

# Country Paper

Technology Transfer (ICT sector) and Innovation Management

Capacity of Bangladesh :

Policy, Development Strategy and Achievements

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## **Country Paper : Bangladesh**

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#### **1. Introduction**

Bangladesh is a front-ranking country in this age of free flow of the information technology. A remarkable revolution has taken place in the development of the country's information technology over the last seven years because of our government's timely initiatives. The information and communication technology sector has witnessed a massive infrastructural development owing to our sincere efforts. The entire country has now come under a single network. For the first time in the world our Honorable Prime Minister declared "Digital Bangladesh" in 2008. Today, Digital Bangladesh is no more a dream; it is an undeniable reality because of the success in reaching internet service to marginal people, Government services to their doorsteps and ensuring the widespread service/ uses of information technology.

The government has ensured construction of infrastructure and reaching information technology service to far-flung areas. Till now 5,275 Digital Centers including 4,547 Union Digital Centers (UDCs) has been setup to provide information and services to the doorstep of the people. Each center has been providing 50 to 20 categories of services to the people, even the people from rural areas are connected with the global village through the expansion of Information and Communication Technology (ICT), availability of internet connectivity and increasing the number of mobile phone and internet access. Even software and information technology services developed in Bangladesh are being exported to more than 30 countries in the world. Information technology is now the source of livelihood of millions of young people. Bangladesh has achieved a tremendous progress over the six years because of the relentless efforts of Information and Communication Technology Division together with the IT based government's initiatives. The government has taken initiative to establish connectivity through internet services up to union level. Digital computer lab and digital content are to be established in all educational institutions to provide science based education to the future generation. More people taking facilities such as e-commerce, e-payment, mobile banking, 4G service in mobile phone. The government has started turning 8500 post offices into e-post. Land zoning work is going on.

## **2. Strategies and Policies for Information and Communication Technology and main streaming in National Development Plan**

“Digital Bangladesh” is an integral part of the Government’s Vision-2021 – which promises a prosperous and equitable middle- income Bangladesh by its golden jubilee of independence. This vision arguably runs to the Information society vision, advocated by the ‘World Summit on Information Society (WSIS)’. The Honorable Prime Minister has categorically outlined the Digital Bangladesh having four key priorities –

- a) Developing human resources ready for 21<sup>st</sup> century,
- b) Connecting citizens in ways most meaningful to them,
- c) Taking services to citizen’s doorsteps and
- d) Making the private sector and market more productive and competitive by using information technology.

Hence it was only natural the ‘Sixth Five Year Plan (6FYP) places an equal importance to Digital Bangladesh as a part of the nation’s development strategy. Sequentially, Bangladesh integrated the 2030 Agenda in its 7th FYP (2016-2020). The Government of Bangladesh envisioned transforming Bangladesh into a middle income country by 2021 and a developed country by 2041:

### **a) ICT development, SDGs and ICT Division**

One of the top performing countries of MDGs, Bangladesh is equally confident to embrace the new targets of SDGs. The experience with the MDGs implies that Bangladesh has many reasons to feel excited about the promises that are beckoning us for another decade and a half. According to mapping document of SDG ICT division is designed as ‘lead’ to target 9.c and 17.8 and ‘co-lead’ to target 9.b ICT division is emphasizing for achieving this targets before estimated time line. In case of 9.c, almost 100% geographical area of Bangladesh is covered by one or more mobile phone network. About 80% of population have access to at least one mobile phone network. Target 9.b highlights GDP contribution of medium and hi-tech industry. According to BBS (April 2018) it is about 12%. ICT division has been promoting development of a knowledge based economy. By 2018, about 90% geographical area of Bangladesh will be covered by optical fiber network. It will enable almost all of the citizens to have easy, safe and low cost broadband internet service. It is really encouraging that this development will support to achieve target 17.8 within next one year.

ICT Division is mapped as ‘lead’ to target 9.c and 17.8 and ‘co-lead’ to target 9.b. ICT as a driving force has significant effect in all areas of economy including Government Services,

Transport, Energy, Education, Health, Finance & Banking, Manufacturing Industry sectors, Trade and Investment, frontier technologies like IoT, Big Data, AI etc. Information and Communication Technology (ICT) is now being considered as “Game Changer” in 21st century which are very much correlated with some of SDG Goals. Bangladesh strives to continue its efforts to mobilize knowledge, expertise, policies and innovative partnership that could be applied to accelerate progress on the 2030 agenda.

ICT Division has adopted development and regulatory frameworks that promotes technology based industries and a knowledge economy. Knowledge is transforming such a ways that new technology is developed and adopted to enhance productivity and lower cost. A knowledge economy strategy comprises of policies and institutions that can be grouped into the following 3 dimension:

- Economic incentives and institutional arrangement to support the creation, acquisition and conversion of knowledge into usable form based on research and innovations by public and private enterprises.
- A body of skilled professionals in science and technology that can lead the research and innovation and adapt knowledge to the local circumstances.
- An effective and efficient information and communication technology system that can disseminate knowledge and make it usable at the doorsteps of all citizens.

## **b) Methodology and process**

Having made significant progress on the preceding Millennium Development Goals, Bangladesh has already demonstrated strong commitment towards attainment of the SDGs. The Government of Bangladesh recently submitted a voluntary national review of the country’s progress at the High-Level Political Forum of the United Nations 2017.

With the adoption of the 2030 Agenda for Sustainable Development in September 2015, the world embarked on a 15-year journey with ambitions to eradicate poverty, reduce inequalities, ensure equal opportunities and dignity, and tackle climate change, among other objectives. A whole of government and whole of society put their intellectual thoughts to the review. Meaningful multi stakeholder partnership and fundamental in the design, implementation, financing and evaluation of development solutions etc. mechanisms were used on the process of SDGs action plan preparation.

The 7th Five Year Plan has been prepared in the line with the targets of SDGs. The preparation and launching of the plan coincided with the global discourse on SDGs. The 7th FYP

has made a reflection on the core goal of SDGs especially in ending poverty in all its form. Bangladesh has achieved remarkable success in reducing the poverty in last few decades.

ICT Division has under taken several initiatives to finalize “ Action Plan” for ICT- lead targets along with co-lead and associate ministries. ICT Division has identified strategy, institutional and policy measures to harness resources to support Bangladesh’s SDGs implementation addressing specially the targets to which it is mapped as “Lead and Co- Lead”.

### **c) Policy and the enabling environment**

Sustainable development is a long term challenge requiring new models of governance and multi actor partnerships. Bangladesh Government is adopting the following Act and Policies:

- a) Digital Security Act
- b) National Telecom. Policy
- c) Digital Government Act
- d) National ICT Policy

At present the Government is working with the following strategies and policies-

#### **(1) Creating ownership of the Sustainable Development Goals**

The 2030 Agenda is the most ambitious, universal, people centred and planet sensitive set of goals and targets ever conceived by United Nations. It is important to formulate national strategy, practical indicator to track progress, verifiable and reliable data at all levels. Sustainable development is a long term challenge requiring new models of governance and multi actor partnerships, building knowledge and understanding of the SDGs, willingness of the stakeholders to participate and strong mechanism to achieve this objectives are key requirements for national-level SDGs ownership. Also identifying participatory approaches is a key ingredient for ownership.

ICT Division have engaged stakeholders like citizens, businesses, NGOs and marginal groups like women and youths in its endeavours to achieve the targets. From the Government part, ICT division and organizations under its jurisdiction have been working in a fashion so that all of the stakeholders feel their ownership to different activities / establishments that are meant to achieve SDG targets.

#### **(2) Incorporation of the SDGs in Policy Frameworks**

ICT division is incorporating the Sustainable Development Goals into national plans and visions, and integrating them into legislative frameworks. In ICT Policy-2015,

SDG goals especially ICT leading goals like Goal #9(Infrastructural Development) and Goal #17 (Means of Implementation) has been focused on. Achieving these goals will require defining new national pathways and priorities, and mobilizing the necessary financing, technology and expertise. Recently Cabinet has approved “ Digital Commerce Policy- 2018” that will regulate and promote the nascent e- commerce in Bangladesh . These legal frameworks will guide different government offices and businesses to a regulated environment and help economic activities of citizens from all walks of society.

### (3) Integration of the three Dimensions

The initiatives of ICT Division based on four KPIs (Connectivity, Infrastructure, e-Governance and Human Resource Development) have/will have a remarkable social impact, because these will promote industrial growth, employment, good governance and human development like better education and health. Citizens even at rural level will have opportunities of access to ICT facilities at their door steps. It will make their social and economic activities easier, low cost and time saving. Along with formal employment in ICT sector, even the marginal people like under-privileged women and youths will have self-employment in all sectors of economy specially in ICT. ICT training towards HRD will mend them competent for ICT based industry like outsourcing and e-commerce.

Most of the ICT infrastructure and industry are environment friendly. Hi-tech parks, software technology parks and ICT based industries in these parks consume mostly electricity as energy. In these aspect, ICT industries may be considered as “Green Industry”.

### (4) Leaving no one behind

ICT Division has endeavour efforts to “leave no one behind”. Empowering women (SDG Goal #5), making them more connected, safer, and able to access to information, services and life enhancing opportunities (such as health, financial services and employment opportunities) will cover the most vulnerable group in the society. Recently launched She Power Project: “Sustainable Development for Women through ICT” is providing training for women. These training will create their employments in the field of IT service and freelancing. ICT infrastructures are built to serve all of the citizens irrespective of their position in the society. For example , establishment of “Sheikh Russel Digital and language Training Lab” in educational institutions of all over the country will create opportunities for all children including underprivileged children to have access to ICT. ICT infrastructure, ICT training, e-governance initiatives will create employment, to have access to government services for all the citizens regardless of economic and social status.

### 3. Information and communication Technology Division (ICTD)

ICT Division emphasized on four Key Point Indicators (KPI) to achieve its targets. These are a) Connectivity, b) e-Governance, c) Infrastructure, d) Human Resource Development. All of the development and policy activities are taken on the basis of these four KPIs.

#### a) The Vision

Reliable and secure Information and communication Technology (ICT) towards sustainable Development.

#### b) Mission

Support in attainment of overall socio economic development of the country by establishing universal access to ICT for all through research, development successful utilization and digital management of ICT.

#### c) Activities of the Information and Communication Technology Division-

1. Promotion of ICT and making its services available at door steps to the citizens.
2. Smoothing ICT services and formulation of guidelines for making it easily accessible to the people.
3. Formulating laws, rules and policies relating to Information and Communication Technology (ICT) in pursuing national objectives and plans.
4. Assistance to other Ministries /Divisions for the promotion of e-governance, e-infrastructure, e-health care and other similar areas.
5. Coordination of areas of ICT with other Ministries/Divisions.

6. Implementation of recommendations of digital Bangladesh Task Force and matters relating to national bodies on ICT.

7. Undertaking promotional activities and financially sponsoring surveys, research, design and development engaging the technology giants

d) The associated and statutory organizations under the Information and communication Technology Division are:

1. Bangladesh Computer Council (BCC),
2. Bangladesh Hi-tech Park Authority,
3. Department of ICT (DoICT) and
4. Controller of Certifying Authority (CCA).

#### 5. Progress / Achievement of Bangladesh

In a decade the advancement of Bangladesh in IT and mobile connectivity are as follows-

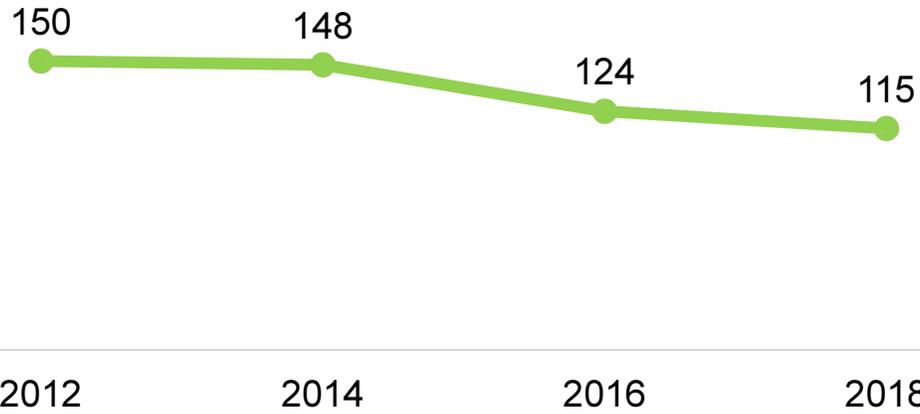
number of mobile phone users to nearly 150 million and the number of internet users to over 55 million has created a window of opportunity to flourish knowledge based economy in the country.

In Bangladesh , the teledensity was 30 percent in 2009. Now it is nearly 85%. The government has fixed the target of increasing teledensity up to 95 percent by 2021

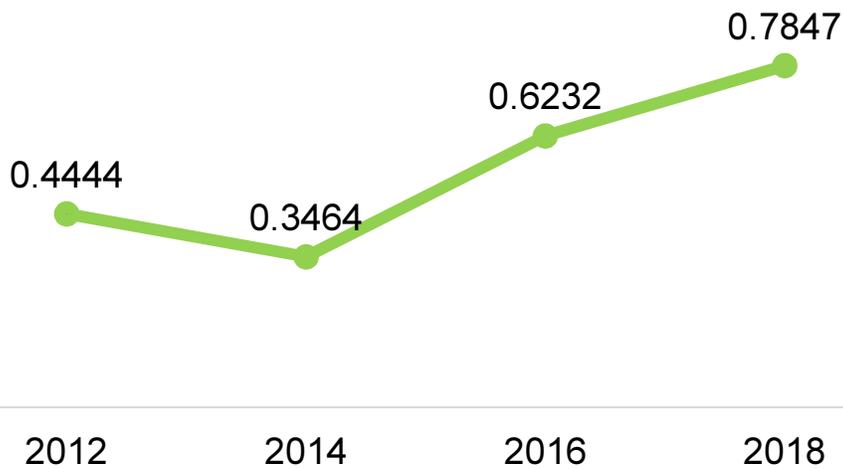
If the current trend of increasing the rate of teledensity continued , the ICT sector would play a vital role in the economy and then the internet based economy will be visible to all of us. The labor intensive economy will turn into knowledge based economy.

UN e-Government Ranking- Bangladesh's Big Jump

## e-Government Development Index



## Online Service Index (OSI)



### PROGRESS TOWARD SPECIFIC SDG TARGETS

We have already discussed that ICTD is lead at targets 9.c and 17.8, co-lead at target 9.b. We may revisit the targets and its indicators.

Target No.	Target	Indicator
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9.b	Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.	Proportion of medium and high-tech industry value added in total value added..
9.c	Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	Proportion of population covered by a mobile network, by technology.
17.8	Fully operationalize the technology bank and science, technology and innovation capacity building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology	Proportion of individuals using the Internet.

According to Bangladesh Economic Review (2017, Finance Division) contribution of industry in GDP (On basis of fixed price) :

	2010-11	2012-13	2013-14	2014-15	2015-16	2016-17
Contribution of Industry (%)	27.38	29.00	29.55	30.42	31.28	32.78
Growth rate (%)	9.02	9.64	8.16	9.67	10.10	10.5

Having a close look at sectoral performance, industry is experiencing double digit growth as was targeted. According to BBS (April 2018) GDP contribution of medium and hi-tech industry is about 12%. To promote medium and hi-tech industry ICTD has taken initiatives to establish a number of hi-tech/ Software parks namely Bangabandhu Hi-tech City, KaliaKoir; Sheikh Hasina Software Technology Parks, Jessore; Sylhet Electronic City. These parks will provide conducive investment environment for medium and hi-tech industries.

At present about 85% of our population is covered by mobile phone network and 55% of population have access to internet facilities. So, at target 9.C and 17.8 our achievement is remarkable. It may be noted that we are on right track in regards of number of mobile phone subscriptions and internet users. ICTD and PTD have implemented projects which have already covered 1200 unions with broadband internet facilities. Another on-going project will cover additional 2600 unions with the same facilities within this year. Along with National Data Center -3 , National Tier IV Data Center will provide low cost data hosting facilities with high security of the data. All these efforts will contribute to low cost and high speed internet facilities to our citizens including people of rural areas

### Project on going and to be completed by 2020

Project Title and Period	Progress by 2018	Progress by 2020	Comment
Development of National ICT Infra-Network for Bangladesh Government Phase-III (Info-Sarker-3), Oct.-2016-jun.2018	1,600 Union	2600 Union (100%)	1000 unions are connected by BTTB,  772 by Connecting Bd. project
iDEA: Innovation Design and Entrepreneurship Academy.  (Providing fund to startup project ) Jul.2016-Jun.2019	64 startup	200 startup	
Skill development for mobile game and application Jul.2016 -Jun.2018 Bangladesh e-government ERP, Jul.2016 -Jun.2018	Lab – 38 (95%)  Training-16,100 (100%)	Lab – 40 (100%)	
Digital Island Moheshkhali, Jan.2017-Dec-2018	92%	100%	
Establishment of Kaliakoir Hi-Tech Park (other hi-tech parks) Jan- 2013-Dec. 2019	94.35%	100%	

Establishment of Sheikh Kamal IT Training & Incubation Center, Natore. Jan- 2017-Dec. 2019	25%	100%	
Establishment of National 4 tier Data Centre	100%	100%	
Establishment of Sylhet Electronic City Jan 2016- Dec. 2018	On going	100%	
Establishment of Bangabandhu Silicon City, Rajshahi Jul. 2016 – Jun.2019	78%	100%	
Establishment of Computer and Language Training Lab (Sheikh Rasel Digital Lab) in Educational Institutions all over the country project Jan 2015 – Jun.2019	3,901	4,176	
Establishment of Twelve IT Parks. Jul.2017 – jun.2020	03	12	

## 6. STRUCTURAL CHALLENGES

SDGs are all encompassing requiring huge resources for implementation. As Bangladesh is now enjoying “Demographic Dividend”, we need a big fund to expedite the proposed projects so that we may cover all with the same, safe and low cost ICT infrastructure as well as quality Human Resource Development initiatives. Traditional sources of funding are not going to be sufficient to implement the SDGs. We need to find innovative ways of financing from both the public and the private sectors, development partners and ensure effective and efficient ways for utilization.

- SDGs implementation requires a multi-stakeholder approach involving private sector, NGOs, CSOs, Media and Major Group of Other Stakeholders. ICT Division has been working out how to enhance participation of all the stakeholders in its efforts to implement the SDGs.
- There are enormous challenges in collection, analysis, disaggregation, and dissemination of data. The country needs to build collaboration at bilateral, regional and global levels for capacity building and sharing of best practices.

- Localization of SDGs targets and indicators for contextualizing the 2030 Agenda appropriately with local development plans and strategies is of utmost importance and emphasized.

### **SPECIFIC CHALLENGES**

- Human resource capacity - Lack of expertise in Hi-tech industries, Lack of experience in Hi-tech industries.
- Data Management - Need Integrated data storage, Integrated management of Big data
- Data security.
- Ensure rapid and satisfactory completion of all ongoing ICT projects
- Upgrade ICT infrastructure to provide space for projected growth of ICT services in adequate speed and reliability
- Provide funding for R&D in ICT & science and Technology
- Provide funding for ICT capacity building in public institutions
- Support ICT initiatives to expand services in the rural areas (cloud based service, National helpline, BPO, Incubation center, ICT Research & Development center, Broadband connectivity etc.)
- Develop an e-government master plan
- Support product innovation and creation ecosystem  
Provide physical incentives & Institutional reform to create appropriate investment climate

### **7. The Resources and Experiences we have to share**

We have the experience and resources to be shared-

- a) Skilled and trained workforce (1.5million) in ICT sector
- b) Bangladesh is in 2<sup>nd</sup> position in outsourcing. Two million young people are earning in IT outsourcing sector
- c) Transforming a developing country into “Digital Bangladesh” In a decade
- d) Establishing Broadband communication network throughout the country
- e) Advance level training facilities
- f) IT education

### **8. Recommendations**

Regional cooperation is important to make effective ICT development and to achieve Sustainable Development Goals-

- a) Knowledge Sharing and exchange of technologies with other countries
- b) Ensuring inclusive ICT infrastructure;
- c) Developing a workforce that is fit for the future as influenced by the fourth industrial revolution;
- d) Developing innovative regulatory frameworks;
- e) Identifying the role of the Government in the development of frontier technologies;
- f) Creating a platform for multi-stakeholder and regional cooperation.
- g) Incentivizing responsible development of frontier technologies in the private sector.

## **9. CONCLUSION**

Making “Digital Bangladesh” demands concerted and collective efforts with strong political commitment at all levels. The 2030 Agenda comes at a time when Bangladesh has already kicked off its journey towards an upper middle income country by 2030 and a developed country by 2041. Bangladesh has incorporated establishing “Digital Bangladesh” in all her development policies. The Government has adopted an inclusive approach to development so that the poorest and the most vulnerable section of the country can be integrated into its national development efforts. As the country moves ahead, challenges in several areas, including in resource mobilization and data management, will have to be addressed. Bangladesh is confident to set the example of a leading SDGs achiever. Achievements of ICT division in terms of specific targets are quite significant that is digital Bangladesh.

With the implementation of these works Bangladesh would go a long way in information technology.

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