incorporating all related information and services. With the enhanced statistics and analytics of the system, Bangladesh government will be able to draw up policies to stimulate local and foreign investment, create a better business environment, improve laws and regulations, and actively utilize ICT across all government agencies in order to pursue innovations and connect and integrate different systems.

Task	System	Y1	Y2	Y3	Y4	Y5
Business streamlining						
One-stop service improvement	One-stop service portal					
	Online registration system					
	Online application and issuance system					

	BIDA e-Filing system					
	Monitoring system					
Implementation of Single Window Investment System	Single Window Investment Portal					
	BIDA investment information Sharing System					
	BIDA online service system					
	Connect and integrate online services and systems of government agencies					
	BIDA Administrative management system					
	Build an integrated investment database and connect to related databases					
Enhancement of Single Window Investment System	Improve personalization service on the Investment Single Window					
	Improve BIDA online service system					
	Connect to and integrate online service systems of government agencies					
	Build an investment intelligence system and data mart					
	Improve BIDA administration management system					
	Connect to and integrate with G4F portal					
Expansion of the Investment Single Window and operation stabilization	Streamline investment related procedures at BIDA and government agencies and develop online services					
	Build and improve IT service management system					

[Table V.3-1] Implementation Milestones by Year



3.5. Timetable

Milestone	Year 1				Year 2				Year 3				Year 4				Year 5			
	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
Negotiation																				
Exchange of agreement between governments																				
Execution planning																				
PMC selection																				
Hardware provider selection																				
System developer selection																				
System development																				
Expert deployment																				
- Local inspection by PMC																				
- Business management / inspection by PMC																				
- Preliminary developer screening																				
- System development support																				
- Hardware installation																				
- System installation and training																				
- System stabilization																				
Training in Korea																				
Project completion																				

[Figure V.3-2] Timetable for implementation

Category		Description	Budget (USD)
Expert deployment	System consulting	Overseas consulting service on business streamlining and system implementation	\$1,612,800
	System installation and implementation	System installation and implementation, maintenance	\$2,116,800
System development	System development costs	Improvement of current system, development of the Investment Single Window System, implementation of integrated database, new system development, system connectivity and integration, security system development, testing	\$11,300,000
Infrastructure	Infrastructure procurement	Hardware: all devices and equipment required to build the Investment Single Window and one-stop service center (server, storage, networking products and other devices) Software: development, analytics, reporting tools	\$1,250,000
Competency building	Invitational training	Government employees dealing with investment matters (10 senior officials, 15 managers, 30 persons in charge)	\$875,000
	Local training operational support	Local competency building training costs, seminars and workshops, classroom (rent), training materials and others	\$1,00,000
Project management	Project management	PMC management, costs associated with deploying PM and PMO overseas, project management costs including project start reports and interim reports (4% of the entire project costs)	\$800,000
	Promotion	Producing promotional content, local promotional activities, media buying	\$150,000
	Audit	Audit on the implemented systems (Appx. 3% of the project costs)	\$600,000
	Reserve fund	Appx. 1% of the project costs	\$200,000
Total			\$19,904,600

[Table V.3-2] Budget Plan of Investment Single Window

4. e-Immigration Information System

4.1. Background

The introduction of e-Immigration Information System will reduce the long processing and waiting time of the existing immigration system, which partially relies on manual work, and enhance the public's satisfaction with administrative services by facilitating immigration clearance. The automated immigration system will also boost the private biometrics and automation sectors in Bangladesh. The modernization project will improve the nation's first impression to visitors as well as efficiency and transparency.

4.2. Overview

4.2.1. Goals

- Ensure the border control efficiency and security with the modernization of the immigration system
 - Introduce the automated immigration system that will facilitate the immigration process of visitors and nationals and identify those with criminal record with selective border control features, thus contributing to realizing more efficient and secure border control.
 - Expand the digitization of immigration administration, such as the immigration portal and the automated immigration clearance system
- Continue to build operational competences with new technologies such as Advance Passenger Information and biometrics
 - Adopt the Advance Passenger Information analytics system to expedite the processing of visas on arrival to ensure the accuracy and speed of immigration clearance
 - Analyze the information of persons with criminal record in advance and respond accordingly, providing faster clearance for trusted travelers and expand available services
 - Build up the operational competencies of local personnel by transferring fingerprint and facial recognition technologies.

4.2.2. Objectives

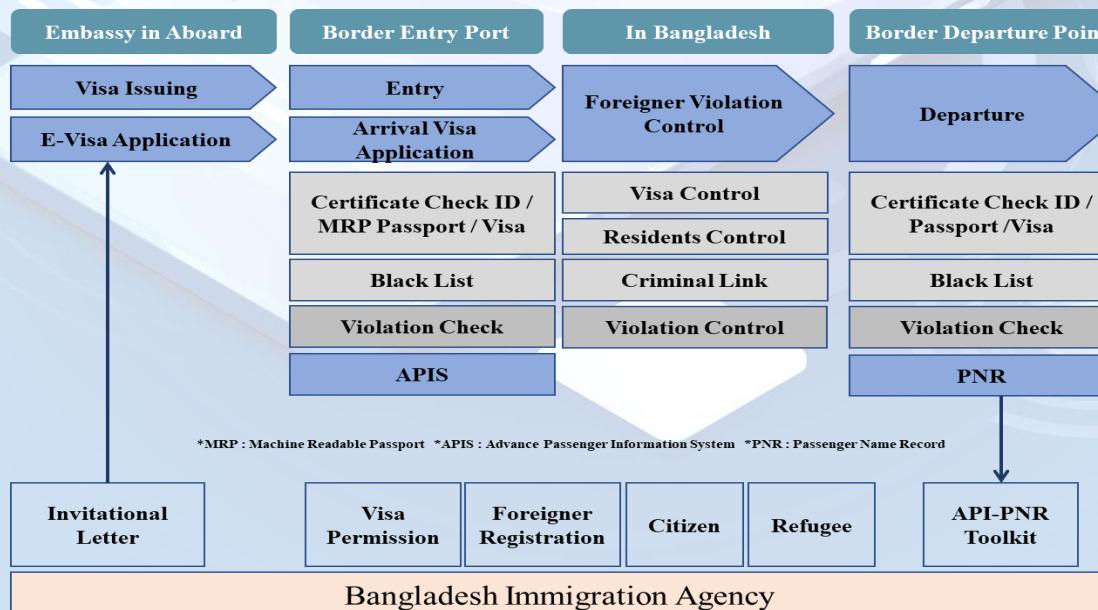
- Increase customer satisfaction with the immigration portal and automated immigration system
 - Build the immigration portal where users can easily enter their information in advance in order to improve the current work processes including issuing visas on arrival
 - Improve the customer satisfaction with faster clearance enabled by the automated immigration clearance system
- Enhance efficiency by modernizing related processes with the connectivity to Advance Passenger Information System and process modernization, for example, with passenger

fingerprint information.

- Add features to perform advance immigration clearance by getting passenger information from airlines and shipping lines
- Help develop e-Government frameworks for the operation of the automated immigration clearance system and introduce related technologies and equipment for new features such as fingerprint recognition, live scanners (10 and 2 fingerprints), and automated immigration clearance gates.
- Improve operational competencies of personnel handling immigration procedures.

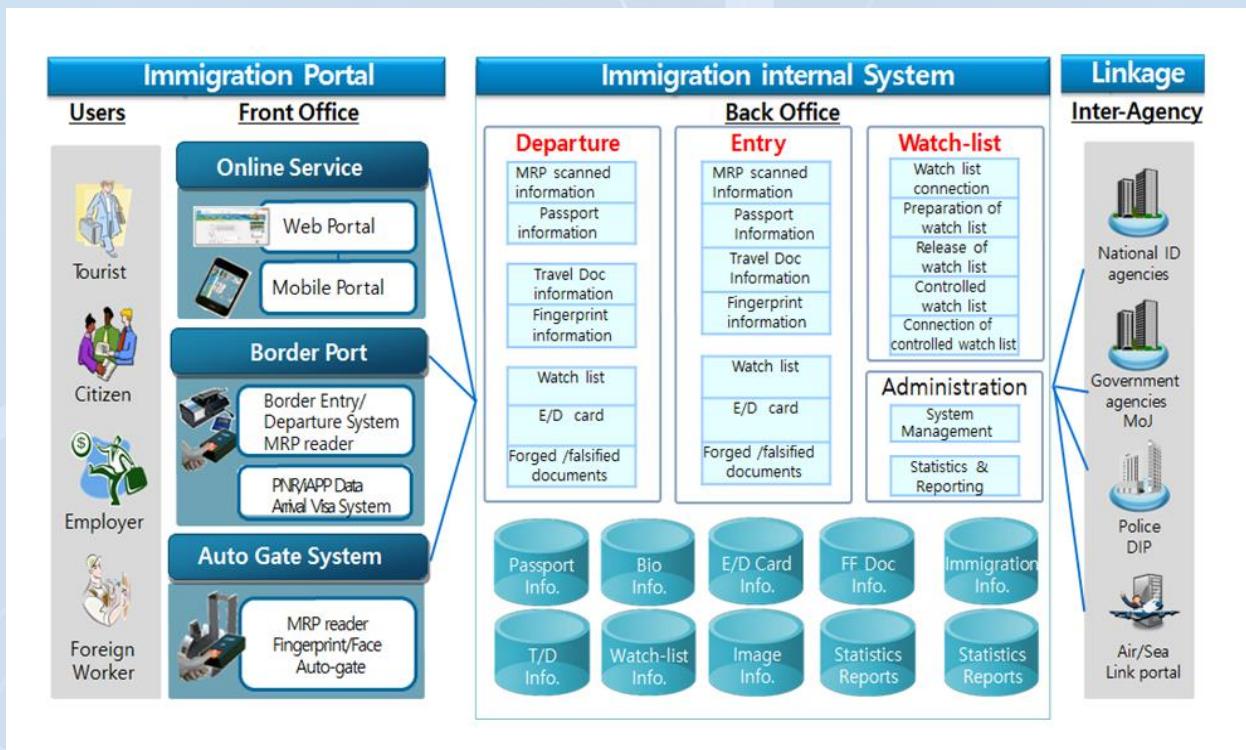
4.3. Target Image and Main Functions

Immigration system covers immigration workflows ranging from 1) passport and visa issuance, 2) immigration document preparation, 3) immigration clearance (including advance clearance), 4) staying, 5) entry, 6) post management to 7) management of related information for local and international users. In Bangladesh, foreigners can apply for visas on arrival in addition to visas issued by the embassy. But such information is not linked to airlines in advance, making it impossible to employ an automated immigration clearance system using advance passenger information. The improved process will enable travelers to apply for visas on the online portal and modernize the immigration system with Advance Passenger Information System (APIS) and Machine-Readable Passports (MRP), significantly cutting down clearance time. The enhanced immigration workflow can be found below. Service Process Simplification (SPS) will be used throughout the project to redesign the system in a more reasonable & realistic way.



[Figure V.4-1] Workflow of the Target System

The target system has three sub systems: the immigration portal (front office), the immigration processing system (back office) and the linkage with related organizations. The internal system will use dedicated private networks to connect to the central and local immigration offices (at 3 Airports, 3 sea ports and 33 Immigration offices (land)).



[Figure V.4-2] Target System Configuration

Category		Description
Immigration portal	Traveler (user) registration	The traveler registers himself/herself as passenger/flight attendant and national/foreigner.
	Visa application	Apply for a single visa, double visa, or visa on arrival
	Fee payment	Pay for the visa-related fees (connect to payment gates of the user's region)
	Information plaza	Provide Bangladesh's immigration policy and other related information
	Alien registration	Provide alien registration support for foreigners residing in Bangladesh
	Certificate application / issuance	Issue immigration certificates and other related documents
Entry	Traveler categorization	The traveler registers himself/herself as passenger/flight attendant and national/foreigner.

Departure	Passport/Visa information validation	Collect traveler information through immigration clearance and automated devices/systems to validate documents and detect forgery
	Advance clearance results	Use traveler information to check immigration systems and advance passenger clearance results
	Blacklist	Use traveler information to compare it to the blacklist to decide whether to allow the traveler's entry or not
	Transfer	When the traveler is found to be blacklisted, transfer the case to a related department/team
	Clearance results	Register the clearance processing results on the system
	E/D card collection	Collect the E/D card presented by a passenger and deliver it to a related department/team
Advance clearance	Passport /Visa information validation	Collect traveler information through immigration clearance and automated devices/systems to validate documents and detect forgery
	Advance clearance results	Use traveler information to check immigration systems and advance passenger clearance results
	Sojourn period	Check one's sojourn period when the traveler is a foreigner.
	Tax	Impose taxes for overstaying based on the length of the overstay
	Blacklist	Use traveler information to compare it to the blacklist to make a decision
	Transfer	When the traveler is found to be blacklisted, transfer the case to a related department/team
	E/D card collection	Collect the E/D card presented by a passenger and deliver it to a related department/team
Advance immigration clearance	Clearance results	Register the clearance processing results on the system
	APIS information	Perform advance clearance with APIS data
	PNR information	Perform advance clearance with PNR data
	iAPP information	Perform advance clearance with iAPP data
Foreigners	Drawing up a blacklist	Make a blacklist based on the advance clearance results
	Passport information check	Check the applicant's passport
	Blacklist	Use the passport number to see if the applicant is on the blacklist
	Collecting biometrics	Collect the applicant's fingerprints and photo
Foreigners	Registration	Register the applicant eligible for the advance immigration clearance
	Length of stay (foreigners)	Approve the long stay of foreigners

management	Foreigner management	Register fingerprints and other information of foreigners
	Blacklist	Manage blacklist information
	Illegal immigrants	Illegal immigrant information management
	Immigration record management	Immigration record management and certificates issuance
	Visa approval information results	Record management such as visa approval information

[Table V.4-1] Main Features of the Target System

4.4. Timetable

Category	Year 1				Year 2			
	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
Negotiation								
Exchange of agreement between governments								
Execution planning								
PMC selection								
Equipment provider selection								
System developer selection								
Immigration system development								
Expert deployment								
- Local inspection by PMC								
- PMC project management/inspection								
- Preliminary developer screening								
- System analysis/design/development								
- Equipment installation								
- System installation and training								
- System stabilization / operational support								
Invitational training in Korea								
Project completion								

[Figure V.4-3] Timetable

	Category	Budget (USD)
Expert deployment	Project management (PM, PAO)	\$264,233
	Master planning, SPS execution, legal framework improvement	\$214,261
	System design	\$94,920
	Equipment installation	\$114,398
	Support for System development, installation and operation	\$116,017
	Sub Total	\$803,830
System development	Immigration clearance	\$203,945
	User portal	\$203,945
	Automated immigration clearance	\$74,705
	Advance immigration clearance	\$95,987
	Foreigner management	\$203,945
	Tech support and online connectivity development	\$392,490
	Sub Total	\$1,175,017
Equipment	Hardware	\$2,778,750
	Software	\$242,500
	Sub Total	\$3,021,250
Competency building	Manage training	\$48,259
	Developer training	\$47,507
	User training	\$86,358
	Local training and operational support	\$97,304
	Sub Total	\$279,428
Project management	Project management and reserve fund	\$302,215
	Promotion	\$130,435
	Inspection	\$147,826
	Sub Total	\$580,000
Total		\$5,860,000

[Table V.4-2] Budget plan for e-Immigration Information System

5. National Statistics Data Warehouse and Big Data Analysis Platform

5.1. Background

The aim of the platform is to establish constructive and quantitative decision making system and to connect big data-based private and public services, through national statistics information and big data analysis techniques, and thereby ultimately enhance the lives of the public and address inequality by improving digital divide.

5.2. Overview

5.2.1. Goals

- Establish national statistics data warehouse and big data analysis platform and improve current statistics work system and processes.
- Establish environment for constant operation of the established data warehouse.

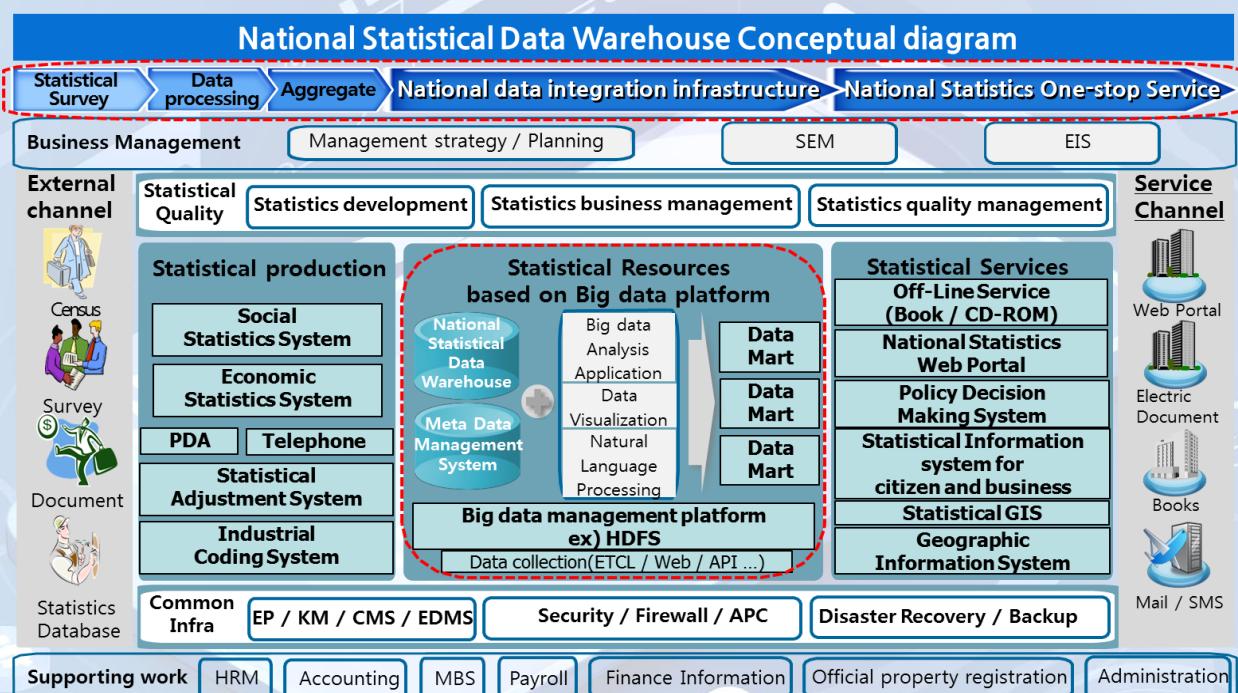
5.2.2. Objectives

- Establish quantitative national policies decision making process: by analyzing big data on wide range of sectors including weather, communication, transportation, logistics, prices, administrative information, and population, under the objective of expanding the usage of big data
- Expand the usage of big data-based private and public services: to raise the service quality to the public and its efficiency by providing national services such as administrative information service and public information analysis service on wide range of sectors including transportation or customized services based on statistics data and big data
- Enhance the quality of the service to relevant organizations and the public: raise satisfaction level of relevant organizations by improving the processes and performances of the current statistics work systems and increasing both quantity and quality of information analyzed, and to raise satisfaction level of the public by constantly developing and providing indicators for big data analysis

5.3. Project Activities

The conceptual diagram on the target system is as follows. The scope includes building national statistics data warehouse based on big data, meta data management system, big data analysis solution, and developing an analysis system. The scope of the project includes building census, survey search input, comprehensive internal review system, raw data aggregating system, which will all lead to the improvement of current work. Building data warehouse center based on big data, linkage systems with big data, and task using common base with big data will lead to the completion of national statistics data warehouse based on big data. This will make a one-stop service of national statistics.

5.4. Target Image and Major Functions



[Figure V.5-1] National Statistics Data Warehouse Based on Big Data

Category	Systems	Y1	Y2	Y3	Y4
Improving current statistics work system	Research input system				
	Internet search system				
	Comprehensive internal review system				
	Standard management system				
Developing big data-based data warehouse	Aggregated statistics system on raw data				
	System to connect and collect big data				
	Big data storage management system				
	Big data analysis system				
	Internal management system				
Developing systems linked to big data	Build portal that uses statistics and big data				
	System that provides and analyzes micro data				
	Improve open portal on public data				
	Build data distribution system				
	Build open API sharing system				
	Build system that supports big data common base				
Developing tasks using big data	3 services for analyzing and anticipating				
	5 services for generating and providing derived data				

[Table V.5-1] Timetable

5.5. Action Plans

Category	Y1				Y2				Y3				Y4			
	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
Consultation																
Exchange agreements between governments																
Set execution plan																
Select PMC																
Select equipment company																
Select system development company																
Develop the system																
Dispatch experts																
- PMC field study																
- PMC project management / inspection																
- Development company preliminary study																
- System development support																
- Install equipment																
- System installment and education																
- System stabilization																
Invitational training program in Korea																
Project completion																

[Figure V.5-2] Timetable

Items		Description	Budget (USD)
Dispatch experts	System consulting	Dispatch consultants for work improvement and system establishment	\$1,600,000
	System installment	Dispatch experts on equipment installment, system establishment and maintenance	\$2,100,000
System development	Service fee for system development	Establish census and survey search input, comprehensive internal review system, aggregated statistics system for raw data, big data-based data warehouse, linkage system with big data, task using common base of big data	\$11,350,000
Infrastructure establishment	Purchase equipment	HW: equipment for building data warehouse center using Big Data analysis (HW for server, storage, network and additional) SW: big data solution, Server OS, WAS, Web server, Virus, etc.	\$5,140,000
Capacity strengthening	Invitational trainings	Public officials in statistics	\$1,200,000
	Maintenance in Bangladesh	System improvement and maintenance in Bangladesh	\$2,250,000
	Education and operation support in Bangladesh	Education for capacity strengthening, rent for conference halls, educational materials, etc.	\$860,000
	Seminars	Workshop and seminars in Bangladesh	\$85,000
Project management	Project management	PMC management, dispatch PM and PMO to Bangladesh, project management cost including initial report, interim report, final report (4% of total project fund)	\$1,570,000
	Promotion	Promotion contents, PR media	\$135,000
	Inspection	Inspection on system	\$1,030,000
	Reserve fund	1% of total project fund	\$320,000
Total			\$27,640,000

[Table V.5-2] Budget Plan for National Statistics Data Warehouse

6. Action items of National ICT Policy 2018

No.	Action Items	Implementation Organization
1	Ensure availability of all government services from any place easily, transparently, at low cost, through digital devices at a short time.	All Ministries / Divisions / Departments / Agencies
2	Take steps to develop and inform citizens about the ability to take all services in digital mode.	All Ministries / Divisions / Departments / Agencies
3	In order to provide service to all the Ministries, Divisions and Departments, to identify and implement the services, the responsibility of the top-level permanent resident of the organization (such as Chief Innovation Officer / ICT Focal Point).	All Ministries / Divisions / Departments / Agencies
4	Establishment of ICT Cell by ICT Professionals in Government Institutions Creating ICT related posts for this cell. [Identification of all government-related ICT related posts as technical posts.]	Ministry of Public Administration
5	Generating promotional ICT publications for the creation of posts in all institutions at the government level, with current pay-allowances and facilities.	Ministry of Public Administration
6	Setting up of ICT based helpdesk for public in government institutions. For the call center, the telecommunication service providers will provide low-cost or toll-free facility.	All Ministries / Divisions / Departments / Agencies
7	In order to implement the digital-government system, follow the specific standards and policies for determining software and hardware needs, formulation of financial purchase plans, supply and supply.	Cabinet Division, Ministry of Public Administration, Implementation Monitoring & Evaluation Division, Bangladesh Computer Council, Access 2 Information
8	Implementation of Digital Service Implementation Roadmap by all Ministries /Divisions and Departments for the implementation of digital government and implementation coordination through Information Technology system.	All Ministries / Divisions / Departments / Agencies
9	Smart and Personalized Public Service Confirmation with Data Analytics and AI Attachments in Digital Services	All Ministries / Divisions / Departments / Agencies
10	For the purchase of large software and ITES, the existing laws and regulations (PPA and PPR) will be followed by purchasing authority, in accordance with the design and	All Purchasing Authority

	supervision (PMC) implementation and execution through two separate agreements.	
11	Implementation of the applicable BOO / BOT / facilitated through the Facilitative Management System in the case of applicable software for large software and ITES projects.	All Purchasing Authority
12	Preparation of guidelines for revenue / fee shares for implementation through BOO / BOT / facilitated by the Facilitative Management System.	All Purchasing Authority
13	Determine the detection of obstacles, elimination and progress of digitization in all areas, and a measurable criterion of progress.	All Ministries / Divisions / Departments / Agencies
14	Digitalization of the organization will be encouraged as pre-qualification for all government permissions, grants / facilities / incentives or licensing / renewal.	All Ministries / Divisions / Departments / Agencies
15	Publication of updated citizen services of all government organizations on the information table website.	All Ministries / Divisions / Departments / Agencies
16	To facilitate online procurement of electronic purchases and to publish all open tenders and recruitments online.	All Ministries / Divisions / Departments / Agencies
17	According to PPA and PPR, the tender notice on the respective website of the respective ministries / divisions / departments / agencies is published.	All Ministries / Divisions / Departments / Agencies
18	Monitoring of overseas assistance and digital monitoring of allocation.	Economic Relations Division
19	Use of ICT, the adoption, analysis and acquisition of public opinion for evaluating the effectiveness of ongoing development projects and programs, and subsequent use and implementation of projects.	Implementation Monitoring & Evaluation Division
20	Project management, planning, implementation, monitoring, convergence and allocating money in the ICT based system.	All Ministries / Divisions / Departments / Agencies
21	The introduction of the latest communication system (eg video conferencing) to important government offices (eg, video conferencing).	All Ministries / Divisions / Departments / Agencies
22	Connectivity between the government and the people through social networking.	All Ministries / Divisions / Departments / Agencies
23	Encouraging adoption of projects in the light of the Managed Service model involving the private sector for the implementation of fast and sustainable digital governance	All Ministries / Divisions / Departments / Agencies
24	Take initiatives to create Digital Service Act.	Cabinet Division, ICT Division

25	Connecting all government organizations by creating a digital network at national level.	Ministry of Posts, Telecommunications and Information Technology
26	High speed data connection and digital-government system introduced in all government offices for decentralization of government activities.	All Ministries / Divisions / Departments / Agencies
27	Setting up and managing community digital-center (telecentre) in private initiative to ensure computer, internet and e-citizen services are accessed	ICT Division
28	To provide relevant information related to matters related to goods, information related to cost-effective bandwidth, for the LDCs and marginalized communities	Ministry of Social Welfare, Ministry of Women and Children Affairs, Internal Resources Division, Posts and Telecommunications Division, Bangladesh Telecommunication Regulatory Commission
29	Implementation of Information Technology Infrastructure, National Data Center Based Applications and Content Hosting for Getting National Security and Best Service	ICT Division
30	To launch an integrated job portal for all government jobs.	Ministry of Public Administration
31	Inclusion of computer and internet fundamental topics in the practical examination of recruitment of all categories at the government level	Ministry of Public Administration, All Ministries / Divisions / Departments / Agencies
32	Announcements and award prizes for government officials in the implementation of creative digital government system and digital-service activities at the government level	Ministry of Public Administration, All Ministries / Divisions / Departments / Agencies
33	Adding new criteria for computer and Internet fundamentals in Annual Confidential Acknowledgment (ACR)	Ministry of Public Administration
34	Services related to ICT and Digital Governance curriculum of government-level training institutes include Service Process Simplification (SPS), Digital Service Design and Planning, Project Management Digital Services, etc.	All Ministries / Divisions / Departments / Agencies
35	Training curriculum for improving efficiency in the use of information technology of government officials / employees, including basic and technical issues of information technology, to train training and motivate the use of ICT in	Ministry of Public Administration, ICT Division

	information sharing, to provide training to the concerned government officials under common training curriculum.	
36	In the field of information technology, in the field of digital technology (web-based system, teleconferencing, video conferencing etc.) to facilitate the training of government officials, in line with the excellence of technology	Cabinet Division, Ministry of Public Administration, ICT Division
37	National e-Governance Architecture and e-Governance Interoperability Framework to provide training to government officials / ICT professionals.	ICT Division
38	Providing training on ICT in the local government level and raising awareness among the people.	All Ministries / Divisions / Departments / Agencies
39	National e-Governance Architecture and e-Governance Interoperability Framework Formulation and Regular Reconstruction for the Digital Government's initiative on Software, Hardware and Connectivity.	ICT Division
40	All government departments follow the National e-Governance Architecture and the e-Governance Interoperability Framework	All Ministries / Divisions / Departments / Agencies
41	National Digital Government Framework and e-Governance Interoperability Frameworks Technology Neutral & Vendor Agnostic-Ready	ICT Division
42	To ensure maximum access to public disclosure information, open government data portal and create data access to other department data.	All Ministries / Divisions / Departments / Agencies
43	Take a look at the Department of Information and Communication Technology for the purpose of planning and coordinating the transition of digital services and to avoid duplication in the field of approval.	All Ministries / Divisions / Departments / Agencies
44	In order to implement the digital services of the Ministry / Departments, from the assessment of all the digital services to the procurement, preparation and implementation of all types of technical assistance, jointly with the help of "Digital Service Accelerator" cabinet division and ICT department.	All Ministries / Divisions / Departments / Agencies
45	Ensuring single citizen ID and easy correction and inter-ministerial coordination.	All Ministries / Divisions / Departments / Agencies
46	Providing digital services using single ID and ensuring social security.	Cabinet Division and Related Ministries / Divisions
47	The provision of easy access to information to parliament members by using information technology.	Parliament Secretariat, ICT Division

48	Using the information technology, the members of parliament get in touch with the people of their respective constituencies.	Parliament Secretariat, ICT Division
49	Process management process in digital system.	Law and Justice Division, ICT Division
50	The introduction of modern system for the use of ICT-based management system to store records and record the case.	Law and Justice Division, ICT Division
51	In the digital system, the process of documenting and referencing of the case.	Law and Justice Division, ICT Division
52	Providing legal services online or using SMS.	Law and Justice Division, ICT Division
53	To arrange for training of judicial officers to identify and prevent digital related crime.	Ministry of Public Administration, Law and Justice Division
54	Establishing networks for easy and secure communication between all departments of law enforcement agencies.	Public Security Division, ICT Division
55	Ensuring service to the public by using ICT in all police stations	Public Security Division, ICT Division
56	Enhanced quality assurance using law enforcement agencies for management information systems (MIS), data analysis tools and necessary management methods.	Public Security Division, ICT Division
57	Skills Development of Law Enforcement Agencies for Prevention of Digital Crimes and Filing Suits	Public Security Division, ICT Division
58	Digitization of land records and registration system and capacity building of relevant officials	Law and Justice Division, Ministry of Land
59	Adding web-based software for monitoring all activities related to corruption, investigation, investigation, prevention and prosecution of all complaints related to the Anti Corruption Commission.	Anti-Corruption Commission
60	Centralized 'Central Property Assessment Management System' is to be formulated centrally for the submission of property details of businessmen related to government officials and government work. [The system will be connected with BRTA, National Board of Revenue, Bangladesh Bank and Central Plot / Flat Management System of the Ministry of Housing and Public Works, so that the authenticity of the assets submitted with the property statement can be verified.]	Anti-Corruption Commission, Bangladesh Road Transport Authority, National Board of Revenue, Bangladesh Bank, Ministry of Housing and Public Works
61	Implement Criminal Database to protect all information of	Public Security Division, All

	crime and related criminals. From the database, the relevant law enforcement agencies will be able to establish a connection with each other and collect information.	Law Enforcement Government Organization, Anti-Corruption Commission
62	Ensure the highest digital security of digital government structures.	Ministry of Posts, Telecommunications and Information Technology
63	Capacity building to determine and implement digital security criteria for all the initiatives of the Digital Government Framework.	Bangladesh Computer Council
64	Take steps to ensure safe access to the internet.	Bangladesh Telecommunication Regulatory Commission
65	The Internet's Safe-Use Competence Management Program for Judges, Executive Magistrates, Lawyers, Law Enforcement Agencies and related experts.	Law and Justice Division, Ministry of Public Administration, Public Security Division
66	Create central platform for instant reporting, public awareness and CIRT capability.	ICT Division
67	All ministries, government agencies-based security focal officers will be appointed.	Cabinet Division, Ministry of Public Administration, ICT Division
68	Build cyber security expert's pool.	ICT Division
69	Confidentiality of personal information in the digital government framework.	ICT Division
70	Confidentiality of all types of personal information and confidentiality of citizens.	All Ministries / Divisions / Departments / Agencies
71	The citizens will have to inform him for collecting or preserving any information. The information can not be provided to any individual or company without the express permission of the concerned person. The data should be encrypted and kept safe. If there is a breach of it, to ensure financial fines.	All Ministries / Divisions / Departments / Agencies
72	Monitoring data for prevention and remediation of unwanted and harmful content presentations through social communication, establishment of analysis cell and accordingly ensure security.	Ministry of Posts, Telecommunications and Information Technology
73	Preparation and implementation of Guardian Awareness Program	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry

		of Women and Children Affairs, ICT Division
74	Closing of harmful websites for children in the country.	Ministry of Posts, Telecommunications and Information Technology, Ministry of Women and Children Affairs
75	Skilled manpower in dealing with digital crimes	All Ministries / Divisions / Departments / Agencies
76	Inclusion of digital crimes related to textbooks.	Ministry of Education, Ministry of Primary and Mass Education
77	Generate awareness about digital security.	All Ministries / Divisions / Departments / Agencies
78	Increasing mutual cooperation between government and non-government organizations to combat digital crime.	All Ministries / Divisions / Departments / Agencies
79	Coordinated with international organizations to take steps to combat digital crimes.	All Ministries / Divisions / Departments / Agencies
80	Preparation and implementation of the National Digital Security Framework	All Ministries / Divisions / Departments / Agencies
81	Take action to form and implement the National Digital Security Agency.	All Ministries / Divisions / Departments / Agencies
82	Digital crisis management	Bangladesh Computer Council
83	Law enforcement of the crime	All Ministries / Divisions / Departments / Agencies
84	To comply with the IT system audit	All Ministries / Divisions / Departments / Agencies
85	Digital Security Insurance Activation	Financial Institutions Division, Bangladesh Insurance Development and Regulatory Authority
86	Organization approval of various digital security service providers (Penetration Testing, Vulnerability Assessment, IT Audit)	All Ministries / Divisions / Departments / Agencies
87	The National Data Center is a continuous and automated security audit reason	Bangladesh Computer Council
88	Digital Financial Transaction Criteria and Sector Based Security Guidelines	Financial Institutions Division, Finance Division, Bangladesh Bank
89	Making new laws and making efforts to amend existing	ICT Division, Finance Division,

	conflict laws to facilitate and facilitate digital transactions	Bangladesh Bank, Posts and Telecommunications Division
90	Digital payment switch through the use of mobile technology and ATM, inter-and interbank modernization of the digital payment switch of Bangladesh Bank to arrange all types of financial transactions	Finance Division, Financial Institutions Division, Bangladesh Bank
91	Safeguarding all types of digital transaction logs for forensic investigation	Public Security Division, ICT Division, Bangladesh Bank, All Financial Institutions
92	Digital signature to all offices	All Ministries / Divisions / Departments / Agencies
93	Ensure that all data of Bangladesh is kept in the geographical boundaries of Bangladesh	All Ministries / Divisions / Departments / Agencies
94	Establishment of Digital Center / Service Based Kiosk in City Corporation, District Council, Upazila Parishad, Municipality, Union Parishad, Bus Terminal, Ferry / Launchghat, Railway Station, Airport, Post Office, Market etc.	Posts and Telecommunications Division, Local Government Division, Ministry of Shipping, Ministry of Railways, Ministry of Civil Aviation and Tourism, Ministry of Information
95	Accessible to all public and private web sites for people with disabilities following the international standards of the policy	All Ministries / Divisions / Departments / Agencies, NGO Affairs Bureau
96	In order to increase the accessibility of the people of the disabled, special arrangements for the expansion of accessibility and VAT, in case of import of hardware, software and other ICT materials that are not manufactured in Bangladesh, will be made for duty-free and specially designed ICT materials (if the HS code is mentioned)	Ministry of Social Welfare, Ministry of Commerce, Ministry of Industry, National Board of Revenue
97	Developing public-private digital centers and similar information access centers with disabled hardware, software and accessory ICT tools	ICT Division, Local Government Division
98	Construction of buildings and other physical infrastructure for public-private digital centers and similar information access centers is made suitable for the disabled	Ministry of Housing and Public Works, Local Government Division
99	To provide specialized ICT education and training for the disadvantaged population	Ministry of Education, Ministry of Social Welfare, Ministry of Women and Children Affairs, Ministry of Primary and Mass Education, Ministry of

		Chittagong Hill Tracts Affairs, ICT Division, Ministry of Youth and Sports, Ministry of Textiles & Jute
100	Supporting policies, easy delivery and easy payment for launching web and mobile based digital commerce systems for indigenous artisans (indigenous artisans)	Finance Division, Ministry of Commerce, ICT Division, Bangladesh Bank
101	Considering the development of affordable Bengali text processing tools and audio software development and instructional software, considering the physically disabled and people who may need special assistance	Ministry of Social Welfare, ICT Division, Ministry of Cultural Affairs
102	ECDP activation in government-private and community schools using multimedia machinery for the poor children.	Ministry of Primary and Mass Education, Ministry of Women and Children Affairs, NGO Affairs Bureau
103	For the skillful, especially for the masses, the introduction of courses (such as freelancing, graphics, etc.) for developing ICT skills in domestic and international markets	Ministry of Youth and Sports, ICT Division, Ministry of Education
104	Ensuring the launch of the launch of the artificial satellite launch of the country and the best use of the fired satellite	Bangladesh Telecommunication Regulatory Commission, Bangladesh Communication Satellite Company Limited
105	Reduction in the amount of compensation paid by local government organizations and other organizations to establish broadband network	Posts and Telecommunications Division, City Corporation, Local Government Division, Ministry of Railways, Ministry of Road Transport and Bridges, Ministry of Power, Energy and Mineral Resources, ICT Division
106	Equality Provision of Expenditure on Internet Use from All Point of Presence (PoP) points across the country	Posts and Telecommunications Division
107	Special provision of Internet service providers such as the Social Ombudsman Fund (SOF-Social Obligation Fund), expansion of Internet connection network in the deprived / remote areas through financial support	Ministry of Posts, Telecommunications and Information Technology
108	To establish optical fiber network up to the union level and to launch public access points on the union council	Posts and Telecommunications Division, Local Government Division, ICT Division
109	In order to ensure internet access to government-run non-	Posts and Telecommunications

	government housing, it should include the Internet infrastructure (considering FTTX, IoT etc.) while approving the building's design. All the cities in the country will have the facility of ISPs, data connection providers, housing and infrastructure makers. Free WiFi confirmation in educational institutions, tourist centers and public transport	Division, Ministry of Housing and Public Works, Local Government Division, Ministry of Road Transport and Bridges
110	All public and private e-services provide a national level portal; One of the national e-services will be arranged in a gesture, displayed by an easy sign (icon) and the services are provided through mobile and other electronic devices	Cabinet Division, ICT Division
111	All types of financial transactions in digital system are available from anywhere at any time through mobile phone, ATM, Point of Sales (PoS) and other services	Financial Institutions Division, Bangladesh Bank, Related Ministries / Divisions
112	Provide high-speed reliable internet bandwidth at affordable and tolerant prices for all	Posts and Telecommunications Division
113	Providing access to existing public / private network infrastructure leasing to expand Internet connectivity	Ministry of Posts, Telecommunications and Information Technology
114	Bandwidth supplies at software prices, IT / ITES industries, ICT incubators or parks, libraries, education and research institutions, public places, Internet kiosks, telecentres, etc., to encourage knowledge-based social structure	Ministry of Posts, Telecommunications and Information Technology
115	Considering the use of internet connectivity and its usage, basic and useful services (such as electricity, gas, telephone etc.) in civil and government offices. To provide monthly financial allocation for government departments	All Ministries / Divisions / Departments / Agencies
116	Civil application, complaints received and disposed and informed in digital system. Quality of service by taking citizen feedback in digital mode	All Ministries / Divisions / Departments / Agencies
117	Publication of all the rules and regulations and publication of public opinion	All Ministries / Divisions / Departments / Agencies
118	Collecting and saving information of freedom fighters and freedom fighters	Ministry of Liberation War Affairs
119	Cooperation and investigation to develop, promote, develop and preserve any digital content and applications based on liberation war	Ministry of Liberation War Affairs, ICT Division
120	Take action to highlight and preserve the history, literature and heritage of Bangladesh through digital	Ministry of Cultural Affairs, ICT Division
121	Encouraging local-level content development in Bangla	All Ministries / Divisions /

	through institutional support and financial incentives	Departments / Agencies
122	Small languages, personal literature, culture, heritage and theology are ready to be made, incorporated in e-data computing, creating and promoting digital content	Ministry of Cultural Affairs, Ministry of Religious Affairs, Ministry of Chittagong Hill Tracts Affairs
123	Enhance telephones and tele-densities	Posts and Telecommunications Division
124	Ensuring broadband Internet access throughout the country	Ministry of Posts, Telecommunications and Information Technology
125	To set up multiple Internet Exchanges and ensure the maximum use of them	Posts and Telecommunications Division
126	Determination of tariff and VAT reduction rate on network equipment (for data connection)	National Board of Revenue
127	Reduction of mobile internet at customer level, implementation of high-speed mobile internet across the country and 5G launch	Posts and Telecommunications Division
128	Bringing parity of bandwidth expenditure between the city and the rural areas through government cooperation on central construction of the country's internal data transmission infrastructure (Backhaul).	Ministry of Posts, Telecommunications and Information Technology
129	Correcting and implementing telecommunication and broadband policies in line with the ICT policy	Ministry of Posts, Telecommunications and Information Technology
130	Establish infrastructure (line) for providing low-cost internet in Technological Park and Highlight Parks	ICT Division
131	By taking regular interaction with the operating system and other software makers, take steps to keep the software updated and correct	ICT Division, Ministry of Cultural Affairs
132	Keeping in mind the members of Ikon, IGF and Unicode Consortium, BDS 1520: 2018, BDS 1738: 2018, BDS 1935: 2018, consistently updating Bangla encoding and key board method and improvements	Ministry of Posts, Telecommunications and Information Technology
133	Make digital publication of all government publication information in Bangladesh, ensuring the portability of documents using standard bangla encoding BDS 1520: 2018. All government offices ensure the use of Standard Bengali Key Board BDS 1738: 2018	Cabinet Division
134	The standardized standard language of Bangla language in	Cabinet Division, Ministry of

	all private and commercial establishments BDS 1520: 2018, BDS 1738: 2018, BDS 1935: 2018	Commerce, Bangladesh Bank, Trade Organizations, FBCCI
135	Available online by making textbooks and textbooks available in Bangla in all the training and higher education including science and IT education	Ministry of Cultural Affairs, Secondary and Higher Education Division, Technical Madrasah Education Department, ICT Division, University Grants Commission and Bangla Academy
136	Through research and development, through digital technology for the development of language, development and application of Bangla language and minor ethnic groups	Ministry of Cultural Affairs, Secondary and Higher Education Division, Technical Madrasah Education Department, ICT Division, University Grants Commission and Bangla Academy
137	Regular updating of ICT curriculum at all levels of education in the development of skilled and skilled human resources based on need based skilled human resources and knowledge-based society, aimed at the skills of domestic, global and fourth industrial revolution	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, NCTB, ICT Division, University Grants Commission
138	In the field of education, the ICT disruption in education will improve the quality of education through continuous new, innovative and effective use	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, ICT Division
139	Under the National University, launch of under-graduate ICT program based on market-demand, including appropriate ICT infrastructure in the college	Secondary and Higher Education Division, Technical and Madrasah Education Department, ICT Division, National Universities
140	High speed internet connection in all the classes of all levels of computer labs of educational institutions.	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department,

		University Grants Commission, ICT Division
141	To ensure the use of digital technology in all educational institutes of the country, ensure the supply and use of multimedia classrooms / smart classrooms / new invented materials.	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, ICT Division
142	Creating a suitable environment for the development of peer and collaborative learning between teachers and students and students through the use of digital technology.	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, ICT Division
143	Creating a Platform for Creating Efficient Citizens for Creating Digital Efficiency, Troubleshooting, Innovation, and Creativity for Students.	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, ICT Division
144	Establishment of computer lab, LAN, high speed internet connection (minimum 2 Mbps) in primary, secondary and higher secondary, technical and madrasa teacher training institute (including residential halls).	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department
145	Adaptation of teaching using digital technology in the classroom through proper training of all levels and teachers of all subjects.	Ministry of Primary and Mass Education, Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, Universities
146	Organizing national and international competitions in Mathematics, Science and ICT on the initiative of government and private sector, supporting national team participation in international competitions. Innovative	Ministry of Science and Technology, ICT Division

	practices at the university and the process of mentoring and coaching for speeding up.	
147	Providing loan / grants to teachers for the collection of ICT equipment (laptop / ICT device).	Finance Division, Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education
148	Interactive eBooks, digital resources and e-learning content for students create a central e-learning platform. Providing special assistance for creating e-learning content.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, University Grants Commission, Universities, ICT Division
149	Professional development of teachers and opportunities for students to develop knowledge and skills through various e-learning courses / content.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, University Grants Commission, Universities, ICT Division
150	Internet connection to all off-grid educational institutions with the help of solar power.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, ICT Division, Power Division
151	Ensuring computer, network, high-speed internet connectivity in all higher education institutions and Internet access through WiFi across campus area.	Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, Universities
152	Recognition and incentives for teachers and concerned officials to contribute to quality improvement through the use of ICT in education.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, University Grants Commission, Universities, ICT Division
153	Establishment of some modern model schools with complete ICT facilities at primary and secondary level and gradually expansion across the country.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education,

		ICT Division
154	Encouraging the development of effective digital data in the private sector through institutional support and financial incentives.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, ICT Division, National Curriculum and Textbook Board, University Grants Commission
155	Accreditation was started to verify and promote ICT professional skills.	Bangladesh Computer Council
156	Provide appropriate and effective evaluation of students with the use of digital technology.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Primary and Mass Education, ICT Division, University Grants Commission
157	Ensure training in the classroom as well as online training.	ICT Division
158	Various ICT labs at the field level are converted into multipurpose labs.	Secondary and Higher Education Division, ICT Division
159	Ensuring recruitment of skilled teachers with knowledge technology (at least bachelor of information technology) from secondary level.	Secondary and Higher Education Division, Technical and Madrasa Education Department
160	To take initiative for encouraging ICT industry to set up bridges with ICT industry and to establish incubator at university level. The ICT industry is open for at least 5 percent of their manpower internship.	ICT Division, Secondary and Higher Education Division, Technical and Madrasah Education Department, University Grants Commission, ICT related Associations
161	In the University level, creating opportunities for improvement of knowledge and skills, in line with the information-technology-based needs of the domestic and global markets, to prepare the necessary courses and curriculum.	Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, Universities
162	University level ICT curriculum review after every two years.	Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission
163	With the help of ICT industry, ICT education merit in university level.	Secondary and Higher Education Division, Technical and Madrasa

		Education Department, University Grants Commission
164	Under the technical and financial support of the ICT industry, ICT research work at university level.	Secondary and Higher Education Division, Technical and Madrasah Education Department, University Grants Commission, ICT related Associations
165	To ensure access to e-libraries in the country and abroad, all the educational institutions include internet subscription confirmation.	Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, ICT Division
166	To establish digital libraries in the institutions of higher education and research institutes and to establish interconnection among them to make the acquired knowledge available; And through this, inter-governmental cooperation is established.	Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission, Universities, Nayem and Nepal
167	Linking the digital library network of the country to the external digital library and receiving the membership of the research and resource site available online.	Secondary and Higher Education Division, University Grants Commission, ICT Division
168	Creating a Collaborative Network with all the research labs in the country.	Secondary and Higher Education Division, Technical and Madrasa Education Department, Ministry of Science and Technology, ICT Division
169	For the sake of national security, take the help of local ICT research and industry to create an ICT based solution for defense.	Ministry of Defense, Public Security Division, ICT Division
170	Masters for higher education and research in Information and Communication Technology, granting fellowship to encourage PhD programs and grants to encourage innovative work. [In this case, prioritizing the innovative ideas of citizen / social problems.]	ICT Division, Secondary and Higher Education Division, Technical and Madrasah Education Department
171	For easy education, research and innovation on ICT education, loan arrangements for small interest loan.	Bangladesh Bank, Public Banks, Private Banks
172	Formulation of Venture Capital Policy for Government-Private Enterprises and Entrepreneurship Development.	Finance Division
173	To fund innovation and innovation fund for education,	Prime Minister's Office, Finance

	research and innovative initiatives, and to allocate funds to the revenue budget for the management and maintenance of these initiatives and scale-up.	Division, ICT Division, Planning Division, the concerned ministries / divisions
174	Assistance with the involvement of universities and solving the problems of national and social issues and creating necessary environment.	Secondary and Higher Education Division, Technical and Madrasah Education Department, ICT Division, University Grants Commission, Universities
175	Innovation and innovation for innovation and innovation for creating a cashless society.	Finance Division, Financial Institutions Division, ICT Division, Bangladesh Bank
176	Every year, arrangements for organizing competition to solve the problems of schools, colleges and universities based on social / state level national level.	Secondary and Higher Education Division, Technical and Madrasah Education Department, ICT Division, University Grants Commission, Universities
177	Performing bio-informatics research to create a genetic mapping profile of agricultural produce in the country.	Ministry of Agriculture
178	To provide a public university in every division as a center of excellence of ICT and special assistance for developing a similar center under the Department of Information and Communication Technology on emerging technology.	Secondary and Higher Education Division, Technical and Madrasah Education Department, ICT Division, University Grants Commission
179	Establishment of Center for Fourth Industrial Revolution.	ICT Division
180	Involve ICT industry at ICT's Technical Research Project at the University level and government grants for such projects. Besides, involvement of university teachers and students in various research projects of ICT industry.	Secondary and Higher Education Division, Technical and Madrasah Education Department, ICT Division, ICT related Association
181	To establish research and marketing as a marketing and business for long-term use for the welfare of the people, and for this, take action for loans or financing.	ICT Division, Finance Division, Ministry of Industries, Ministry of Commerce, Financial Institutions Division, Bangladesh Bank, Public / Private Banks
182	The government has taken initiative to commercialize research and innovation selected by the expert panel. In this case, giving private organizations the opportunity to	ICT Division, Ministry of Finance, Ministry of Commerce, Bangladesh Bank, Public /

	participate.	Private Banks
183	Patent and Design Act to help improve the ICT industry.	Ministry of Industries
184	Proper implementation and modernization of IPR law (patent and design, trademark, copyright etc.) to encourage other innovations including ICT.	Ministry of Cultural Affairs
185	Creating 1 national platform for creation and preservation of intellectual property and following international intellectual property policies and ratifying treaty / treaty if necessary.	Ministry of Cultural Affairs
186	Encouraging and cooperating with the creation of intellectual property and intellectual property management.	ICT Division, Ministry of Commerce, BASIS
187	Ensure supply of ICT instruments (screen readers, braille printers, multimedia talk-books, 3D printers, audio-visual materials, etc.) in special schools.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
188	To ensure the use of ICT in the teaching of special needs students, take necessary training for teachers to improve their skills.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
189	To provide integrated digital equipment and software for the implementation of integrated education at all schools and universities, to ensure its use and to provide teachers with necessary training.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
190	Considering the special needs of the learners, the accessibility of online repository by the lack of learning and the lack of equipment.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
191	Ensuring efficient and dynamic education administration and management through the use of digital technology.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants

		Commission, Universities
192	Increasing decision-making and implementation through digital technology in the field of administrative communication.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
193	Ensure the use of digital technology for communication between ministries, departments and organizations related to education.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
194	E-mail, SMS or online service confirmation of delivery of educational services to all concerned including teachers, students and parents.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
195	To measure customer satisfaction and customer satisfaction in improving the quality of education services.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
196	Without the use of the same method for everyone to facilitate the service recipient, follow the methodological variations of demand.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
197	Monitoring and monitoring of all the tasks regularly using ICT for proper management of education system.	Ministry of Primary and Mass Education, Secondary and Higher Education, Technical and Madrasa Education Division, ICT Division, University Grants Commission, Universities
198	Establishment of institutions for domestic and international market analysis, demand assessment and accordingly to	Ministry of Expatriates' Welfare and Overseas Employment, ICT

	improve the skills of domestic ICT manpower by following international standards.	Division, ICT related Associations
199	Infrastructural development of training organizations to create skilled professionals in line with global demand.	ICT Division, Related Ministries / Divisions
200	Take necessary measures for improving the capability of the existing training institutions and organizations (for example, the TOOT) for technology transfer with the help of skilled expatriate Bangladeshis (NRBs) in Information and Communication Technology (NRBs).	ICT Division
201	Launch Labour Market Information System (LMIS) to determine the demand for ICT manpower in local and global markets and to determine labor demand at home and abroad.	Ministry of Labour and Employment, ICT Division, Ministry of Expatriates' Welfare and Overseas Employment, Ministry of Foreign Affairs, Statistics and Informatics Division (Bangladesh Bureau of Statistics), National Skills Development Council
202	Gradually, the women manpower of ICT companies will be promoted to 50 percent of the total human resources and to take action for awareness, training and incentive.	Finance Division, Ministry of Women and Children Affairs, Ministry of Youth and Sports, Ministry of Commerce, ICT Division, ICT related Associations
203	Continuous Professional Development, continuous professional development of manpower engaged in ICT industry through IT certification for IT and ITES development, service delivery, quality assurance and project management.	ICT Division
204	Help in creating skilled manpower according to specific needs of IT companies.	Bangladesh Computer Council
205	Enrollment of professional courses in IT training courses in training institutions.	Bangladesh Technical Education Board
206	Take action of mentoring with professional practical experience.	ICD Division, ISC
207	Ensure apprenticeship training in ICT training.	ICT related Associations
208	Regular adjustment of modules of training organizations.	Bangladesh Technical Education Board
209	To create skilled manpower across the country, arrange	ICT Division, ICT related

	online training at low cost.	Associations
210	Providing necessary training for the development of middle-level skilled manpower of IT companies.	ICT Division, ICT related Associations
211	Ensuring industry-based training or apprenticeship in the IT sector and establishing relationships with the International Entrepreneurship Network (Global Entrepreneurship Network).	ICT Division, ICT related Associations
212	Monitoring and Monitoring of Apprenticeship Program through Apprenticeship Management System.	ICT Division
213	Provide training to the existing public resources in companies by developing advanced technologies, new methods, design plans and soft skills.	ICT Division, Central Procurement Technical Unit, Universities, BASIS, BAKKO
214	Inclusion of technical and vocational education information technology matters.	ICT Division, Ministry of Textiles and Jute, Ministry of Youth and Sports, Bangladesh Technical Education Board
215	To promote the development of human resources, the promotion of education and development programs through all broadcasts.	Ministry of Information, Bangladesh Telecommunication Regulatory Commission, National Skills Development Council
216	Inclusion of short-term courses in the TVET program regarding free-lancing, outsourcing and ICT-based service sector (ITES) for the development of internal and global efficiency.	Bangladesh Technical Education Board
217	At the district and upazila level ICT related to the acceptance of the experience of Eastern Experience (RPL) in accordance with NTVQ.	Bangladesh Technical Education Board
218	It provides consistent incentives for investors to review the stimulus packages of different countries.	Ministry of Commerce, Finance Division, National Board of Revenue, Bangladesh Bank, Bangladesh High-Tech Park Authority, BIDA
219	The arrangement for online one-stop service for foreign investors.	Ministry of Commerce, BIDA, Bangladesh High-Tech Park Authority, BEJA, BEPZA
220	Special programs for higher level of employment of ICT in the world.	Ministry of Foreign Affairs, Ministry of Expatriates' Welfare and Overseas Employment

221	Tax Benefits to the recruitment agencies of ICT professionals, overseas employment management.	Ministry of Expatriates' Welfare and Overseas Employment, National Board of Revenue
222	In order to give opportunity to the young ICT professionals to get more employment opportunities in the ICT sector, take initiatives to make laws for foreign ICT professionals working in the country and to get permission from the government.	ICT Division
223	Identify the evolution of the future technology and industrial sector.	ICT Division, Bangladesh Hi-tech Park Authority, ICT related Associations
224	Keeping in mind the inclusion and promotion of new employment sectors in keeping with the evolutionary trend.	Bangladesh Hi-tech Park Authority, ICT related Associations
225	Regular monitoring of trained manpower database and regular employment of employers.	Statistics and Informatics Division, ICT Division, ICT related Associations
226	Training for foreign languages for overseas employment and training for specialized and emerging ICT technologies, domain knowledge and specialized training certification.	Ministry of Expatriate Welfare and Overseas Employment, ICT Division
227	Progress Evaluation according to roadmap for measuring the capability of the ICT industry and to increase exports.	All Ministries / Divisions
228	To expand ICT export market, ICT Desk will be established in Bangladesh Embassies abroad, with ICT knowledge manpower and business development activities under it.	Finance Division, Ministry of Foreign Affairs, Ministry of Commerce
229	Building and establishing the brand as one of the best outsourcing sites.	ICT Division
230	Participation of high-level policy-makers, institutions, industries and trade bodies of industry in the world's largest ICT fair, conference and business-trade linkage program.	Ministry of Commerce, ICT Division, Ministry of Foreign Affairs, BIDA
231	Every year Digital World, ICT Fair and organized Digital Innovation Fair in Division, District and Upazilla.	ICT Division
232	To organize national, regional and international conferences regularly and for the provision of ICT capability of the country, arrangement and publication thereof.	ICT Division
233	Identifying the unique position of Bangladesh in the field of ITES / BPO exports and co-operation in its development.	ICT Division, Ministry of Commerce, EPB, BIDA, BAKKO
234	Considering the viability of establishing housing (housing,	Ministry of Commerce, ICT

	schools, universities, hospitals, shopping malls etc.) at the Software Technology Park, Hi-tech Park and ICT Incubators, and to provide tax holiday, revenue and other incentives to encourage investment of ICT industrialists.	Division, Finance Division, Internal Resources Division, National Board of Revenue, Bangladesh High-Tech Park Authority
235	For the establishment of telecommunication related cables, drafts etc., facilitating excavation roads and simplifying the payment of compensation; Repair of excavated roads / structures / execution by the establishment authorities.	Posts and Telecommunications Division
236	Following the internationally acknowledged approach, ICT company's qualification / standard evaluation involves the formation of a separate accreditation board for the government and ICT trade.	ICT Division, Related Trade Bodies
237	To give priority to renting domestic ICT entrepreneurs in government-owned IT Park, STP, Incubator, Hi-Tech Park and other service providers.	ICT Division
238	Ensure continuous and redundant power supply in ICT Incubator / Hi-Tech Park / Software Technology Park / IT Park.	Ministry of Power, Energy and Mineral Resources
239	Till the 2030s the local hardware, software and ITES sector entrepreneurs are allowed to waive the income tax.	Internal Resources Division, National Board of Revenue
240	Cash incentives of up to 2030 localized hardware, software and services exporter.	Ministry of Commerce, Finance Division, ICT Division, National Board of Revenue
241	Formation of ICT Industrial Development Fund (IIDF)	Finance Division, ICT Division
242	To provide financial support to ICT companies for local and export-oriented ICT work, special working capital funds are formed.	Finance Division, ICT Division, Ministry of Commerce
243	(A) duty-free access to imported capital machinery and spare parts for local computer / IT hardware industry. (B) Prioritization of public procurement of other hardware products including computers manufactured or integrated in the local computer / ICT hardware industry.	Internal Resources Division, National Board of Revenue, CPTU
244	Payment of VAT on internet, data utilities, rent and ICT consultancy services offered in local ICT industry institutes.	Internal Resources Division, National Board of Revenue
245	Ensuring the price preference for purchasing local ICT content and services.	All Ministries / Divisions / Departments / Agencies
246	Formation of venture capital funds to establish ICT-based start-up companies.	Finance Division, Financial Institutions Division

247	Incentive to produce digital devices.	Finance Division, ICT Division
248	Provide easy terms and conditions for providing software and IT based services.	Finance Division, Financial Institutions Division, Bangladesh Bank
249	Creating awareness about the capacity building of the local consumers of the country.	All Ministries / Divisions / Departments / Agencies
250	Cooperating with product-producing organizations for the integration of developing technologies like IoT, RPA, Deep learning, AI, Robotics.	ICT Division
251	Financial incentives for joint research and development of industries and educational institutions.	Finance Division, ICT Division, BASIS, BAKKO
252	Simplification and tax exemption by sending ERQ accounts	Bangladesh Bank, Ministry of Commerce
253	Formulation of policies for providing incentives to the local BPO organization.	ICT Division, Bangladesh Bank, Ministry of Finance, Ministry of Commerce, National Board of Revenue
254	Provide government grants for research, information gathering, survey management, action strategies, demand assessment and policies on domestic and international ICT industries.	Finance Division, ICT Division, Statistics and Informatics Division, ICT related Associations
255	According to the needs of the ICT industry, steps are taken to reduce the ISF policy.	Finance Division
256	Settlement of unsecured loans for the working capital of the hardware, software and ITES sector.	Finance Division, Bangladesh Bank, Financial Institutions Division
257	To increase the capacity of government institutions to meet the needs of local and global market of ICT products and services.	Finance Division, ICT Division, Ministry of Commerce
258	If the government provides technical assistance (TA) in the IT / ITES sectors in other developing countries, then take action to implement the project with local software and ITES institutions.	ICT Division
259	Foreign Commercially Available Off The Shelf Software (COTS) - To establish control over purchases.	Finance Division, Financial Institutions Division, National Board of Revenue
260	Updating Public Procurement Rules and Sample Styles for Information Technology Products, Services and Services	ICT Division, CPTU, BASIS, BAKKO
261	Promotion of public-private partnerships through	Finance Division, ICT Division,

	government-oriented services and sustainable ICT-based projects through ICT.	CPTU
262	The application of acquired knowledge, the establishment of a 'Center of Excellence' with the participation of all partners including buyers and sellers for the implementation of the best practices.	ICT Division, ICT related Associations, Universities
263	Cooperation in the formulation of international certification, method development and technology of IT products and organizations.	Bangladesh High-Tech Park Authority
264	Providing financial assistance for short-interest financial loans / collaboration in the purchase of permanent assets of IT / ITES companies and allocation for the office at reasonable prices in Hiitak Parks.	Finance Division, Bangladesh Hi-Tech Park Authority, Bangladesh Bank, National Board of Revenue
265	Assistance in the joint venture of IT and educational institutions to achieve the fourth industrial revolution and the ability to build smart cities.	Local Government Division, Bangladesh High-Tech Park Authority
266	To initiate the establishment of the Startup Ecosystem and to create a sustainable Entrepreneurial Supply Chain.	Bangladesh Computer Council
267	Use of its own satellite-based remote sensing, GIS, Frontier Technology, and other electronic methods for the management and use of natural resources.	Ministry of Environment, Forest and Climate Change, Ministry of Home Affairs, Ministry of Defense, Ministry of Water Resources, Ministry of Fisheries And Livestock, Bangladesh Bureau of Statistics, Ministry of Posts, Telecommunications and Information Technology, Ministry of Science and Technology
268	Information about environmental pollution and prevention using information technology in partnership with public-private institutions and educational institutions.	Ministry of Environment, Forest and Climate Change, Secondary and Higher Education Division, Technical and Madrasah Education Department
269	Automated (Auto On / Off Switch, Green Building etc.) system to ensure power saving in various offices and residential buildings including ICT infrastructure / infrastructure.	Ministry of Power, Energy and Mineral Resources
270	Enabling online system with environmental clearance, ETP,	Ministry of Environment, Forest

	waste management.	and Climate Change
271	Buying internationally acceptable quality power-saving ICT equipment in government procurement.	All Ministries / Divisions / Departments / Agencies
272	Setting and applying standards for controlling access to unwanted and inefficient ICT devices. Follow the process of safe electronic waste recovery.	Ministry of Commerce, Ministry of Industries, Ministry of Environment, Forest and Climate Change, National Board of Revenue
273	Increasing the use of electronic methods by reducing paper usage in official work.	All Ministries / Divisions / Departments / Agencies
274	Use of modern technology based on community radio, television, mobile technology and own satellite for disaster warning and tackling.	Ministry of Disaster Management and Relief, Ministry of Water Resources, Ministry of Posts, Telecommunications and Information Technology, SPARSO
275	Use of ICT / own satellite-based technology to deal with disaster-related situations, assess loss and balance distribution of relief materials.	Ministry of Disaster Management and Relief, Ministry of Water Resources, Ministry of Posts, Telecommunications and Information Technology
276	Establishment of disaster alternate communication system	Ministry of Disaster Management and Relief, Ministry of Posts, Telecommunications and Information Technology
277	Encourage the installation of plumbing and dumping stations for recycling of precious metals from older PCs, parts and ICT machinery.	Ministry of Industries, Ministry of Environment, Forest and Climate Change, Ministry of Science and Technology, Ministry of Posts, Telecommunications and Information Technology
278	Preparation and implementation of awareness programs on safe management of e-waste.	Ministry of Environment, Forest and Climate Change, Ministry of Industries, Ministry of Science and Technology, Ministry of

		Posts, Telecommunications and Information Technology
279	To determine the climate change trend, make and design the central database.	Ministry of Defense, Ministry of Environment, Forest and Climate Change, SPARSO
280	To create a One Stop Service, to start new business commerce, set up new industries and operate all government, semi-government, autonomous and local government services required for business and industry management; Integrating a payment gateway to pay all revenue, fees etc. through this service.	Cabinet Division, Ministry of Commerce, Local Government Division, NBR, BIDA, BEZA, BEPZA, All City Corporations, Local Government Institutions, FBCCI, BASIS.
281	To create a One Stop Logistic Management System, which includes transportation of logistics and booking and payment systems, all the vehicles used for import and export within the country.	Ministry of Shipping, Ministry of Civil Aviation and Tourism, Road Transport and Highways Division
282	Under the South-South Cooperation, support for e-Governance initiatives in other countries.	ICT Division
283	The application of big data technology to meet the future demand of electricity.	Power Division
284	Electricity and gas-saving / automatic equipment use by using artificial intelligence everywhere (AI).	Energy and Mineral Resource Division
285	Renewable energy-based ICT infrastructure and infrastructure construction in off-grid area.	Power Division
286	Integrating a payment gateway with the introduction of Intelligent Traffic Management System with camera, sensor and IoT for resolving traffic congestion on roads.	Ministry of Road Transport and Bridges, Public Security Division, Local Government Division, Financial Institutions Division, Bangladesh Bank
287	During recovery of road bridges and ferries, the IoT / IoE and sensor-based automatic toll collection system will not be able to pay a toll to stop the car.	Ministry of Road Transport and Bridges, Ministry of Shipping
288	Integrate a payment gateway with digitizing all services of BRTA and paying all types of fees online. An online queue management system combination for all services related to cars, registrations, fitness checks, driving licenses,	Road Transport and Highways Division, BRTA
289	Building on a PPP basis for the fitness test for vehicles and developing a regular audit of Digital Fitness Examination Centers through a third-party audit system.	Road Transport and Highways Division, BRTA
290	Formulation of National e-Health Policy and Strategy.	Ministry of Health & Family

		Welfare
291	All sectors of primary, secondary and tertiary hospitals, research and policy-making organizations, including health sector service providers, are connected in high-speed (broadband) networks.	Ministry of Health & Family Welfare
292	Ensure all private and NGO institutions providing high-speed network connectivity to healthcare providers. Ensure this attachment, if necessary, under the legal framework.	Ministry of Health & Family Welfare, Ministry of Social Welfare, Related organizations, NGO Bureau
293	Electronic Health Record: Portable EHR confirmation for all citizens. The necessary legislation by making the obligatory use of the Portable EHR on any person or organization of health care providers in Bangladesh.	Ministry of Health & Family Welfare, Related organizations
294	Online prescriptions: The development and circulation of POCs and development of online prescription system for use at all levels.	Ministry of Health & Family Welfare, Related organizations, BMDC
295	Implementation and circulation of the Clinical Decision Support System (CDSS) development and POC.	Ministry of Health & Family Welfare, Related organizations, BMDC, DGDA
296	The use of IT in all types of medical education and the ability to use IT in the curriculum will be included in the students. Accordingly, Massive Open Online Course (MOOC) for doctors, nurses, paramedics and health workers and technicians, and other online and innovative systems to take care of life-long education and training.	Ministry of Health & Family Welfare, Related organizations, BMDC, BNMC, Bangladesh State Medical Faculty, All Medical Universities, University Grants Commission
297	The HRIS and online application developed by the Department of Health, further development and launching in all areas applicable.	Ministry of Health & Family Welfare
298	Digitization of all internal processes including the launch of e-documents, re-use of digital resources required for any other government initiative.	Ministry of Health & Family Welfare
299	Community clinic, union health center, upazila hospital level telemedicine and tele-diagnostic activation.	Ministry of Health & Family Welfare, Related organizations
300	Modern and Information Technology-based Personalized Medicine Services	Ministry of Science and Technology, Ministry of Health & Family Welfare, Related organizations
301	Performing research on the use of cutting-edge technology in medical diagnostics and services.	Ministry of Health & Family Welfare, Bangabandhu Medical

		University, BMRC, IEDCR, ICDDR,
302	Ensure availability of Bangla content related to mother and child health, reproductive health, birth control, health and nutrition education to the citizens through radio, TV, internet, mobile phones, call centers, apps and other media-based IT companies. Specifically ensuring its availability to the marginalized population.	Ministry of Health & Family Welfare
303	Use of Geographic Information System (GIS) to facilitate planning and predicting disease outbreaks and health sector planning.	Ministry of Health & Family Welfare
304	Use of ICT to increase awareness about child and maternal health, birth control and reproductive health.	Ministry of Health & Family Welfare
305	Providing general health advice and information related to other related matters through the ICT based helpline.	Ministry of Health & Family Welfare
306	Establishment of Data Driven Health Governance.	Ministry of Health & Family Welfare
307	To ensure the use of ICT tools and technology for managing Universal Health coverage.	Ministry of Health & Family Welfare
308	Regarding the ICT-based health and family welfare services, the Ministry of Health and Family Welfare, created a Digital Enterprise Architecture (Data Security, Standards, Interoperability, Data Localization, Potential Open Source Platform etc.) in line with National e-Governance Architecture.	Ministry of Health & Family Welfare, ICT Division
309	To achieve sustainable development goals (SDG), take action to speed up the Routine Health Information System (RHIS).	Ministry of Health & Family Welfare, Statistics and Informatics Division
310	Establishment of video conferencing network of upazilas, district level government hospitals and institutions with medical scientists of leading medical science for improving healthcare standards.	Ministry of Health & Family Welfare
311	To develop IT based learning and teaching system in Nursing and Midwifery education and training; In particular, the nursing colleges or institutes which are not affiliated with any hospital, take action to provide education through the use of simulations and AR (Augmented Reality), VR (Virtual Reality) etc. in colleges or institutes.	Health Services Division, Bangladesh Nursing and Midwives Council, State Medical Faculty and Nursing Directorate
312	In order to provide information and communication	Ministry of Health & Family

	technology-based services, ICT cell and the ICT staff will be created in all the institutions applicable. Taking steps to meet the requirements through service outsourcing until the terms are made.	Welfare
313	A private blockchain system of electronic health records is experimentally created and arranged for POC.	Ministry of Health & Family Welfare
314	Creating a robotic chat board and providing POC to provide health care through mobile phone chatting, video IP, voice call, document upload and video chatting.	Ministry of Health & Family Welfare
315	Encouraging AI, Machine and Deep Learning-based medical startups.	Ministry of Health & Family Welfare, ICT Division
316	Preparation of e-Agriculture Vision Strategy and Action Plan	Ministry of Agriculture
317	Creating a Comprehensive Digital Platform (Knowledge Repository, Service Delivery, Education & e-Learning, Real-Time Problems Solving, Collaboration & Information Sharing) involving Agent-Policy Formulation Institutions, Research Institutions, Agricultural Extension Departments, Farmers and Markets Involving government food collection and conservation.	Ministry of Agriculture, Ministry of Food, Ministry of Commerce
318	Facile Reconditioning, Localized Real Time & Predictive Weather Information, IOT, Censor, AI, Big data Analytics, AR combination for real-time data feeding system, for development of a single and complete agricultural input and crop planning Integrated Advisory Service In order to activate and apply Geographic Information System and Remote Sensing (Satellite, Airborne, UAV) usage.	Ministry of Agriculture
319	Precision Agriculture Technology Knowledge and Methodology by Using Information Technology Arranging Dissemination and Applied Research and arranging exhibitions of real precision farming involving young people encouraged to engage in agriculture. Precision Farming has taken initiative to popularize.	Ministry of Agriculture
320	The practical and practical application of ICT in all types of agricultural education and the ability of the students to use IT in the curriculum to be included in Curriculum.	Ministry of Agriculture, Secondary and Higher Education Division, Technical and Madrasa Education Department, University Grants Commission
321	Enhance knowledge and skills related to Climate Smart Agriculture (CSA) concept and impact using information and	Ministry of Agriculture

	communication technologies.	
322	To develop a modern, nutritious, safe fruit and crop production system in the use of information technology (integrated with IOT and sensor).	Ministry of Agriculture, BADC, BARC
323	Extending high-speed broadband connectivity to all types of organizations engaged in agricultural education, research, development, expansion and policy making, and providing internet-enabled devices for field staff.	Ministry of Agriculture, Ministry of Fisheries and Livestock
324	Creating an Enterprise Architecture for Agriculture, in line with National e-Governance Architecture.	Ministry of Agriculture, ICT Division
325	To ensure proper utilization of information technology in all project programs taken for agricultural sector and to allocate budget for implementing information technology in the budget of the project.	Ministry of Agriculture, Ministry of Water Resources, Ministry of Planning
326	Take action to develop information technology based integrated services and monitor and evaluation system.	Ministry of Agriculture, Ministry of Water Resources
327	Using new technologies to determine the traceability of agricultural products.	Ministry of Agriculture, Ministry of Fisheries and Livestock
328	To develop an innovative laboratory in Agriculture, an innovative laboratory was established in DAE.	Ministry of Agriculture
329	An e-learning platform for the development of the skill of the agricultural officers of all levels.	Ministry of Agriculture, ICT Division, Department of Agricultural Extension and National Agricultural Training Academy
330	Farmers create a full database.	Ministry of Agriculture, Ministry of Fisheries and Livestock
331	Use of integrated Payment Gateway for agricultural transactions.	Ministry of Agriculture, Ministry of Fisheries and Livestock, Bangladesh Bank
332	Public Food Distribution System, in all cases, beneficiary database creation.	Ministry of Food, Ministry of Disaster Management and Relief, Ministry of Social Welfare
333	A device and platform independent technology with practical display, method and step-by-step practical display of the use of new technologies in nutrition-rich fruits, crops, vegetables, spices, poultry, etc.	Ministry of Agriculture, Ministry of Fisheries and Livestock, ICT Division
334	IoT and sensor-based solution use POC for real-time monitoring and increase production in fisheries and livestock	Ministry of Fisheries and Livestock

	sectors.	
335	Use of Blockchain based supply chain system for fish and shrimp exports.	Ministry of Fisheries and Livestock
336	To set up an innovative laboratory in the Department of Fisheries and Livestock for the innovative activities of fisheries and livestock, technology-based technology.	Ministry of Fisheries and Livestock
337	GIS / GPS, Farmer Data Base, Jail Data Base, Poultry Duck Databases, Input Advisory System to create an application based on mobile phone, to make available agricultural loans to all types of farmers.	Ministry of Agriculture, ICT Division, Ministry of Fisheries and Livestock, Statistics and Informatics Division, Bangladesh Bank
338	In all cases, e-payment and mobile-payment services are necessary to start.	ICT Division, Finance Division, Financial Institutions Division, Bangladesh Bank
339	Providing e-commerce facility through existing information service centers for the expansion of market for women entrepreneurs.	Ministry of Industries, Local Government Division, Ministry of Women and Children Affairs
340	Incentives to encourage digital transactions in all areas.	Finance Division, ICT Division, National Board of Revenue, Bangladesh Bank
341	By the year 2041, the digital currency will reach at any stage to undertake research initiatives.	Financial Institutions Division, Bangladesh Bank
342	Increasing use of information technology (bank, insurance, and other financial institutions) in the financial services sector will take steps to digitization.	Ministry of Finance, Bangladesh Bank
343	Capacity development of officials of government banks and other financial institutions.	Ministry of Finance, ICT Division, Bangladesh Bank

[Table V.6-1]Action Items of National ICT Policy 2018

7. Digital Service Accelerator

7.1. Criteria & Indicator

- Indicator: Importance & Impacts

Factors	Weights	High	Mid	Low
Citizen Centric Service Benefits	20	20	13	6
Organization Benefits	15	15	10	5
TCV Efficiency	20	20	13	6
Policy Change Requirement (High score for minimum)	10	10	5	2
Organization Initiative	5	5	3	1
Total	70			

[Table V.7-1] Indicator: Importance & Impacts

- Indicator: Ability & Feasibility

Factors	Weights	High	Mid	Low
Infrastructure Facilities	10	10	5	2
Fund Sourcing Availability	5	5	3	1
Organization HR-IT Literacy	5	5	3	1
Dependency on Organization & Systems (High score for minimum)	5	5	3	1
Implementable Entities (High score for minimum)	5	5	3	1
Total	30			

[Table V.7-2] Indicator: Ability & Feasibility

- Criteria = Indicator score [Importance & Impacts] + Indicator score [Ability & Feasibility]



7.2. Initiatives identified as shared services

- On-line Loan Application & Workflow Management System
- ICT Employment Management
- Lease Management System
- License, NOC & Certificate Management
- Complain Management System
- Online Product Gallery & Webpage for SMEs
- Digital Case Management System
- Training Management System
- Digital Archive and Library Management System
- e-Stipend Management System

7.3. Initiatives identified as ministerial services

Ministry of Law, Justice and Parliamentary Affairs

- Digital Notary Public Management System
- Digital Mediation (ADR) Management System
- Legal Aid Awareness Management System

Bridges Division

- Toll Management System

Finance Division, Ministry of Finance

- Management Information System
- Social Safety Net Service



- E-Chalan
- E-Payment gateway
- Government Saving Instruments Management Systems
- Social security payment system

Financial Institutions Division, Ministry of Finance

- Capital Market Management System
- E-Chalan
- E-Payment gateway
- BB E-Permission
- Government Saving Instruments Management Systems
- Online Domestic Remittance Management & Mobile Banking
- Mobile Banking with CBS through App
- Internet Banking with CBS
- Plastic Money
- Mobile Banking System
- Domestic Money Transfer
- Online Share Management System
- Loan Recovery Agent System
- Utility bill payment through EKPAY

- Social security payment system
- BASIC Mobile Banking
- Bill and Fee payment through EKPAY
- PKB Mobile Banking through Apps
- PKB Internet Banking
- Agent Banking System
- Internet Banking System
- RAKUB Quick Money Transfer
- Social Safetynet Program Through AK Pay
- Mobile Banking
- Sonali Payment System (SPS)
- Pension Management System (PMS)
- BDBL e-Banking
- e-Life Insurance Management System
- Infrastructure Fund Management System
- Non-Life Insurance Management System
- National Database Software (MFI-DBMS)
- Digital Mapping of Financial access point of Micro Finance of Bangladesh

Ministry of Youth and Sports

- Youth Employment Portal

Internal Resources Division, Ministry of Finance

- Taxes Appellate Tribunal System
- Income Tax Management System
- NSD e-Sancahypatra (Digital Sanchaypatra Sales and Encashment)
- NSD e-NRBS Sanchayboard (Digital NRB Sanchay Bond Sales and Encashment System)
- NSD e-Sanchay (Postal Savings Bank Management System)
- NSD e-Prizebond (Digital Prizebond Sales & Encashment System)
- NSD e-Bima (Postal Life Insurance Management System)

Ministry of Health and Family Welfare

- National Health Management System
- HSD Ambulance Service Management System
- Online Medical Admission Exam Management System
- Nursing Academy Management System

Local Government Division, Ministry of Local Government, Rural Development and Co-operatives

- Integrated Citizens Apps
- WASA Smart Services
- WASA Smart Service App
- DPHE Emergency Service Management System

Ministry of Agriculture



- Info Dissemination & Support Services
- e-Agri Marketing System
- BADC Seed Management System
- BADC Irrigation Management System
- BADC Fertilizer Management
- BARI Crop Management Service System
- BARI Analysis and Seed Supply System
- Digital Crop Development & Management System
- Technology, Seed and Germplasm Management System

Ministry of Civil Aviation and Tourism

- Online Passengers Sales & Services (Web & Mobile App)
- Digital Airport Service Bangladesh

Ministry of Commerce

- Vokter Odhikar
- Tea Labor Service Management

Ministry of Cultural Affairs

- Digital Archive and Library Management System

Ministry of Defence

- Online Parents Communication and Payment System
- SMART e-Recruitment System

- Electronic Weather Forecasting System
- Satellite based geo-disciplinary information dissemination system
- AFMC student Management System
- Digital Learning Management System
- Defense Finance Management System

Ministry of Disaster Management & Relief

- Cyclone Early Warning Dissemination System
- Shelter Management Information System
- KABIKHA/KABITA Project Information System

Ministry of Environment, Forest and Climate Change

- Herbarium Information Management Service System
- Overseas Employment Management System (OEMS)

Ministry of Fisheries and Livestock

- Artificial Insemination Management System

Ministry of Food

- Food Safety Information Management System
- Food Stock Management & Market Monitoring System

Ministry of Industries

- Fertilizer Distribution Management System
- Sales & Distribution Management System (insulator, sanitary, ware, paper, cement, glass, sheet)



- BSCIS One-stop Services Management System
- BSEC CRM System Mobile Apps
- Cane Procurement Automation System
- IP Management System
- SME Business lifecycle support system

Ministry of Land

- LRB Land Management System
- Ministry of Liberation War Affairs
- Freedom Fighter Digital Service
- Ministry of Primary and Mass Education
- e-Student Management System
- Ministry of Religious Affairs
- Zakat Management System
- Pilgrim Accommodation Management System
- Haj Passport Verification System

Ministry of Science and Technology

- Virtual Science Museum (AR + VR)

Ministry of Shipping

- E-port Management System
- Passenger port e-exit service

- E-Inland Water traffic Management System
- E-Ferry Services
- Online Port Services

Ministry of Social Welfare

- DSS Child Services Management System
- JPUF Therapeutic Treatment Management System
- Maitri Shilpa Social Apps
- NDDP Information System
- Social Welfare Manual Apps

Ministry of Textiles & Jute

- JDP Cycle Management
- Jute Purchase Service Management

Ministry of Women and Children Affairs

- Women & Children Crisis Management System
- Online Trainee Management Program
- Joy Mobile App

Ministry of Youth and Sports

- Talent Hunting & Player Management System
- BKSP Talent Hunt Management System
- Sports Event and Performance Management System

Posts and Telecommunication Division

- Teletalk Apps

Road Transport and Highways Division

- Transport Management System
- Traffic Circulation Clearance System
- RHD Service Request System

Rural Development and Co-Operative Division, Ministry of Local Government, Rural Development and Co-operative

- Online Extension Activities Management System
- Online Society Management, Milk Collection and Payment System
- Savings Management System (SMS)
- Sales & e-commerce
- Farm Management System
- BRDBs Beneficiaries Service Management
- Loan and deposit management information system

Secondary and Higher Education Division

- Online Result Management System
- Digital Pension Management System

Ministry of Water Resources Planning Organization

- Library Catalog of WARPO
- Web-enabled National Water Resources Database

- Integrated Coastal Resources Database

Ministry of Home Affairs

- SSD Window for Citizen Services
- Fire, Rescue & Ambulance Management System
- DIP e-Visa Management System
- Inmates Management System

Technical and Madrasa Education Division, Ministry of Education

- DTE Academic and Resource Management System



8. Analysis result through Survey

1. Do you agree with the need for a dedicated organization for formulating e-Government?

- Agree 92
- Disagree 7

2. Which should be a dedicated organization for formulating e-Government in Bangladesh?

- ICT Division 74
- Cabinet Division 10
- A2I 9
- Each Ministry 6

3. Do you agree that all ICT resources related to e-Government should be managed by National Data Center

- Agree 84
- Disagree 15

4. Do you think that the level of national ICT infrastructure is enough to establish e-Government?

- Agree 23
- Disagree 68
- N/A 8

5. Are information links well with other public organizations in an electronic way?

- Agree 43
- Disagree 56

6. Which e-Service Initiative should be firstly implemented?

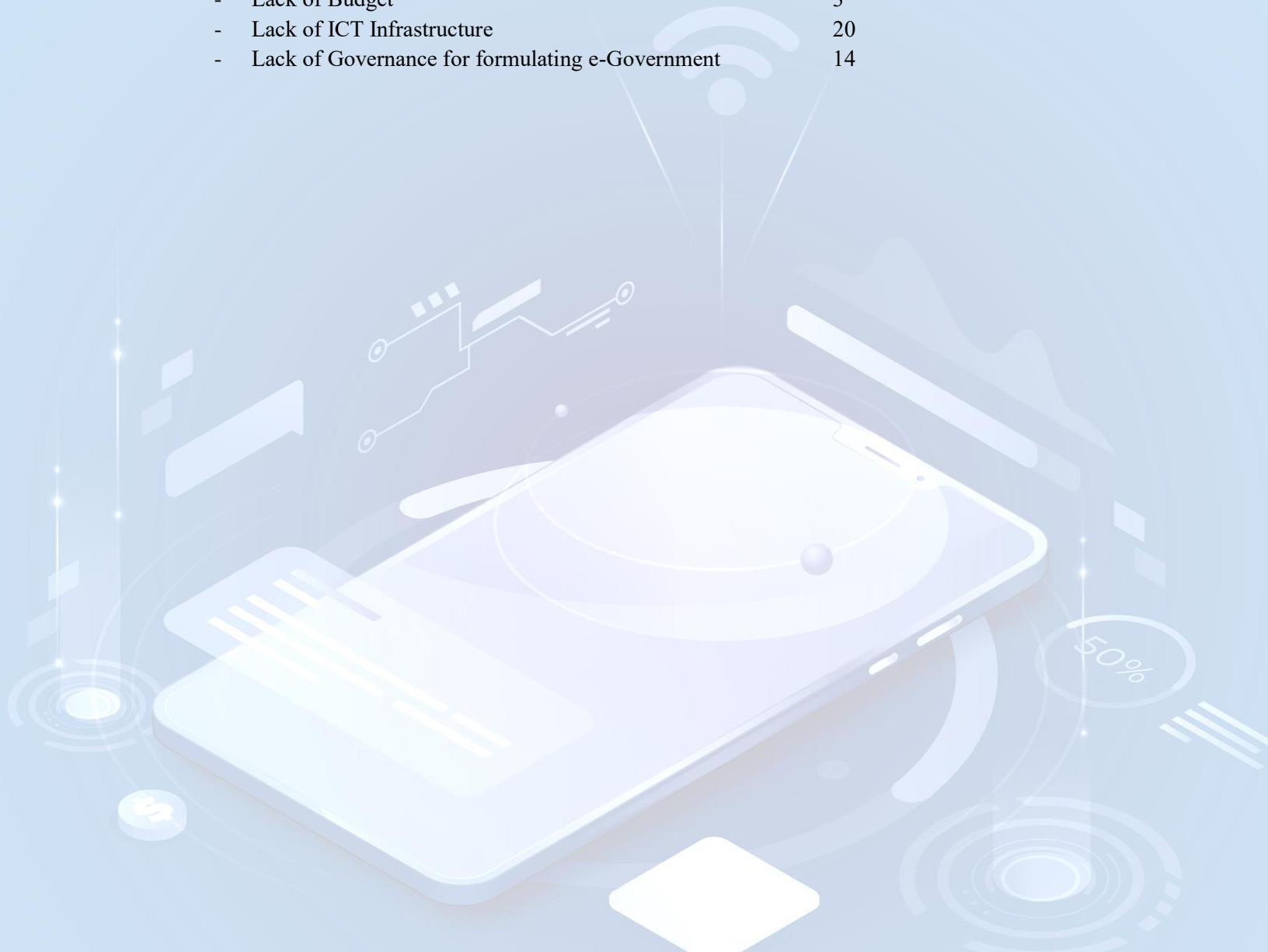
- G2C 47
- G2G 30
- G2B 18
- Foundation 4

7. What are the most impediments to the implementation of Bangladesh e-Government?

- Lack of ICT experts 38



- | | |
|---|----|
| - Lack of Promotion of e-Service | 20 |
| - Lack of Budget | 3 |
| - Lack of ICT Infrastructure | 20 |
| - Lack of Governance for formulating e-Government | 14 |



9. Outcome Statement on “Formation of the e-Government Master Plan for Digital Bangladesh” Project Workshop

A workshop on e-Government Master Plan was held on 1-2 June 2018 from 9.00 am to 6.00 pm in the conference room of Bangladesh Computer Council, ICT Division, ICT Tower Agargaon, Dhaka. 60 members were grouped in 7 teams for providing suggestions on 7 (Seven) selected areas of e-Government plan. The following topics were discussed in the workshop:

- e-Government Application
- e-Government Infrastructure & Security
- e-Government Manpower
- e-Government Policy/Act
- e-Government Budget
- e-Government Execution plan & Methodology
- National Enterprise Architecture

Workshop Activity Planning

- Identification of Planning Components/Indicators
- Planning Indicators need assessment methodology
- Deliverables/targets to be expected from each planning component
- Actions/Milestones & estimated timeline to achieve the Deliverables/Targets
- Stakeholder Dependencies & Challenges
- Team and Team's TOR for performing planning actions

Group wise suggestions are documented bellow:

Team Name: e-Government Applications Team

Sl.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1	Identification of source/initiatives of applications and their categorization <ul style="list-style-type: none"> a. Mega projects and foreign funded projects. b. ICT components in different division and govt. project. c. Projects generation through e-Government service Accelerator. d. Projects generated from own initiative. 	Development of a policy directive to share all related data regarding existing e-governance applications/projects.	Policy directives.
2	Application Development Standardization guideline and procedure.	Preparation and publication of e-governance application development standard/Guidelines by a committee.	Standardization guideline and procedure.
3	Application maintenance and Sustainability.	Preparation of Application maintenance standard for application sustainability by a committee	Maintenance and Sustainability guideline
4	Integration and standardization of Applications.	Preparation of e-governance Integration standard by a committee	Integration methodology and standardization Guideline.
5	Data Sharing methodology and standardization of Applications	Preparation of Data Sharing & interoperability standard by a committee	Data Sharing methodology and standardization Guideline.
6	Application Testing Standards and software Quality Assurance,& control.	Preparation of Testing Quality assurance and control standards by a committee	Testing Standards and software Quality Assurance, control guidelines.
7	Application escrow.	Preparation of Application assets Escrow guidelines by a committee	Application escrow Guidelines.
8	Encouraging Adoptions of open source Technologies.	Policy preparation on adoption of open source technology by a committee	Encouraging Adoptions open source Technologies Guideline.
9	Prioritization of e-governance Application	Preparation of priority metrics to identify e-Governance application development priorities by a committee	<i>Priority Guideline for application Development & Implementation.</i>
10	National e-governance Coordination Strategy	Preparing DPP/Policy Document for creation of National e-Governance Authority	National e-governance Authority.
11	Service Process Simplification (SPS).	Preparing national standard for SPS by a committee	Service Process Simplification (SPS) Guideline

12	Application Technology Transformation and adaptation.	Preparation of technology transformation & adoption methodology by a committee	Technology Transformation and adaptation Guideline.
13	Pre-Procurement requirement study	A proper guideline needs to be published for requirement study by a committee	<i>Requirement Study Guideline</i>
14	Application Quick Procurement Strategy (whether p2g or Managed service will be adopted, quick procurement methodology, BOT guidelines needs to be adopted)	Prepare procurement methodology deeply connected with Application need as well as budgeting. i.e whether CAPEX or OPEX model will be adopted	Application Quick Procurement Act/Rules/Guideline.
15	Standardization of ToR & Budgeting	A standard ToR preparation methodology needs to be prepared	Standardization of ToR & Budgeting Guideline
16	Industry capacity buildup	Create effective short-term plan to enhance industry capacity build up	Industry capacity buildup Policy.
17	Leadership/Owner ship of Application.	Rules of Business and Organization Citizen charters.	Leadership/Owner ship of Application Guideline
18	Compliant to National Enterprise Architecture	Establishment of NEA	Unified NEA
19	Reusability of Application or application components across different agencies	Creating a Repository for common and reusable applications or application components	To create a Repository system

SL.	Deliverables/Targets	Stakeholders Dependencies	Estimated Timeline
	Target 1	Stakeholder Name – Types of dependencies	Days/Months
1	policy directive	By Cabinet Division in association with related ministry	2 Months
2	Standardization guideline and procedure.	<i>MoPT&ICT</i>	9 Months
3	Maintenance and Sustainability guideline.	<i>MoPT&ICT</i>	3 Months
4	Integration methodology and standardization Guideline.	<i>MoPT&ICT (a2i)</i>	9 Months
5	Data Sharing methodology and standardization Guideline.	<i>MoPT&ICT (a2i)</i>	9 Months
6	Testing Standards and software Assurance, guidelines. Quality control	<i>MoPT&ICT (a2i)</i>	9 Months
7	Application escrow Guidelines.	<i>MoPT&ICT (a2i)</i>	4 Months

8	Encouraging Adoptions open source Technologies Guideline.	<i>MoPT&ICT (a2i)</i>	4 Months
9	<i>Priority Guideline for application Development & Implementation.</i>	<i>MoPT&ICT with Cabinet Division</i>	6 Months
10	National e-governance Authority.	<i>MoPT&ICT</i>	1 Years
11	Service Process Simplification (SPS) Guideline	<i>MoPT&ICT with Cabinet Division</i>	6 Months
12	Technology Transformation and adaptation Guideline.	<i>MoPT&ICT</i>	6 Months
13	<i>Study Guideline</i>	<i>MoPT&ICT &CPTU</i>	6 Months
14	Application Quick Procurement Act/Rules/Guideline.	<i>MoPT&CPTU</i>	6 Months
15	Standardization of ToR & Budgeting Guideline	<i>MoPT&CPTU</i>	9 Months
16	Industry capacity buildup Policy.	<i>MOICT</i>	6 Months
17	Leadership/Owner ship of Application Guideline	<i>MoPT&ICT with Cabinet Division</i>	3 Months
18	Unified NEA	<i>MoPT&ICT</i>	6 Months
19	Reusability depository platform	<i>MoPT&ICT</i>	12 Months

No.	Proposed Working Team composition	Team's TOR (Broad heads)
1.	Representative of Cabinet Division	
2.	Representative of ICT Division	
3.	Representative from A2I	
4.	Representative from BCC	
5.	Representative of Planning Division	
6.	IT industry Professional as Consultant	
7.	Independent domain expert as Consultant	
8.	Relevant Ministry / Division representative	<ul style="list-style-type: none"> • To formulate necessary policies • To prepare necessary guidelines • To publish necessary standards • Ministry/Division Project wise, eGovernment service initiatives monitoring and Evaluation. • Agency wise e-Governance application budget evaluation. • Creation of National e-Governance Authority

9.	Representative of Academia (Public/Private University) for relative consultation	<ul style="list-style-type: none"> • Creating a Reusability depository platform
10.	Representation from BASIS	
11.	Representation from BACCO, BCS, ISPAB & eCAB where applicable	

Team Name: e-Government Infrastructure & Security Team

SL.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1.	Connectivity <ul style="list-style-type: none"> a. Domestic b. International c. Enterprise LAN d. Converged Network 	1. National Network Design Doc for Enterprise LAN. 2. End User Connectivity (Wire, Wireless) 3. ILDTS Policy 2007,2010, 2018(Draft) 4. # of Govt. Offices & their bandwidth requirements 5. # of Educational Institutes & and their bandwidth requirements	1. True Broadband up to Union Level 2. Internet reachability in hard to reach area 3. Demand Analysis Report 4. Crisis Management
2.	DC & DR <ul style="list-style-type: none"> a. Cloud Infrastructure (Public, Private & Hybrid Cloud) b. Cross agency Infrastructure and shared Services c. Distributed DRC d. HVAC, Reliable Power with backup and Fire protection & detection 	1. Infrastructure Assessment 2. Need Assessment (DC & End user Org) 3. Scalability & technology Modernization 4. Follow the global standardization 5. Disposal Policy of legacy infrastructure	1. As-Is assessment of DC-DR 2. DC-DR Plan that can sustain 2025 and beyond
3.	E-Gov Cyber Defense <ul style="list-style-type: none"> a. PKI (public Key Infrastructure) b. E-Gov Security operation center c. Cyber Security Framework d. CIRT e. QA & Application Vulnerability Assessment 	1. Digital security Act 2. Govt of Bangladesh Information security Manual 3. Data Privacy & protection policy 4. National Cyber security Framework 5. COBIT	1. Need Assessment 2. Capacity Planning 3. Sustainability Plan (AMC, HR, Skill development)

4.	Critical Infrastructures	1.Digital Security Act and Data protection & privacy Act	1. Identification of CI 2. Protection policy of CI
5.	National Infrastructure Service Monitoring	Conceptualization of Centralize NOC Standardization - ITIL, COBIT	1. Need Assessment 2. Scope of Work 3. SLA 4. SOP 5. Complain Management
6.	CERT	BDS/ISO-2700x	1. Need Assessment 2. Scope of Work 3. Sustainability Plan
7.	BCP	BDS/ISO-2000x	1. Business Continuity Plan formulation & practice plan 2. Certification Plan

SL.	Deliverables/Targets	Stakeholders Dependencies	Estimated Timeline
1.	True Broadband	DNCC, BTRC, BCC, NTTNs, ICT Division, PTD	3 months
2.	DC-DR	BCC, ICT Division,	3 months
3.	E-Gov Cyber Defense	BCC, BTRC, NTMC, LEA, ICT Division, NCSA	3 months
4.	Critical Infrastructure	CIIss	3 months
5.	National Infrastructure Service Monitoring	BCC, ICT Division	3 months
6.	CERT	NCSA, BCC, ICT Division	3 months
7.	BCP	BCC, CIIss, concerned organizations	3 months

No.	Proposed Working Team Composition	Team's ToR (Broadheads)
1.	BCC (02): DC-1 & CIRT-1	➤ Need Assessment
2.	ICT Division (1): 1	➤ Capacity Planning
3.	a2i (02):	➤ Sustainability Plan (AMC, HR & Skill Development)
4.	DoICT (01):	➤ Infrastructure Quality Control parameters
5.	CCA (01):	➤ New technology adoption following the global trend.
6.	External Experts (02):	

7.	Academia (02):	➤ Vendor Agnostic Infrastructure & Security master plan.
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Team Name: e-Governance Manpower

Sl.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1	Establishment of e-Governance Unit/Wing	Job Description of manpower in e-Governance Unit/Wing (i.e. Domain Expert, Technical Expert, ICT Personnel, Procurement Expert, Monitoring & Evaluation Personnel etc.)	a) Each Ministry/Division /Organization /Department will have an e-Governance Unit/Wing b) Structure and Activities of e-Governance wing/unit
2	Formulation of e-Governance Manpower policy	Job specification analysis, New recruitment analysis, Rearrangement analysis of existing manpower.	e-Governance manpower management guidelines
3	Management of prevailing e-Governance ICT Personnel	Existing e-Governance working field analysis and future scope analysis	a) Regulatory e-Governance Structure b) Structure of ICT Cadre for Computer & ICT Professionals c) Centralization of e-Governance IT Personnel
4	Proposition Required of e-Governance manpower	a) Requirement analysis of ICT manpower based on final e-Governance policy b) Gap analysis of ICT manpower for the proposed e-Governance System	Ensuring sufficient number of Computer and ICT manpower

SL.	Deliverables/Targets	Stakeholders Dependencies	Estimated Timeline
1.	Each ministry/ division /organization /department will have an e-Governance Unit/Wing b) Structure and activities of e-Governance Unit/Wing	Each Ministry/Division/Department / Organization/ MOPA / Ministry of Finance /Cabinet Division/ICT Division- Initiatives/Approval/Implementation	45 days

2.	e-Governance manpower management guidelines	Each Ministry/Division/Department/Organization MOPA/Ministry of Finance/Cabinet Division/ICT Division/ Legislative Division/Computer and ICT related Professional Society/Academician- Initiatives/Approval/Implementation	45 days
3.	a) Regulatory Governance Structure b) Structure of ICT Cadre for Computer & ICT Professionals c) Centralization of e-Governance Computer and ICT Personnel	ICT Division/ MOPA/ Ministry of Finance/ Cabinet Division/ Legislative Division/ Computer and ICT related Professional Society/ Academician- Initiatives/Approval / Implementation	45 days
4.	Ensuring sufficient number of Computer and ICT manpower	ICT Division/ MOPA/ Ministry of Finance/ Cabinet Division/ Computer and ICT related Professional Society - Initiatives/Approval / Implementation	45 days

No.	Proposed Working Team Composition	Team's TOR (Broad Heads)
1.	Representative of Ministry of Public Administration (O & M)	➤ Ministry / Agency wise e-Governance manpower setup
2.	Representative of Ministry of Finance (Expenditure Control)	➤ Ministry / Agency wise e-Governance Planning & Budget Computer & ICT manpower
3.	Representative of Cabinet Division	➤ Ministry / Agency wise e-Governance Manpower Policy guidelines
4.	Representative of ICT Division	➤ Ministry / Agency wise e-Governance Manpower Implementation, Monitoring and Evaluation
5.	Representative of Public University	
6.	Representative of IT Industry	
7.	Representative of a2i, PMO	
8.	Representative of Planning Division	
9.	Representative of Different Computer and ICT Professionals	
10.	Representative of Others Relevant Ministry / Divisions	

Team Name: e-Government Policy/Act

Sl.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1.	Ownership	Stakeholder consultation/opinion	Develop policy/act to ensure ownership
2.	Data Sharing	Stakeholder consultation/ expert opinion	Optimum use of resources and related policies
3.	Data Security	Review/analysis of standard data protection, security, audit and record management.	Formulation of standard and policy.
4.	Financial Transaction	Review and identification of modes of transactions	Policy direction towards cashless transaction.
5.	ICT Procurement (product and service)	Analysis of existing procurement rules and procedures including development partner funded e-Government projects	Simplification of procurement rules and shortening timelines
6.	Interoperability	Interoperability issues & scope identification	Interoperability guideline for e-Government projects
7.	Project Planning and Implementation	Study of ICT related project appraisal and project approval process	Simplification of approval process
8.	Accessibility & usability	Scope identification develop usability standards and accessibility policy	Usability standards and accessibility policy
9.	Sustainability	Develop different operation model for sustainability and propose a decision tree for easy decision making	Maintenance & continuity guideline available
10.	Privacy	Study of issues on privacy practices	Privacy policy
11.	Service Simplification	Review of service process simplification	Simplification guideline
12.	Service Delivery	Study of promotion and delivery plans	Awareness and capacity development plan
13.	Standardization	Scope identification	Standards for products, services and process
14.	Grievance redressal	Study of grievance redressal process	Grievance redressal policy

SL.	Deliverables/Targets	Stakeholders Dependencies	Estimated Timeline
1.	Develop policy/act to ensure ownership	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	06 Months
2.	Optimum use of resources and related policies	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	04 Months
3.	Formulation of standard and policy.	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	06 Months
4.	Policy direction towards cashless transaction.	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	06 Months
5.	Simplification of procurement rules and shortening timelines	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	04 Months
6.	Interoperability guideline for e-Government projects	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	03 Months
7.	Simplification of approval process	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	03 Months
8.	Usability standards and accessibility policy	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	04 Months
9.	Maintenance & continuity guideline available	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	03 Months
10.	Privacy policy	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	06 Months

11.	Simplification guideline	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	03 Months
12.	Awareness and capacity development plan	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	03 Months
13.	Standards for products, services and process	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	04 Months
14.	Grievance redressal policy	Concerned Ministry/Division/Govt. & non-Govt. Agencies/Industry/Academia/Media/Civil Society/NGO's	04 Months

Team Name: Budget Team

Sl.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1.	Ministry wise IT/ITES Budget	Usual Process	Separate IT/ITES budget
2.	Standard Format for Ministry to ask for IT/ITES budget.	Preparation of format by combined team of Budget officers of various ministries.	Separate IT/ITES budget
3.	Capacity Building of ministries on IT/ITES budgeting.	ICT Division may take the lead	Competent personnel for IT/ITES Budget
4.	Service Maintenance/support Code	Proposal to Finance Division.	IT/ITES maintenance budget code.
5.	Special provision in PPR for purchasing IT/ITES products. <ul style="list-style-type: none"> • Annual maintenance agreement 	Include e-Govt. procurement in PPR.	Quick procurement
6.	Timely Procurement Plan Implementation	Strictly Monitor Timely Budget utilization	Timely implementation of e-govt. services
7.	PPP Model for Robust systems where applicable	Following PPP guideline	Govt. and Private organization share the cost, risks, benefits of e-Gov. development.

SL.	Deliverables/Targets	Stakeholders Dependencies	Estimated Timeline
1.	Separate IT/ITES budget	Finance Division, ICT Division	3 Months
2.	Separate IT/ITES budget (Format)	ICT Division	1 Month
3.	IT/ITES maintenance budget code.	Finance Division	1 Month
4.	Quick procurement	Cabinet Division, Finance Division, IMED (CPTU)	3 Months
5.	Timely implementation of e-govt. services	Finance Division	-
6.	Competent personnel for IT/ITES Budget	ICT Division	
7.	Govt. and Private organization share the cost, risks, benefits of e-Gov. development.	PPP office,	

No.	Proposed Working Team Composition	Team's ToR (Broadheads)
1.	Joint Secretary (Budget Wing), Finance Division	<ul style="list-style-type: none"> Co-ordinate with all ministries to develop ministry wise IT/ITES budget. Preparation of standard format to prepare IT budget. Find out ways to build awareness to prepare IT/ITES budget for budget working group of all ministries. Recommendation for budget implementation monitoring mechanism. Find ways to recommendation for amending PPR. Foreign aid and GoB Recommendation appropriate model for PPP.
2.	DS (Budget), Cabinet Division	
3.	DS (Budget), Post and Telecommunication Division	
4.	DS (Budget) ICT Division	
5.	DS (Budget) MoPA	
6.	Member-Secretary, BCC	
7.	E-Govt. expert (Cabinet Division+a2i)	

Team Name: e-Government Execution plan & Methodology Team

Sl.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1.	Institutional framework	Institutional framework will be setup by the Government, a TOR may be proposed for institutional framework	Ensuring technical, management and policy support for proper execution and monitoring of the projects
2	Identifying ownerships of the initiatives	Ownership will be identified based on allocation of business	Ensuring accountability, transparency
3	Undertaking one or more Digital Govt. implementation projects	One or more projects will be undertaken by the ministry/agency for their initiatives	Ensuring implementation of their initiatives in time
4	Setting up timeline of the project	Project timeline will be setup by the ministry/agency	Ensuring effective project scheduling
5	Prioritizing initiatives	Initiatives will be prioritized based on importance and feasibility	Ensure fulfilling stakeholders need
6	Necessary budget allocation	Preparation and approval of the budget allocation according to standard budget templates by ministry/agency	Ensure allocation of Budget to execute task in time
7	Building project team structure with technical and domain experts	Selection of project personnel consisting of technical and domain experts through recruitment/deputation	Ensure quality of service delivery
8	Ensuring stakeholders participation	Regular consultation about the project with the stakeholders will be done by the ministry/agency	Ensuring acceptance and smooth implementation of the project
9	Project maintenance and support policy after deployment	Initiatives will be taken to engage the vendor for their support service for the duration as needed by the ministry/agency based on the complexity of the initiative	Ensuring sustainability of the initiative
12	Involvement of multiple ministries/agencies in an initiative	All ministries/agencies will be involved during execution of the initiative	Ensuring accountability of all concerned ministries/agencies
13	Top management commitment	Top management commitment will be ensured by the government through issuing government order	Ensuring governance alignment with the project and effective implementation of the project
14	Project sustainability and continuity plan	Plan for sustainability and continuity plan like BOT, Manage service, PPP with be undertaken by the ministry for the initiative.	Ensuring sustainability

Team Name: e-Government National Enterprise Architecture

Masterplan Indicators/Components Planning

Sl.	Planning Indicators	Need Assessment Methodology	Deliverables/Targets
1	Architecture principle: People perspective, Government perspective, Industry perspective analysis	1. Working group – Govt+Industry+Academia. 2. Case study and simplification	WG: Principles for key Benefits
2.	Standards (Development & Management): a. Service Development b. Data c. Interoperability d. Security, e. Technology	1. Working group – Govt+Industry+Academia. 2. Integrated study approach on present status and global benchmark	WG: Architectural Standards analysis and adoption strategy formulation
3.	Capacity Management: a. Government b. Academia c. Industry	1. Working group – Govt+Industry+Academia. 2. Domain specific industry information analysis	WG: TNA, Capacity mgt planning
4.	Service Integration: a. Standard SI b. Semi Standard SI c. Sub Standard SI	3. Working sub group – Present and future digital services, integration with DSA	WG: 1. SI Strategy 2. SI Budget planning

Master Plan Preparation Action Planning

SL.	Deliverables/Targets	Stakeholders Dependencies	Estimated Timeline
1.	WG: Principles of Key Benefits	Inclusion of ICT Industries, Govt Senior Policy Makers, Civil Society, Budget	3 Months
2	WG: Architectural Standards analysis and adoption strategy formulation	National/International Experts, Govt, Academia and ICT Industry – right people. Budget	3 Months
3	WG: TNA, Capacity mgt planning	Specific roadmap of eGov masterplan, DSA and the same from the industries, Budget	3 Months
4	WG: SI Strategy and Budget planning	National/International Experts, Govt, Academia and ICT Industry. Budget	2 Months
5	WG: Key KPIs, KPI monitoring tool spec	National/International Experts, Govt, Academia and ICT Industry, Budget	2 Months

6	WG: Identifying requirements - update/formulation/change in Policy, Act, Guidelines and adoption strategy	DO	2 m
7	WG: Identifying management and operational system, dedicated agency	DO	2 m
8	WG: 5 years milestones and strategic indicators and will initiate the strategy development	DO	2 m

Masterplan Preparation Team formation

No.	Proposed Working Team Composition	Team's ToR (Broadheads)
1	Relevant Govt Agencies, ICT Industries Communities and relevant representatives, selected Universities	<ul style="list-style-type: none"> - Planning domain specific working group with their specific deliverables as described in prev slides – Standards, Security, Management, KPI, Monitoring, Benefits etc. with Govt+Industry+Academia - Specifying KPI of the core initiatives or NEA and its performance monitoring system - Coordination among Govt, Industry, Academia to specify the adoption and implementation strategy - Consolidate all sub groups working papers and propose a sustainable NEA Operational Framework - Budget for the working groups - Review present NEA initiatives and chalk-out plan for integration with CRVS, OISF, LISF and other solution Architecture.

-The End-