Evidence-based e-government policies for advancing governmental service delivery and accountability in support of the Sustainable Development Goals
A joint project of
- United Nations Department of Economic and Social Affairs (UNDESA), and
- Access to Information Programme (a2i), Government of the People's Republic of Bangladesh

ICT Skills in Bangladesh
A Concept Note

Foreword

This concept note is prepared as part of an ongoing action research project entitled ‘Evidence-based e-government policies for advancing governmental service delivery and accountability in support of the Sustainable Development Goals (SDGs).’ It is a joint initiative of the United Nations Department of Economic and Social Affairs (UNDESA) and the Access to Information (a2i) Programme at the ICT Division, Government of the People’s Republic of Bangladesh. The broader goal of the project is to identify how people, processes, tools, and techniques related to information communication technology (ICT) can support the implementation of SDGs by concerned lead ministries and agencies in Bangladesh, including through identifying data and policy gaps. The project team has identified bridging ICT skills of youths and adults, amongst others, as a priority area for Bangladesh.

Data for this concept note came from five sources: (a) desk research on open source materials such as published reports and review of SDG Tracker data; (b) consultations with the Technical and Madrassa Education Division of the Ministry of Education (TMED), the lead agency in Bangladesh for implementing SDG 4.4.1; (c) SDG Action Plan of the lead agency TMED; (d) field visit to Kishoreganj district; and (e) review of the proceedings of a national capacity development workshop held in Dhaka in 2018.

This concept note has six parts as stated below:
1. Background;
2. Issues and Priorities;
3. Measuring progress with available data;
4. Lead agencies and actors;
5. Data collection and data gaps; and

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1 For the UN system, the project code is DA 1617B-Bangladesh.
2 The field visit was conducted on 5-6 June 2018. During the field trip, the project team met concerned stakeholders at the Technical School and College, Technical Training Center, and Youth Development Center—all providing ICT skills training.
3 The second national capacity development workshop on ‘Building Institutional Capacity for E-Government Data Analysis and Evidence-based Decision-Making to Support Sustainable Development Goals’ was jointly organized by UN DESA and a2i on 26-27 June 2018.
1. Background

In 2017, Bangladesh ranked 111 in global human capital index and 147 in the global ICT development index.\(^4\) While the poor performance in human capital is attributed to insufficient educational enrolment rates, poor-quality primary schools, and low levels of skill diversity among their university graduates, the meager performance in the ICT index is largely caused by lower access, use, and skills in the ICT sector. Promoting ICT skills among the youth and adult is widely recognized as a critical step to achieving higher economic growth. But ICT is affected by and in turn affects the different opportunities that exist for men and women, youth and adults, with respect to education, training and skills development, employment and working conditions, as well as access to information and decision-making processes.\(^5\) A lack of ICT skill is often a constraint to employment and opportunities in the society.

<table>
<thead>
<tr>
<th>Table 1. Identified SDG Target and Indicators related to ICT Skills</th>
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<tbody>
<tr>
<td><strong>Goal 4</strong></td>
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<td><strong>Target 4.4</strong></td>
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<td><strong>Indicator SDG 4.4.1</strong></td>
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<td><strong>WSIS Action Line C4</strong></td>
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<td><strong>Complementary Indicator 4.4.1A</strong></td>
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</tbody>
</table>

Table 1 shows the Goal 4 of the Sustainable Development Goals (SDGs) and the identified target/indicator. Action Line C4 of the World Summit on the Information Society (WSIS) also focuses on development and promotion of programmes to eradicate illiteracy using ICTs at national, regional and international levels, with the aim of increasing the number of people with relevant ICT skills and to facilitate employment and entrepreneurship in the ICT sector. In consultation with the lead and partner agencies, a complementary national indicator - proportion of youth and adults, having relevant skills (technical and vocational), and engaged in decent job- will be also used.


2. Issues and priorities

Studies indicate that Bangladesh possesses significant comparative advantage due to the availability of a large, English-educated talent pool. In addition, there are unique strengths in developing industries such as software programming, graphics animation, data entry and other ICT-related services.

Bangladesh's ICT industry, however, has remained relatively nascent despite the rapid growth in telecommunications. Its e-readiness remains behind global averages especially in terms of the general population's ICT skills. At the same time, the perception of the country's suitability for ICT businesses, supporting infrastructure, and technology foundations for the public and private sector is also relatively low.

The progress achieved is far below its potential. There is, therefore, a need of targeted and integrated government actions to: (i) improve ICT skills and employability of the country's large labor pool; (ii) put in place institutional mechanisms to enable ICT-related industry development, and (iii) present the country's comparative advantage and build global/regional linkages in its ICT capacity. Like other countries including Ghana, Kenya, Mexico, Pakistan, the Philippines and South Africa, Bangladesh has recognized the untapped potential in the ICT space and have undertaken a strategic approach to support ICT skills among youths and adults.

In the National Financial Inclusion Strategy (NFIS) as part of its 7th Five Year Plan, one specific strategy was to “leave no one behind” through financial inclusion and digitization. The key focus areas of NFIS include deepening empowerment initiatives in agriculture, financing/refinancing of micro and small enterprises, bridging the gender divide, promoting rural access, increasing access of the marginalized and excluded through no frill accounts, green financing, life cycle approach towards inclusion, insurance and digital inclusion initiatives. Technology infrastructure is being put in place to enhance ‘first and last mile’ financial inclusion. The greatest social and employment potential, however, of digital technologies lies outside the ICT sector. Therefore, more integrated efforts need to be deployed to enhance the level of ICT skills of you and adults, particularly among the poorest and the vulnerable groups. Possessing the right digital skills will increase aggregate employment and earnings.

The Ministry of Education’s Action Plan for implementation of SDG 4.4.1 provides a list of ongoing development projects focusing on skills and training enhancement, ICT training facilities for the youth, and establishment of technical school and college.

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8 World Bank, 2016. Digital Dividends
3. Measuring progress with available data

According to SDG metadata, ICT skills are measured by computer-related activities such as “copying or moving a file or folder; using copy and paste to duplicate or move information within a document; sending emails with attached files (e.g. document, picture, video); using basic arithmetic formulae in a spreadsheet; connecting and installing new devices (e.g. a modem, camera, printer); finding, downloading, installing and configuring software; creating electronic presentations with presentation software (including text, images, sound, video or charts); transferring files between a computer and other devices; writing a computer program using a specialized programming language.” The metadata also suggests that school or household survey which collect data on the use of selected ICT skills will be used to measure performance of a country on SDG 4.4.1.

Table 2: Proportion of youth and adults with information and communications technology (ICT) skills

<table>
<thead>
<tr>
<th>Data Sources (Relevant Agency with Ministry/Division to generate/provide data)</th>
<th>Baseline data (Year)</th>
<th>Milestone by 2020</th>
<th>Milestone by 2025</th>
<th>Target by 2030</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) MIS, DYD, MoYS</td>
<td>b) Internet 15-24 yrs: 10.6% 25-74 yrs: 7.5%</td>
<td>b) Internet 15-24 yrs: 20% 25-74 yrs: 15%</td>
<td>b) Internet 15-24 yrs: 25% 25-74 yrs: 20%</td>
<td>b) Internet 15-24 yrs: 30% 25-74 yrs: 20%</td>
<td>- Metadata yet to be finalized. - Also Relevant to 9.1.1</td>
</tr>
</tbody>
</table>


In Bangladesh, the Literacy Assessment Survey (LAS) and ICT use survey conducted by BBS provide useful data to measure progress on SDG 4.4.1 (Table 2). Although mobile use data are not included in the metadata as relevant for measuring ICT skill, the LAS includes such data as mobile applications-based service delivery has significantly increased in Bangladesh in recent years.

4. Lead agencies and actors

The Technical and Madrassah Education Division (TMED) of the Ministry of Education is the lead agency for SDG 4.4.1. The associate ministries and agencies are ICT Division, Finance Division, Ministry of Expatriates’ Welfare and Overseas Employment (MoEWOE), Ministry of Youth and Sports (MoYS), Ministry of Industries, Finance Institutions Division, and Ministry of Information. The Directorate of Technical Education (DTE), under TMED, is the main implementing agency for SDG 4.4.1. DTE’s ICT skills training programs are offered by three types of educational institutions—Technical School and College, Polytechnic College, and Engineering College. These institutions offer both short (3-month) and long (2 year to 4 year) courses on computer applications, computer programming, and ICT skills. The duration of the courses range from 360-hour certificate course to two-year vocational training to four-year diploma course. Successful participants attending these courses receive certificates from the Technical Education Board.

Through the Department of Youth Development, the MoYS provides 14 services including self-employment and entrepreneurship development training, ICT training, micro-credit scheme. The ICT trainings cover basic computing skills and such training sessions run from one week to three weeks.

The ICT Division provides financial and infrastructural support to establish computer laboratories and promote training programs in digital marketing, graphic design, and web design and development.

Under the MoEWOE, the Technical Training Centers (TTCs) provide 6-month basic computing course. In addition to these government-run initiatives, private training centers also provide a wide range of courses on basic computer skills to computer programming. TTCs are governed by the Bureau of Manpower, Employment, and Training (BMET), a constituent organization of the MoEWOE. In an effort to boost up labour migration from Bangladesh, BMET has initiated E-Learning tools at selected TTCs for enhancing skills training programs.

5. Data collection and data gaps

The Literacy Assessment Survey (LAS) to be conducted by the Statistics and Informatics Division, Bangladesh Bureau of Statistics (BBS) will make data relevant to SDG indicator 4.4.1 available. The latest LAS data were produced in 2013. The Ministry of Planning is considering a proposal from BBS to conduct the next LAS.

The lead and associate ministries and their implementing agencies have various administrative data, which are not used for measuring ICT skills. For instance, the TED, DYD, ICT Division, and TTCs have data on the number of ICT graduates from various government institutions. Such data do not show any disaggregation by age and gender. Although such data are not used for measuring SDG 4.4.1, they can be used for measuring WSIS Action Line C4.

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6. Implementation Strategy: Recommended Actions

Concerned stakeholders consulted for this joint project recommend the following actions to implement the SDG 4.4.1:

I. **Identify data gaps in ICT skills**, especially those related to disaggregation, usage and user satisfaction.

II. **Identify implementation gaps** such as lack of readiness among stakeholders, shortage of awareness among youth and adults about ICT education, fiscal constraints, lack of clear definition of ICT skills, and inadequate high-quality ICT training facilities.\(^\text{13}\)

III. **Invest in ICT infrastructure development** such as the establishment of Technical School and College, Women’s Polytechnic College, and Upazilla (sub-district)-level ICT Resource Centers for Education, and expand the availability of computers and other ICT equipment to address the implementation gaps.\(^\text{14}\)

IV. **Assist lead agency**— Ministry of Education’s Technical and Madrassah Education Division—and associate agencies—the Department of Youth Development of MoYS, ICT Division, and BMET under MoEWOE—to **develop plans and strategies** for systematic collection, analysis, publication, and visualization of data related to SDG indicator 4.4.1.

V. **Conceptualize and implement one ICT-enabled application and service** to support the implementation of SDG 4.4.1.

VI. **Improve inter-agency collaboration** between the Ministry of Education’s TMED, and all other associate ministries, divisions, and agencies, especially the Finance Division, ICT Division, MoYS, and MoEWOE.

**Note on authors and correspondence:** This concept note is the product of a team work carried out by Wai Min, Ramiz Uddin, ASM Ali Ashraf, Ronan Gomes, Tito Chakma, and Sadia Afrose Shampa. Han Ling and Wai Min produced the first draft with substantial inputs from ASM Ali Ashraf and Tito Chakma. The authors acknowledge inputs from the Technical and Madrassa Education Division at the Ministry of Education, and the Ministry of Youth and Sports, and Bangladesh Bureau of Statistics, Government of the People’s Republic of Bangladesh for sharing useful insights. Inquiries regarding the content of this concept note can be directed to: kwok@un.org, ramizuddin@a2i.pmo.gov.bd, aliashraf79@gmail.com.

\(^{13}\) Delegates from the Technical and Madrassa Education Division of the Ministry of Education, GoB, and other concerned stakeholders attending the second national capacity development workshop on ’Building Institutional Capacity for E-Government Data Analysis and Evidence-based Decision-Making to Support Sustainable Development Goals’ identified implementation gaps as a major challenge to achieving SDG 4.4.1.

\(^{14}\) Concerned stakeholders at both the field level (such as the ICT instructors and principals of Technical Training Centers, Technical Schools and Colleges, and Youth Development Centers) and at the ministry level (such as TMED) emphasized on infrastructure development as a key to achieving SDG 4.4.1.