

**Report
Of**

Review of current system of data generation, aggregation, and use of quality statistical data for decision making purposes for the TVET/skills development

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ABBREVIATIONS AND ACRONYMS

APA	Annual Performance Agreement
BANBEIS	Bangladesh Bureau of Educational Information System
BBS	Bangladesh Bureau of Statistics
BMET	Bureau of Manpower, Employment and Training
BNCU	Bangladesh National Commission for UNESCO
BNFE	Bureau of Non Formal Education
BTEB	Bangladesh Technical Education Board
CapED	Capacity Development for Education
CACS	Competency Assessment and Certification System
CBT	Competency-Based Training
CRVS	civil registration and vital statistics
DME	Directorate of Madrasa Education
DPE	Directorate of Primary Education
DQAF	Data Quality Assessment Framework
DSHE	Directorate of Secondary and Higher Education
DTE	Directorate of Technical Education
GED	General Economic Division
GoB	Government of Bangladesh
HCDP 21	Human Capital Development Programme 21
HRMIS	Human Resource Management Information System
IEIMS	Integrated Educational Information Management System
LAS	Literacy Assessment Survey
LFS	Labour Force Survey
MICS	Multiple Indicator Cluster Survey
MIS	Management Information System
MoE	Ministry of Education
MOPME	Ministry of Primary and Mass Education
MSVSB	Monitoring the Situation of Vital Statistics of Bangladesh
NAPE	National Academy for Primary Education
NCTB	National Curriculum and Textbook Board
NEP	National Education Policy
NSDA	National Skill Development Authority
NSDC	National Skill Development Council
NSDES	National Strategy for the Development of Education statistics

NSDP	National Skills Development Policy
NTT	National Technical Team
NTVQF	National Training and Vocational Qualifications Framework
SDG	Sustainable Development Goal
SPMF	Sectoral Performance and Monitoring Framework
STEP	Skills and Training Enhancement Project
TMED	Technical and Madrasa Education Division
TTC	Technical Training Centre
TTTC	Technical Teachers' Training College
TSC	Technical School and College
TVET	Technical and Vocational Education and Training
UIS	UNESCO Institute for Statistics
UNESCO	United Nations Educational, Scientific, and Cultural Organization

CHAPTER 1

INTRODUCTION

1.1 Background

Data on development indicators are essential for governments and institutions to plan, fund and evaluate development activities effectively and efficiently. The data must also be accurate, timely, disaggregated and widely available to end users to be of value during planning and budgeting cycles. When decisions are based on data that are not credible, accurate or timely, it becomes difficult to determine existing programmes' effectiveness, or whether valuable resources are allocated to address the most urgent and serious development issues. In view of the above, included among the interventions under Outcome 3 is for the Skills 21 Project to "Support the Ministry of Education (including BANBEIS and BTEB) and other Government institutions in generating quality statistical data of the TVET/skills development sector and advise on establishing a TVET/skills management information system (Activity 3.2.4 of the Project Document)". Two specific tasks under this Activity are: "Review of existing data collection/generation/management system of BANBEIS, BTEB and BBS" and to recommend a "comprehensive TVET MIS system".

TVET/skills training data/statistics is used both by the Government and the private entities including the NGOs, Civil Societies, industry bodies, researchers and academia. TVET/skills data and statistics are generated by the BBS, BANBEIS, the relevant administrative ministries (23 Ministries), some of the development partners and the government programmes like the Access to Information (a2i) and Skills and Training Enhancement Project (STEP). While some of these data are published at a regular interval (like Labour Force Survey of Bangladesh brought out by the Bangladesh Bureau of Statistics), some data are available from ad-hoc census or surveys (like TVET Institution Census brought out by the National Skill Development Council Secretariat). Many study reports brought out by the Government, the Development Partners and research organizations contain primary data and information collected by the organizations as parts of the studies conducted by them. Thus, some of the

data are published periodically whereas some other data and/or information that accompany these releases are ad hoc.

Management Information System, for the TVET, for any TVET related organization (be it ministries, private entities, civil societies, NGOs, training providers and academia) is a system that will provide a process that will facilitate an effective, efficient and timely internal information and data collection of acceptable quality for the management to take administrative, financial and policy decisions on TVET related issues pertinent to their respective organizational mandates.

As part of these tasks, the first attempt was taken to review the gaps in existing data collection/generation/management system of DTE to monitor the development link indicators (DLI) of Human Capital Development Programme (HCDP-21) as well as to meet the data and information needs of the DTE, BTEB, BANBEIS, BBS and NSDCS for the management of the TVET sector to achieve the goals of NSDP 2011, HCDP 21, NEP 2010, Vision 2021, SDG Action Plan and BMET Action Plan.

1.2 Objective

The objectives of this assignment was to

- a) review the existing data collection/ generation/ management system of DTE and other relevant government organizations related to the DLI of HCDP 21;
- b) assess the data and information needed by DTE to monitor the DLIs effectively and efficiently;
- c) identify the gaps in the availability of quality data and information in a timely manner; and
- d) recommend the design of a system (central or uniform) that would potentially drive the data gathering, compilation and retrieval process to fill up the data and information gaps related to the DLI of HCDP 21.

1.3 Assessment process and methodology

To meet the above mentioned objectives, secondary and primary data was generated by means of desk research and interviews from DTE, BTEB, BMET, BANBEIS, TMED and TTTC. The scope of the work included an assessment of the TVET/skills related data and information

needed by the DTE for the monitoring of the TVET sector to achieve the goals of HCDP 21.

The detailed methodology included the following:

1. Desk research:

a. Review literature including the policy documents, like NSDP, NEP, 7th Five Year Plan, SDGs, different publications on SDGs by the Planning Commission, gender strategy, apprenticeship strategy etc. and other relevant reports, research and publications, including statistical surveys available to supplement the findings from the interviews;

b. Consult relevant government orders/legislation to find out the policy instruments that support or demand specific data or information c. Review the document related to data reporting system in TMED, DTE, BTEB, BMET, NSDA, Planning Commission, BANBEIS, BBS and associated Skill projects.

2. Interviews: Conduct interviews of major stakeholders' including

a. Relevant personnel from TMED, DTE, BTEB, BMET, NSDA, Planning Commission, BANBEIS, BBS,

b. Public and private training providers, ISCs,

c. Development Partners (DPs), NGOs and the Civil Societies.

3. Validation of the findings and recommendations in two workshops:

a. Conduct two (02) field visits to TVET institutions for consultation workshops outside Dhaka for and conduct consultations with sub-national level stakeholders

b. With the data generating authorities after the completion of the task 1

c. With the data generating authorities including DPs, NGOs and Civil Societies after the completion of the Task 2 (Not yet done).

4. Compilation and submission of the draft report incorporating the feedbacks of the Workshops to the Skill 21.

1.4 Structure of the report

This report is organized in three chapters. In the Chapter 1, the background of the review has been described including the objectives and methodology of the study. Chapter 2 describes the status of the management information system in Bangladesh from the light of its capacity, data needs and data availability. The gaps and challenges associated with MIS in TVET is also identified in this chapter. A brief set of recommendation is placed in the Chapter 3 to conclude the report.

CHAPTER 2

MANAGEMENT INFORMATION SYSTEM (MIS) IN TVET SECTOR OF BANGLADESH

2.1 MIS Data needs in TVET

Management Information System, for any TVET related organization (be it ministries, private entities, civil societies, NGOs, training providers and academia) is a system that will provide a process that will facilitate an effective, efficient and timely internal information and data collection of acceptable quality for the management to take administrative, financial and policy decisions on TVET related issues pertinent to their respective organizational mandates. TVET/skills training data/statistics is used both by the Government and the private entities including the NGOs, Civil Societies, industry bodies, researchers and academia. The generic objectives of a comprehensive TVET MIS can be summarized as

- Measure progress of program/interventions
- Improve accountability and management of resources
- Efficiently and effectively use data for decision
- Improve coordination among partners
- Collect complete and timely information on national effort.

All the major education policy documents of the government including the 7th Five Year Plan (FYP) 2016-2020¹ emphasized on the need for improvement of the TVET sector while the measure of the indicators of such improvement is in need. The Government expressed its commitment to improving the TVET system through the implementation of the National

¹ Seventh Five Year Plan FY2016 – FY2020: Accelerating Growth, Empowering Citizens, General Economics Division (GED), Planning Commission, Government of the People's Republic of Bangladesh, http://www.plancomm.gov.bd/wp-content/uploads/2015/11/7FYP_after-NEC_11_11_2015.pdf (Last Accessed 21 February, 2018)

Education Policy (NEP) 2010² and the National Skills Development Policy (NSDP) 2011³. These policies envisaged the expansion, diversification, extension and development of technical and vocational education programmes for the elevating of socioeconomic condition of the people of the country. It emphasized greater importance in imparting TVET and bring more secondary school enrolment into the fold of technical and vocational education & training.

While the above mentioned policies and strategies need data for keeping the tracks of the progress towards the set goals and aims, the TVET/skills data and statistics are generated by the BBS, BANBEIS, the relevant administrative ministries (23 Ministries), some of the development partners and the government programmes like the Access to Information (a2i) and Skills and Training Enhancement Project (STEP). However, most of these data collections are done in a need at the moment basis and are sporadic in nature, a full-fledged management information system (MIS) is, therefore, not visible in TVET sector. The Technical and Madrasa Education Division (TMED), in its TVET action plan stated and focussed on a TVET MIS as in the following

- To establish institution based MIS cell including collection of necessary equipment and recruiting skilled human resource
- To evaluate the quality of education of the TVET institutions by different accreditation agencies like (ISO, 9001, CPSC, City & Guilds etc.)
- Collection of criterion based online information of the TVET institutions and analysis and evaluation of the information.

None of the agencies who are in charge of collection and generation of data have done any review on what kind of data and statistics are in need for monitoring the progress of the said goals and objectives of the national policies and strategies regarding TVET. Very few of the indicators are flagged in the policy documents whereas no clear indication on who or how the data on the indicators would be made available. Besides these mentions, a large number of indicators related to TVET are needed to be measured to evaluate the programs and projects in

² National Education Policy 2010, Ministry of Education, Government of the People's Republic of Bangladesh, http://old.moedu.gov.bd/index.php?option=com_content&task=view&id=338&Itemid=416 (Last Accessed 21 February, 2018)

³National Skills Development Policy (NSDP) 2011, Ministry of Education, Government of Peoples Republic of Bangladesh. http://www.ilo.org/wcmsp5/groups/public/@asia/@ro-bangkok/@ilo-dhaka/documents/publication/wcms_113958.pdf (Last Accessed 11 MAy 2019)

the sector and to observe the contribution of the sector in the continuous development of the country.

2.2 Data in TVET sector

As already mentioned earlier, the need for data and information are required for decision making under different projects and also for letting other know about progress and achievement both in a local and global perspectives. To understand the data needs in the TVET sector, a bird's eye view of the data needs for the TVET sector of Bangladesh is examined. Figure 2.1 gives a description of the flow of the TVET activities of the country side by side with the education flow. The Figures shows the path-ways starting from primary education to master's in engineering, which also included Secondary School Certificate (VOC), Higher Secondary Certificate (VOC), Diploma in Technical Education, Specialized Short Course in TVET and specialized long Course in TVET etc.

The primary education is completely non-technical in Bangladesh, and after the non-technical primary education, one might end up in general non-tech job market, or can become an unskilled person and might drop out. The way to technical education only opens up after Junior school certificate (JSC). Arrows in Figure 2.1 are used on a number of crucial points where an individual enters or exits the TVET setup. At each of these junctures or the transition of education/training, measurement of several indicators are needed for proper policy formulation. These includes:

- TVET Setups
 - Number of TVET Institution (disaggregated by different levels, Public/Private)
 - Teaching Staff including Trainers and Assessors: (disaggregated by Gender, Training levels etc.)
 - Non-teaching Staff: (disaggregated by Gender, Qualification)
 - Infra-structure: (includes tools and machineries for training)

- Enrollment and Completion (disaggregated by different levels, gender)
 - Enrollment
 - Completion
 - Graduation
 - Repetition
 - Dropout
 - Mainstreaming

- Placement
 - Employed/Self-employed after Graduation: (disaggregated by different levels, gender)
- Financing
 - Budgeted amount of resources
 - Spent amount of resources
 - Deficits or needed amount of resources

2.3 Core set of indicators for TVET Sector

While not much is stated by any of the institutes regarding the core data needs, the HCDP 21 indicators and the SDGs are taken as a baseline for the core set of data in need for this report.

2.3.1 Human Capital Development Programme for Bangladesh 2021 (HCDP 21)

The Human Capital Development Program for Bangladesh 2021 (HCDP21) targets education as focal sector and focuses on two specific sub-sectors: Fourth Primary Education Development Program and Technical Vocational Education and Training (TVET). The EU supports together with other development partners will be utilized in HCDP21 program, which is aimed at expansion of education swiftly by providing quality education in primary schools and development of skilled manpower through the expansion of technical education.

The main objectives of the program include improved quality, relevance and efficiency of the primary education and TVET sub sectors, improved and equitable access to primary education and TVET services and improved management and governance of the sub-sectors. Overall, HCDP 21 supports Bangladesh to progress towards the achievement of the 2030 Agenda and the SDGs, in particular Goal 4 on quality education. The Technical and Administrative Provisions (TAPs) of the HCDP 21 has clearly listed the performance indicators used for disbursement, of these indicators a number of indicators are relevant to the TVET. The TVET indicators (with targets) listed in HCDP 21 achievable by 2021 are given in the Table below. A detailed description of the level of MIS readiness of the HCDP 21 indicators are given in Appendix 1.

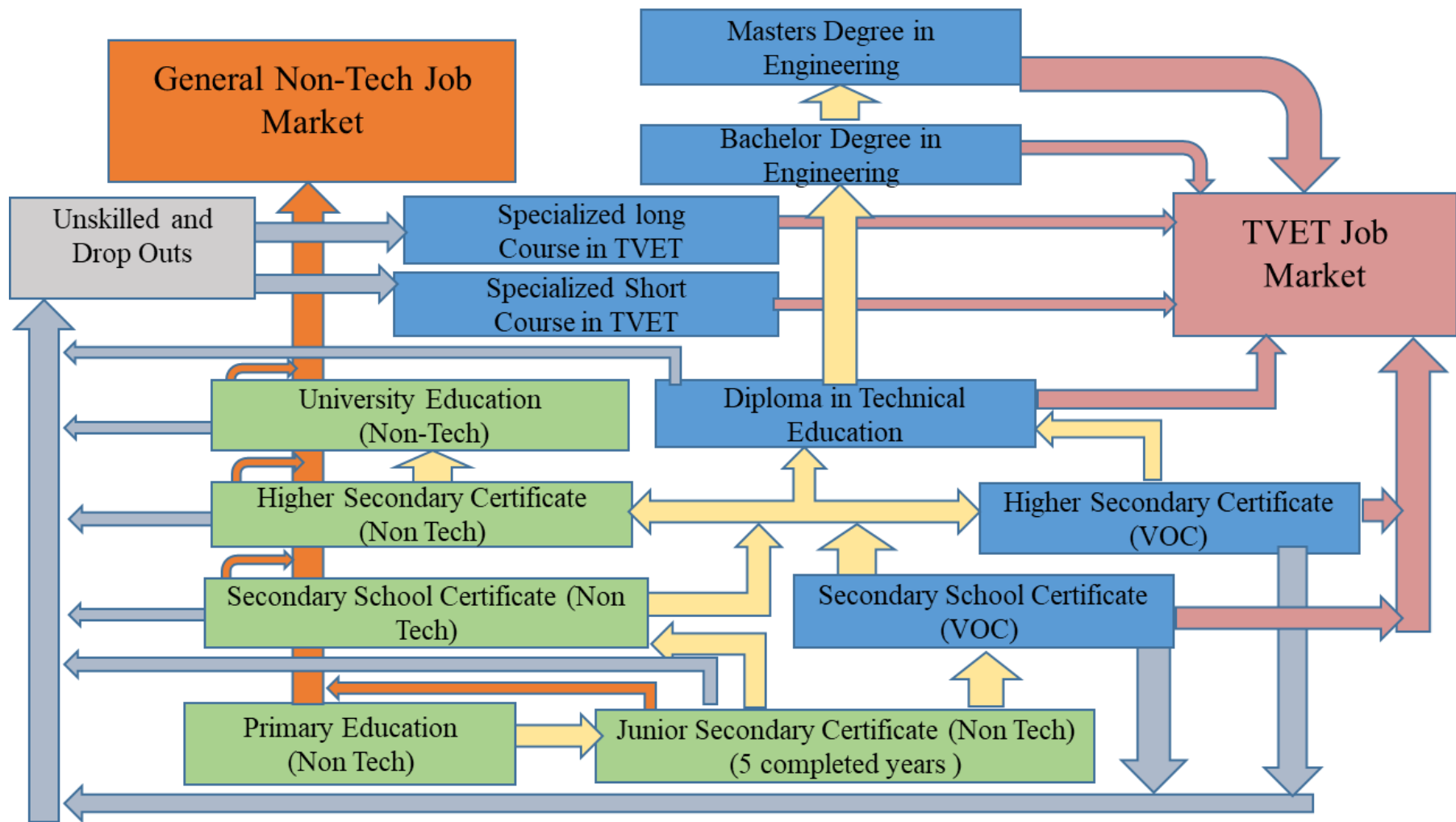


Figure 2.1: Training and Education tiers of TVET and their inter communication flow in Bangladesh

2.1.1	Train and certify at least new 500 TVET trainers in Subject/ Technology/ Occupation based training courses both abroad and local (MPO Private & Public)
2.1.3	Train and certify at least new 1,000 TVET trainers in Subject/ Technology/ Occupation based training courses both abroad and local (MPO Private & Public)
2.1.5	Train and certify at least new 2,000 TVET trainers in Subject/ Technology/ Occupation based training courses both abroad and local (MPO Private & Public)
2.1.7	Train and certify at least new 1,500 TVET trainers in Subject/ Technology/ Occupation based training courses both abroad and local (MPO Private & Public)
2.2.1	Overall enrolment rate in TEVT is 16.5%
	- Female enrolment in TVET is 26%
	- At least 150 People with Disability (PwD) enroll in TVET
	- At least 500 people enroll in TVET in least developed areas ³
2.2.2	Overall enrolment rate in TEVT is 17%
	- Female enrolment in TVET is 35%
	- At least 250 PwD enroll in TVET
	- At least 800 people enroll in TVET in least developed areas
2.2.3	Overall enrolment rate in TEVT is 20%
	- Female enrolment in TVET is 40%
	- At least 300 PwD enroll in TVET
	- At least 1000 people enroll in TVET in least developed areas
2.2.4	Overall enrolment rate in TEVT is 21%
	- Female enrolment in TVET is 42%
	- At least 300 PwD enroll in TVET
	- At least 1,200 people enroll in TVET in least developed areas Department
2.3.1	Development of draft NQF
2.3.2	Validation and consultation on draft NQF
2.3.3	Finalization and approval of NQF
2.3.4	Development of NQF Implementation Strategy and costed action plan
2.4.1	Data needs of TMED, DTE, BTEB, reviewed
2.4.2	Existing data collection/ generation/ management system of BANBEIS, BBS and BTEB reviewed
2.4.3	Key data gaps identified to meet the supply and demand side data needs

2.4.4	Current performance monitoring and reporting practices at TMED, DTE and other relevant institutions reviewed
2.4.5	Key Sector Performance Indicators determined with baseline and targets
2.4.6	A comprehensive TVET MIS is developed
2.4.7	Develop and finalize TVET sector performance monitoring framework (SPMF) consultation
2.4.8	Develop and finalize sector performance reporting plan through stakeholder
2.4.9	Staff are oriented and capacitated to use the provisional TVET MIS
2.4.10	The provisional TVET MIS is field tested.
2.4.11	Staff capacity of TMED, DTE and other relevant institutions strengthened to use SPMF and report accordingly
2.4.12	A robust SPMF is in place and practiced with periodic data collection on key performance indicators
2.4.13	The MIS is finalized based on field testing and further stakeholder consultation
2.4.14	Staff capacity enhanced on the use of data and managing MIS.
2.4.15	Annual Sector Performance Reporting template agreed and tested
2.4.16	Periodic tracking of progresses made and reported

Table 2.1: HCDP 21 indicators

2.3.2 Sustainable Development Goals (SDG)

The Sustainable Development Goals 2030, with 17 goals and 169 targets (including 43 means of implementation) were adopted at the United Nations in September 2015. The education goal SDG 4 is one of the central goals and has 7 targets and 3 means of implementation. SDG4 is a more comprehensive and more outcome/skills oriented goal with a renewed focus on effective acquisition of foundational skills and on relevance of learning for decent works. The goal is expanded over all levels of education including TVET. A core set of indicators, that is why could be better portrayed by the SDG 4 along with the cross cutting goals like SDG 8. The Implementation modalities of the SDG 4 set at the global and local levels included governance, accountability, and partnerships while emphasized on effective coordination and monitoring, follow-up and review and financing indicator framework to monitor progress. General

Economic Division (GED) did a mapping⁴ of ministries by targets in the implementation of SDGs aligning with 7th Five Year Plan. (2016-20) while the core indicators are listed from the global UN document which was done by organizing consultation with government agencies, research and academic institutions and civil society.

The TMED has exercised a detailed action plan (AP)⁵ for addressing the SDG 4 targets associated with the technical and madrasa education that encompasses the TVET sector development. While the AP includes sectorial development plans and projects, no clear indications are set so as to monitor the achievement towards the targets set in the AP. Taking into consideration that the plans are prepared to meet the SDG 4 targets, the indicators set for the SDG 4 is expected to suffice the monitoring needs.

In partnership with UNESCO Dhaka Office and UIS, a project Capacity Development for Education (CapED)⁶ has been underway, while the first component focuses on preparing a strategic framework (SF) for developing capacity in education sector to address the SDG 4, the 2nd component of the project aims at developing the capacity of ministries of education (MOE and MOPME) and their relevant bodies like BANBEIS, DSHE, DTE, DME, NAEM, DPE, BNFE, NAPE as well as BBS, a2i and GED in managing indicators and data for education sector planning, implementation and monitoring in light of SDG4. The implementation of the project is intended to result in developing a National Indicator Framework (NIF), Data Quality Assessment Framework (DQAF), Data Source Mapping and Action Plan (DSM&AP) and finally a National Strategy for the Development of Education Statistics with Action Plan (NSDES&AP) by BANBEIS for timely monitoring and reporting on SDG4. The SDG4 target 4.3 demands equal access for all women and men to affordable quality technical, vocational and tertiary education, including university, which, as a matter of fact, has been adapted in NEP 2010. But for effective monitoring to get targeted results, the NEP 2010 may be needed to be aligned with the other identified policies like 7th FYP, NSDP 2011, NWDP 2011, NICTP 2002

⁴ A Handbook Mapping of Ministries by Targets in the implementation of SDGs aligning with 7th Five Year Plan (2016-20),

http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/3acbc97e_6ba3_467b_bdb2_cfb3cbbf059f/A-Handbook-Mapping-of-Ministries-targets-SDG-7-FYP-2016.pdf (last accessed 29/08/2019).

⁵ SDG Action Plan through National Mid-Term and Long-Term Development Plans, Technical and Madrasah Education Division (TMED), Ministry of Education, Government of the People's Republic of Bangladesh [https://tmed.portal.gov.bd/sites/default/files/files/tmed.portal.gov.bd/page/8bf868ac_184d_4ee5_b485_d48b187bf76c/SDG%20Action%20Plan%20\(1\).pdf](https://tmed.portal.gov.bd/sites/default/files/files/tmed.portal.gov.bd/page/8bf868ac_184d_4ee5_b485_d48b187bf76c/SDG%20Action%20Plan%20(1).pdf)

⁶ Capacity Development for Education (CapED), <https://en.unesco.org/themes/education/caped>

and NSPS 2014. Monitoring the achievement towards the SDG4 target 4.3 may not be done unless high importance is given on linking Madrasah and English Medium schools education.

These documentations prepared detailed listing of indicators under SDG4, but may not be a comprehensive one for all TVET indicators necessary for a holistic TVET MIS. Appendix 2 synergise the indicators required for SDG 4 according to the NIF under CapEd and indicators needed for SDG Action Plan by TMED and HCDP21 indicators for TVET MIS.

2.4 Data Availability

The data generation, collection and dissemination processes of the Bangladesh TVET/Skills Development System are reviewed by studying the existing literatures and also by interviewing some key personnel associated in government offices dealing with TVET data related issues. The data generation process including the data collection and dissemination were assessed from a generic perspective and following institution wise reports were prepared. Two major sources of data are:

- Survey
 - Annual School Census, BANBEIS
 - Surveys done by BBS
- Administrative reporting
 - Reported by institutes
 - PMIS
 - HRMIES (Not yet functioning)
 - BTEB admission and result portal
 - NTVQF online data platform
- Financial Data

The third kind of data necessary for a proper MIS is the financial data.

2.4.1 Bangladesh Bureau of Statistics (BBS)

The Bangladesh Bureau of Statistics (BBS)⁷ is generally centralised with the majority of statistical activities including some education statistics carried out by the BBS. The

⁷ Bangladesh Bureau of Statistics, <http://www.bbs.gov.bd/>

organisational structure of the BBS is on functional lines and for operations such as Census, Agricultural Census, National Accounts, Training etc. for which there are separate subject specialised “Wings” although there is no wing looking after the education statistics. Some of the key requirements of TVET statistics were met through a complete TVET census conducted by the BBS. The periodically administered Literacy Assessment Survey (LAS), Labour Force Survey (LFS) and Multiple Indicator Cluster Survey (MICS) are the priority surveys of the BBS, generating irregular data on many of the TVET indicators. However, in 2015, BBS conducted the TVET Census⁸ that collected information on all the TVET institutions. Although the NSDA recognises the findings of the TVET census, its MIS utility remains limited due to its cross-sectional time reference. Moreover, since the government authorities do not capture data on similar diverse width, the comparability of the TVET census data is also limited.

2.4.2 Bangladesh Bureau of Educational Information and Statistics (BANBEIS)

The BANBEIS⁹ conducts school census every year and publishes the results in annual report format which includes dedicated chapter¹⁰ for TVET institutions. The indicators covered in the 2017 BANBEIS report includes several TVET indicators which are listed in the Table 2.2.

Number of Technical and Vocational Institutions, Teachers and Enrolment by Management and Gender 2000-2017
Technical Institution with respect to establishment period (Independent Institution)
Technical Institution with respect to establishment period (Independent Institution)
Number of Institution, Teacher and Enrolment by Type 2017
Number of Institution, Teacher and Enrolment by management (Attached) 2017
Number of Institution, Teacher and Enrolment in Technical & Vocational Education (All)-
Number of Institution, Teacher and Enrolment by Type, Management and Gender 2017
Number of Institution by Type, Management and Division 2017
Number of Teacher by Type, Management and Division 2017
Enrolment by Type, Management and Division 2017
Number of Institution, Teacher and Enrolment by Location 2017
Average Teacher and Enrolment by Type 2017
Teacher-Student Ratio by Type(independent) 2017
Student of SSC Vocational and HSC (BM) Level by Grade and Gender

⁸ <http://www.nsd.gov.bd/tvet/tvet.php>(Last Accessed 11 MAy 2019)

⁹ <http://banbeis.gov.bd/>(Last Accessed 11 MAy 2019)

¹⁰ <http://data.banbeis.gov.bd/images/ban07.pdf>(Last Accessed 11 MAy 2019)

Student of Diploma Level by Grade and Gender
Gross and Net Enrolment Rate in SSC Vocational
Gross and Net Enrolment Rate in HSC Business Management Level
Gross and Net Enrolment Rate in Diploma Level
Completion Rate, Dropout Rate and Coefficient of Efficiency by Gender (SSC Vocational Level)-
Completion Rate, Dropout Rate and Coefficient of Efficiency by Gender (HSC BM Level)-2017
Completion Rate, Dropout Rate and Coefficient of Efficiency by Gender (Diploma Level) 2017

Table 2.2: TVET indicators collected and reported by BANBEIS

While the BANBEIS data are collected using a sound survey methodology¹¹, the limitations of the data for administrative use is that, it only covers the institutions with the Education Institution Number (EIN) given by the BANBEIS. Notably, high extent of under-coverage remains a challenge, for example, the number of TVET institute surveyed by BANBEIS in 2017 is 5897 whereas the TVET Census reported the number as 13,163. A recent attempt has been made to establish an Integrated Educational Information Management System (IEIMS) under a project where all educational data will be preserved by giving every student a unique identification by relating it to the civil registration and vital statistics (CRVS) database. The proposed project, once implemented will resolve the duplication and under coverage of all the education statistics. However, the project is under way for the educational institutes of the secondary level and a similar counterpart is under way for the primary level by the Directorate of Primary Education (DPE).

2.4.3 Directorate of Technical Education (DTE)

The Directorate of Technical Education (DTE)¹² is responsible for maintaining and enhancing the standard, and quality of technical education by putting out the policies and establishing, guiding and supervising the aided, and government institutions. A perpetual monitoring need is therefore addressed by the agency through its publication of Annual Progress Report¹³. The monitoring needs are partially supplemented by its online reporting of various indicators. For example, the Training Information (Short Course) indicators under the project Skills and

¹¹ <http://data.banbeis.gov.bd/images/ban01.pdf>

¹² Directorate of Technical Education (DTE), <http://www.techedu.gov.bd/>(Last Accessed 11 MAY 2019)

¹³ Annual Progress Report DTE, http://cpanel.smile.com.bd/~techedu/download/Annual_Progress_Report.pdf(Last Accessed 11 MAY 2019)

Training Enhancement Project (STEP) are collected and displayed through STEP website¹⁴, similarly the data on training plan under the DTE are also maintained on the DTE web page¹⁵. The DTE, being the administrative guardian of all the government TVET institutions, keeps the administrative records of the TVET information. However, this administrative recording covers only the number institutions, number of teachers and infra-structural amenities. There is an Annual Performance Agreement (APA) to be reported by the Heads of institution (Principals) to the DG DTE and thereby by DG DTE to TMED. The admission, curricula, examinations and results are under the administrative jurisdiction of the Bangladesh Technical Education Board (BTEB)¹⁶. A recent project on preparation of a Human Resource Management Information System (HRMIS) is under way within the STEP project. The HRMIS is planned be a dash board approach to keep a real time database of all the employees including teachers of the TVET institutions.

2.4.4 Bangladesh Technical Education Board (BTEB)

BTEB is responsible for conducting and controlling examinations and awarding certificates to the graduates of technical and vocational institutions. While BTEB has a highly interactive web page¹⁷ including the archival¹⁸ management for the results of all the public examination under the Board, its data management and production of statistics¹⁹ are mainly in research report forms, for example, enrolment analysis report²⁰. BTEB also keeps data on project specific teachers training and trained teachers in Competency-Based Training (CBT), and annually submits the information directly to TMED and gives a copy to DTE. Not enough arrangement for measuring target-oriented indicators are in place. However, the attempts are there for generating following aspects of statistics:

- Enrolment Statistics
- Annual Enrolment performance agreement
- BTEB Registration Info

¹⁴ STEP, <http://175.29.186.179/std/>(Last Accessed 11 MAy 2019)

¹⁵ http://cpanel.smile.com.bd/~techedu/training_plan/local/(Last Accessed 11 MAy 2019)

¹⁶ Bangladesh Technical Education Board (BTEB), <http://www.bteb.gov.bd/>

¹⁷ <http://www.bteb.gov.bd/>(Last Accessed 11 MAy 2019)

¹⁸<http://bteb.gov.bd/site/page/c587c056-dc08-49b7-8608-713bcec8fba9/%E0%A6%AA%E0%A6%B0%E0%A6%BF%E0%A6%B8%E0%A6%82%E0%A6%96%E0%A7%8D%E0%A6%AF%E0%A6%BE%E0%A6%A8>(Last Accessed 11 MAy 2019)

¹⁹ <http://bteb.gov.bd/site/page/c587c056-dc08-49b7-8608-713bcec8fba9/%E0%A6%AA%E0%A6%B0%E0%A6%BF%E0%A6%B8%E0%A6%82%E0%A6%96%E0%A7%8D%E0%A6%AF%E0%A6%BE%E0%A6%A8>(Last Accessed 11 MAy 2019)

²⁰ http://bteb.portal.gov.bd/sites/default/files/files/bteb.portal.gov.bd/page/0a6d25ca_552d_462f_9059_891da3ad04d6/EnrollmentAnalysis%20Corect%20ffff%20.pdf(Last Accessed 11 MAy 2019)

- Result Statistics
- BTEB Courses
- Course wise Information
- Govt. Polytechnic Institutes
- Govt. Textile Institutes
- Govt. Agriculture Training Institutes
- Govt. Technical School & College
- Govt. Technical Training Center
- Govt. Textile Vocational Institute

National Training and Vocational Qualifications Framework (NTVQF)

The Bangladesh Skills Development System has two components; the National Training and Vocational Qualifications Framework (NTVQF)²¹ and the National Skills Quality Assessment System. Together, these ensure quality, demand-based skills development in Bangladesh. The National Training and Vocational Qualifications Framework (NTVQF) is an initiative of the TVET Reform Project, implemented by the Government of Bangladesh with the support of the ILO and funded by the European Union. The NTVQF is a comprehensive, nationally consistent yet flexible framework for all qualifications in technical and vocational education and training which is being implemented in Bangladesh with the three components: 1) Nationally-recognised competency standards, 2) Competency-Based Training (CBT) Delivery System and 3) Competency Assessment and Certification System (CACCS). The Bangladesh CACCS ensures a nationally consistent approach to assessing whether students are competent in specified areas. The NTVQF project maintains a software based online platform for keeping track of the person being certified and the standardization documents under the project.

2.4.5 Bureau of Manpower, Employment and Training (BMET)

Bureau of Manpower, Employment and Training (BMET)²² was established in line with the ILO Convention 87, 88, 96 and 97 with specific purpose of meeting the manpower requirement

²¹ Fact Sheet, National Training and Vocational Qualifications Framework (NTVQF), TVET Reform Project at ILO, https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms_233798.pdf

²² <http://bmet.org.bd/BMET/index>(Last Accessed 11 May 2019)

of the country and for export of manpower as well. BMET is engaged for overall planning and implementation of the strategies for proper utilization of manpower of the country. The agency is contributing to the data management systems of TVET in a sporadic way, particularly, by means of reports and research activities. BMET provides online training data²³ and statistics on foreign employment²⁴ by its webpages.

2.4.6 National Skill Development Authority (NSDA)

The mission of Bangladesh Skill Development Authority (NSDA)²⁵ is to help achieve rapid and progressive economic growth through the creation of skilled manpower in the country. Similar to the BMET, NSDA provides data through the reports like TVET Census²⁶, NSDA annual report²⁷ and TVET providers Survey²⁸ etc.

2.4.7 Coordination among the agencies

Although the above described TVET data management system is not a structured MIS, a major part of management information in the sector is built upon it. The data generated by the agencies mentioned above are of two categories:

1. Collected by the government TVET authorities (TMED, DTE, BTEB, BMET, NSDC) through administrative records and reporting.
2. Collected by the government statistical agencies (BBS, BANBEIS) through census or survey.

While the second type of data are generated for the sole purpose of dissemination to public and as a result are published in the form of comprehensive reports. Should other agencies need these data, they can have ready access to it. However, the first kind of data are not often made public and the inter-agency sharing of such data is also not very systematic. The whole sector, being of multi-custodian nature, the access of one agency in other agency's data becomes necessary. In cases of such requirement of a specific data by one of these agencies, they can collect them on request or need to keep record by their own. This opened up a space of

²³ <http://bmet.org.bd/BMET/trainingHomeAction>(Last Accessed 11 MAy 2019)

²⁴ <http://www.old.bmet.gov.bd/BMET/statisticalDataAction>

²⁵ <http://www.nsd.gov.bd/en/home/>(Last Accessed 11 MAy 2019)

²⁶ <http://www.nsd.gov.bd/tvet/tvet.php>(Last Accessed 11 MAy 2019)

²⁷ <http://www.nsd.gov.bd/wp-content/uploads/2016/10/AnnualReport2016-17.pdf>(Last Accessed 11 MAy 2019)

²⁸ <http://www.nsd.gov.bd/wp-content/uploads/2016/09/SurveyReport.pdf>(Last Accessed 11 MAy 2019)

duplication of effort among the agencies. Figure 2.2 shows the flow of data among agencies. Data are collected at all kind of institutions including engineering colleges, polytechnic institutes, technical school and colleges and also from technical training centres. These institution level data for most of the currently covered indicators are rounded up in three major pathways. The School census data are managed and summarized by the BANBEIS, the administrative data, mainly admission data are corresponded to the BTEB and the TVET survey was conducted by BBS and these data are corresponded to the NSDA. The admission data of the technical training centres are communicated to BMET. There is no structured or default setup for DTE to receive these data, DTE collects occasional and need based data on request from the BANBEIS and BTEB data base, however, there is no data flow from BMET or NSDA to DTE.

2.4.8 Financial Data

The third kind of data necessary for a proper MIS is the financial data. The agencies maintain an administrative set up for the continuous monitoring of the budgeted and spent amount of money under the specified heads of expenditure. A government approved online platform named Integrated Budget and Accounting System (IBAS) has been made mandatory for all the revenue expenditures of the government organizations. The DTE budgeting is done on the basis of demand from individual institutes and evaluation and approval of two committees, namely Budget Working Group (BWG) and Budget management Committee (BMC). The approved budget is sanctioned to individual institutes under 50 heads of expenditures and the institutions are needed to spend complying the IBAS and to upgrade and update about the expenditure every month. The other agencies like DME, BMET and BTEB have the same financial set ups. Besides being in line of the IBAS, the individual agencies keeps a paper based information system which is updated periodically. The online software of the National Training and Vocational Qualifications Framework (NTVQF) under BTEB had options for tracking the real time expenditure data but due to the complexity of the management of such data, these features are kept dormant in the current system.

For project financing, a similar pattern of data management is adopted, the compliance of the IBAS and per month reporting on the 50 expenditure heads is mandatory for all project financing. However, the norms and practices of the reporting may differ for different types of project and partners. All these are done mainly on paper based documentation, no online

platform for data tracking has been in force. Like the provision of NTVQF software, HRMIS was intended to keep these on board which is yet to be in operation.

The fundamental challenge associated with managing the financial data even in its current set up with the IBAS in practice, is that, the institution level manpower is not trained with the technical aspect of the financial issues.

2.5 Gaps and challenges

From the above description, it may be observed that the data generation, collection and dissemination processes of the Bangladesh TVET/Skills Development System are not fully systematic, useful, comprehensive and/or timely during designing interventions or taking and

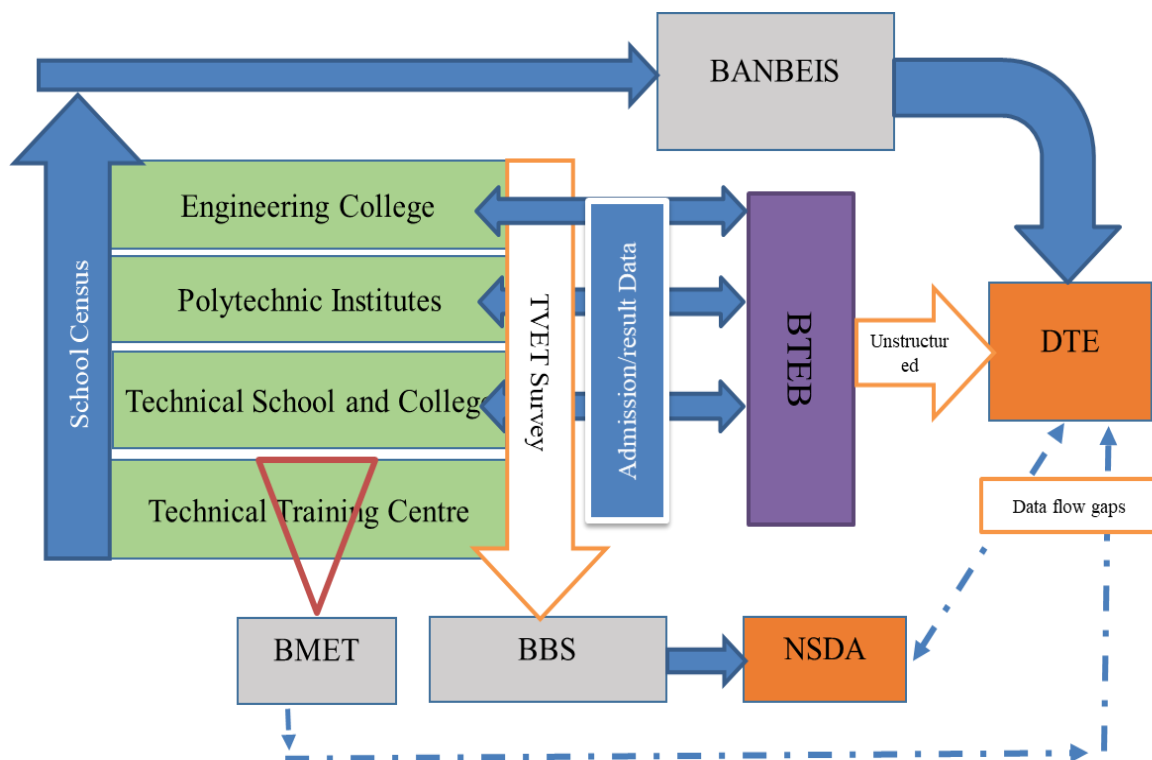


Figure 2.2: Data flow and coordination among agencies

policy decision. The major issues associated with the data system of the TVET/Skills Development System can be of the following types:

1. Coverage
 - a. Indicator wise
 - b. Disaggregation wise
2. Flow
 - a. coordination

- b. dissemination
- 3. Quality
 - a. Timeliness and periodicity
 - b. Accuracy and reliability
- 4. Other aspects of managements
 - a. Lack of coordination
 - b. Technical capacity
 - c. Human resource capacity

Each of these aspects will be discussed in details in the following sections.

2.5.1 Non-coverage of indicators

In comparison with the data needs, the whole TVET/Skills Development data System reflects a lack of coverage of the indicators. The BTEB has enrolment statistics only on the basis of admission records and completion statistics on the basis of result records of the current/currently passed students. These statistics may be available at a gender disaggregated level but other disaggregation does not seem viable. Attempts has been underway to produce data disaggregated by minority people with disability (PwD). Course or trade wise information are not produced. Moreover, since follow up data on individual students are not captured, computation of many indicators including dropouts and placement becomes unattainable. While DTE keeps the administrative records of the government institutions and their teachers and BTEB has the enrolment records, the computation of a number of indicators like teacher student ratio needs collating data from both sources which are done on an ad-hoc basis.

2.5.2 Non-coverage of institutions

Presence of a huge number of private and NGO governed TVET institutions in the country makes the administrative data of government TVET authorities susceptible for use as national indicators. Although BTEB has the regulatory authority on these institutions, proper data are available for only the institutions that offer SSC (voc), HSC (voc) or Diploma. There is no mechanism of keeping data on different short and long course (out of BTEB curricula) training enrolment. Even the enrolment records of some customised training by BMET are not covered in the BTEB data.

2.5.3 Lack of coordination

Technical and Madrasah Division (TMED), Directorate of Technical Education (DTE), Bangladesh Bureau of Educational Information and Statistics (BANBEIS), Bangladesh Technical Education Board (BTEB) and Bangladesh Bureau of Statistics (BBS) – all have their respective MIS, which supports their day-to-day functions and discharge the assigned responsibilities. However, exchange and shared use of such MIS data among these agencies do not happen very often, and if such sharing is needed the procedure is difficult and time consuming. Figure 2.2 shows this lack in coordination. Moreover, there are around 23 ministries in the country who deals with TVET and maintain their own data base. Sometimes, the TVET activity and endeavour of one ministry is not even in knowledge of other ministries, the issue of data sharing in such situation becomes out of the question. This, sometimes, also results in duplication of training, same person taking part in trainings of different ministries and duplication of programs etc. Should there be a proper coordination in data management system, these kind of anomalies could have been avoided.

2.5.4 Timeliness and periodicity

While the administrative data are collected and preserved in a timely manner but not published regularly, the data generated through censuses and surveys are published, some of them at isolated time point when the survey or census is conducted (e.g. TVET Institution Census conducted by BBS and published by the National Skill Development Council Secretariat), and some of them are published at a regular interval (like Labour Force Survey of BBS, School censuses conducted by BANBEIS). Some of them are brought out in the form of study reports by different Divisions and Directorates of the Government, the Development Partners and research organizations. The primary data and information collected by the organizations as parts of the studies conducted by them are sporadic in terms of time. This intermittent data are often needed to be combined or matched with the data generated at a regular periodicity causing inaccurate decision-making.

2.5.5 Accuracy and reliability

The administrative data as well as the data generated in the school census are collected through a self-reporting system administrated by the Heads of the institutions. This mode of data

collection always is subject to intentional or unintentional misreporting posing challenges to the accuracy of the data. This threat of inaccurate data reporting also raise question on the reliability of such data. However, the survey and census data collected by the BBS are administered through questionnaire based face-to-face interviews and hence render better accuracy and reliability. A quantitative assessment of the data quality of the DTE data was done on the basis of a structure questionnaire, a score of about 10% was scored by the current data set up in terms of accuracy and reliability. Figure 2.3 gives clear idea of the data quality of the DTE data system under the following principles:

- Principle 1: Policy and legal framework
- Principle 2: Adequacy of resources
- Principle 3: Relevance
- Principle 4: Sound Methodology
- Principle 5: Accuracy and reliability
- Principle 6: Periodicity and timeliness
- Principle 7: Consistency
- Principle 8: Accessibility and clarity

A detailed of the scores achieved is given in the Appendix 3.

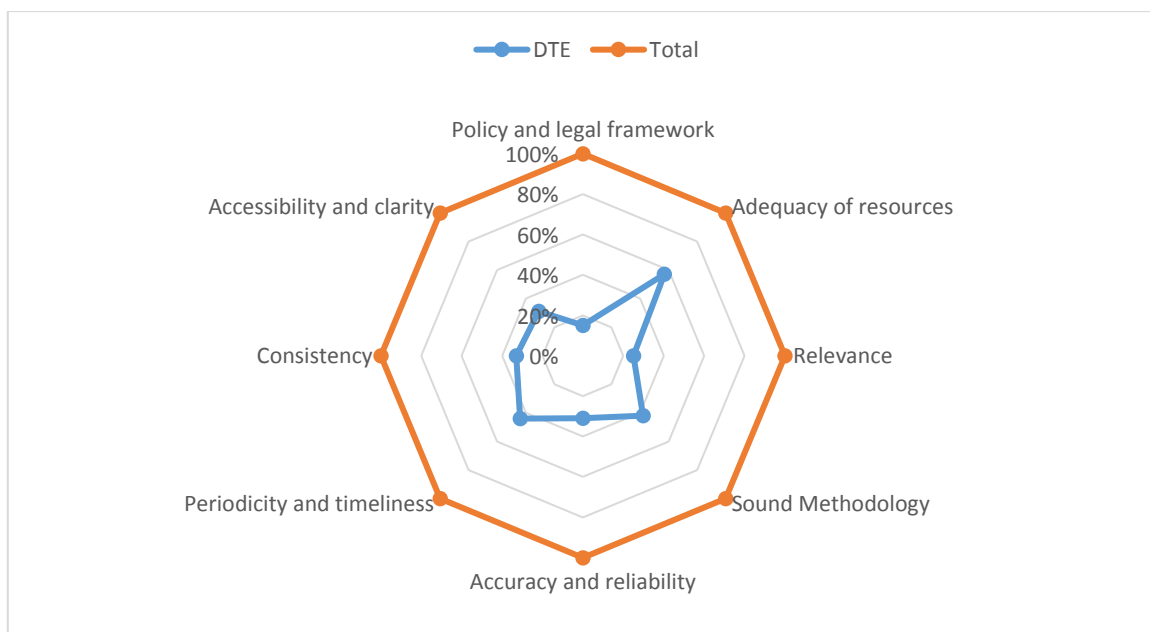


Figure 2.3: Data Quality Assessment of DTE

2.5.6 Lack of culture of data use

Inadequate flexibility regarding adoption of the concept of ‘evidence-based policy making’ by decision makers coupled with the lack of capacity of the institutions and their staff in understanding and analysing data, shaping the development narrative accordingly has made the data management system more complicated. This eventually lead to lack of cooperation between producers and users and lack of awareness in following modern and scientific methods in data gathering;

2.5.7 Technical capacity (data system and dissemination)

The functionality of the system within the BBS, BANBEIS, DTE, DME, BTEB and BMET and their sub-national levels entities are not readily harmonized in terms of making the data accessible by public preferably through web. Not enough planning and guidelines are visible in case of the said agencies in implementation, maintenance and regular updating of software for the administrative data. The record keeping formats/mechanism and data visualization tools are in needs of improvement in light of the latest technologies.

2.5.8 Human resource capacity

The agencies relevant to the TVET data management systems are found to be in shortage of trained human resources for the MIS as well as the retention rate of skilled personnel seems not that promising. Most of the data in the TVET sector are originated at the institution level and reported by the institution level human resources who do not have delegated training on the technical aspects of data collection and managements. Moreover the diversity of the data types that include issues from finance to psychology and environment, the human resources at the institution level lack the capacity of handling or managing these hierarchy of data types. The use of online reporting as a tool for data transfer further poses challenge to the capacity of the human resources.

2.6 Data Mapping

Looking into the sections 2.2, 2.3 1n4 2.4, the core indicators needed in light of HCDP 21 and in light of SDG can be identified. A generalist mapping of which of these indicators are

available and which one is to be collected by which agency are analysed. Also the above discussed data gaps are also kept into consideration in mapping the TVET data. The analysis is done in three perspective, using the core set of indicators needed under HCDP 21, using the core set indicators needed under SDG, using a combined set of indicators needed under both HCDP 21 and SDG.

2.6.1 Using the core set of indicators needed under HCDP 21

A detailed exercise on the different HCDP 21 performance indicators is made and the following features for each of the indicators are identified:

- a. Measurement Unit
- b. Type of information available/required
- c. Primary Source of information (Current Practice)
- d. Secondary Source of information (Current Practice)
- e. Periodicity/Timeliness/Frequency of reporting
- f. Agency responsible for reporting

The challenges associated with each of these indicators and any possible support required are also examined. Appendix 1 gives a detailed discussion of these analysis.

2.6.2 Using the core set of indicators needed under SDG

Relating to the TVET indicators under the SDG 4, the global indicators, thematic indicators are listed and any additional indicators to be added are also examined. These indicators associated with the project indicators and the agency in charge or responsibility of the indicator are analysed. The details of these are given in Appendix 2.

2.6.3 Using a combined set of indicators needed under both HCDP 21 and SDGs

While the mapping in the above two sections focus mainly on HCDP 21 indicators and the SDG 4 indicators, it came up from the many discussions and interviews of the Key policy level people that many other indicators are to be captured under the umbrella of TVET MIS if it is to be given a comprehensive structure. Appendix 3 detailed all these indicators under HCDP 21 and other programs in TVET, SDG 4, SDG 8 and some other cross cutting goals of SDG that closely or remotely relate to TVET indicators. These indicators are also coordinated with the national indicator framework (NIF) prepared by the BANBEIS under technical support

from the UNESCO. The analysis is done for each of the identified global, national and NIF indicators and chalked out the issues related to data availability, linkage to DTE, BTEB Project indicators (i.e, linkage to HCDP 21 targets), BANBEIS Indicators and/or MIS Review indicators. A total of 36 global indicators under different goals of the SDG show relevance with the TVET sector. Table 2.3 gives the availability of these global indicators and it can be observed that of the 36 global indicators, 14 (about 40%) are available in the current data structure. Figure 2.4 shows the distribution of the Global indicators relating to TVET under different SDGs.

Goal	No. of Indicator	Data Availability		
		Available	Partially Available	Not Available
Goal 1	2		2	
Goal 2	2		2	
Goal 3	2	2		
Goal 4	2		2	
Goal 5	3	2	1	
Goal 6	2	2		
Goal 8	17	5	9	3
Goal 9	1	1		
Goal 10	2	2		
Goal 17	3		2	1
Total	36	14 (40%)	18 (50%)	4 (10%)

Table 2.3: TVET related SDG global indicators and their availability

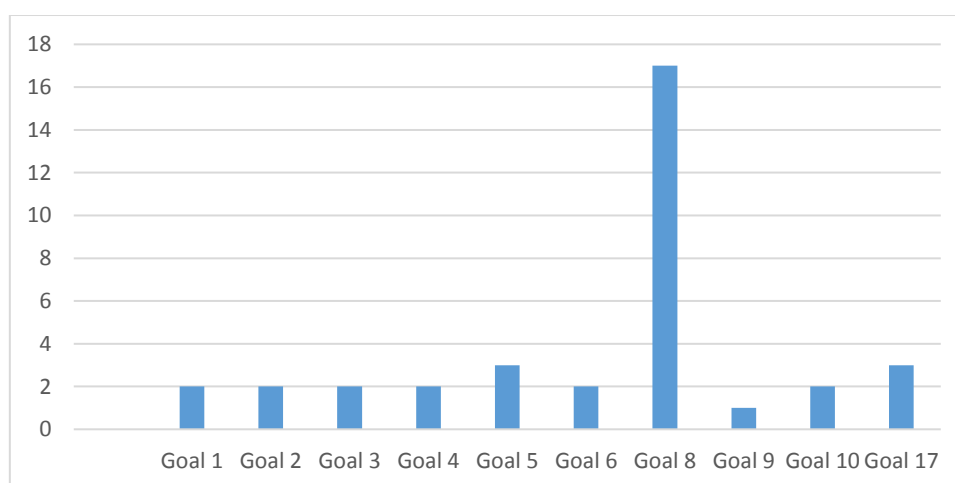


Figure 2.4: Number of TVET related indicators under different SDG

The national indicators are derived from analysing the DTE, BTEB Project indicators, BANBEIS Indicators and/or MIS Review indicators along with the NIF for SDG 4 produced by the BANBEIS. The category wise availability of these indicators is listed in Table 2.4 while

the distribution of the indicators in these few categories is presented in Figure 2.5 and the overall availability is presented in Figure 2.6.

Clearly notable that about 64% of the TVET national indicators of importance are not available. Under the SDG 4, the number of TVET indicators needed is 64 of which 41 indicators are yet to be available while all the 32 indicators relating to TVET under other SDGs are not available.

National Indicators				
Goal / Project	No. of Indicator	Data Availability		
		Available	Partially Available	Not Available
SDG 4	64	3	20	41
DTE	17			17
BTEB	5			5
Other SDGs	32			32
BANBEIS	30	30		
MIS Review	4		2	2
Total	152	33	22	97

Table 2.4: TVET related national indicators and their availability

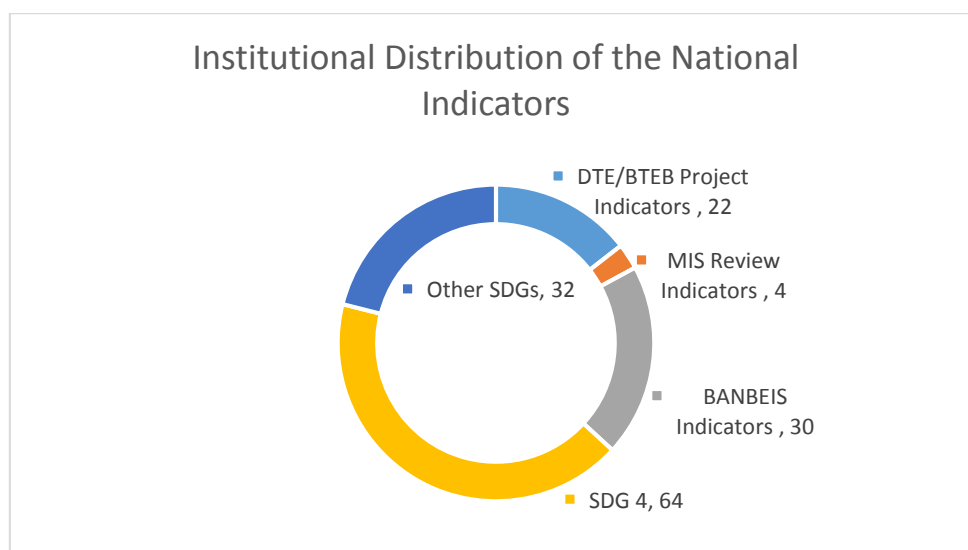


Figure 2.5: Institutional Distribution of the National Indicators

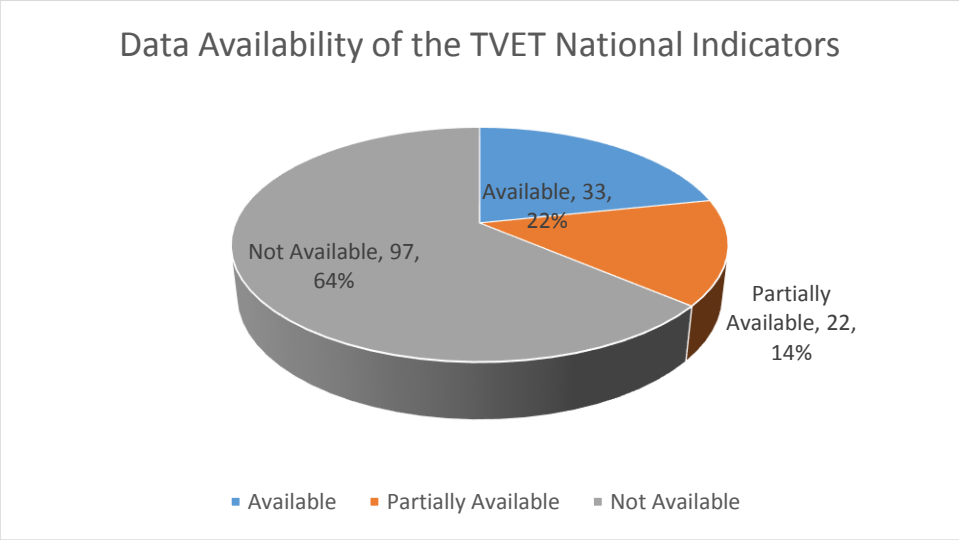


Figure 2.6: Overall Data Availability of the TVET National Indicators

CHAPTER 3

RECOMMENDATION

From of the above-mentioned discussion along with the aims and objectives under the NEP 2010, NSDP 2011, 7th FYP and HCDP 2021, it can be comprehended that to keep up with the revision process of the above strategic documents, a stringent monitoring process of the achievement of these aims deems essential. The lack of holistic, accurate, reliable and timely data continues to be a major constraint to the lack of holistic, accurate, reliable and timely data continues to be a major constraint to

- i. the effective monitoring and evaluation of current development interventions;
- ii. the effective monitoring of the SDG indicators aligned with the TVET sector;
- iii. generate evidence about the effectiveness of existing policies and programmes; and
- iv. prioritising and forecasting future sectorial needs.

A sound monitoring and evaluation framework is therefore of immense importance. An adequate data system constituting of a software based management information system (MIS) satisfying the quality criteria of statistics for monitoring is needed to be in action. The following key recommendations may be taken into considerations:

1. **Coverage:** The data collection on admission and results by BTEB may be extended to make a wider coverage. The BTEB can also produce information system including the trades, syllabi, teachers' Info, results archive and admission data to construct a more comprehensive student data base. The teachers' training data system can also cover information on individual teachers' previous training background. Notable that these teacher specific database is not kept by the DTE too. DTE should organize some mechanism so that teacher specific data may be available for administrative purpose in a simpler way. The attempts on the Human Resource Management Information System (HRMIS) may help in this cause, but it is needed to be realized as soon as possible.

When data coverage is under consideration, it is important to keep privatized and NGO governed TVET endeavour. From both the perspectives of trained personnel and trained trainer, these segments of TVET has a role in the construction of statistics and information systems. Note that the BTEB does not keep the records of the students other than the examination results after the result of the student is published. If a student comes from a private institution and passes a BTEB examination, it will be difficult to track the record of the student. Similarly, TTTC has provision for enrolling non-government participant in their training courses whose records also become untraceable after they graduate.

2. **Coordination:** With ever expanding scope of the TVET sector management, there arises the need for periodic review of the status of availability of quality information and data and the system that generates, reports and disseminate the same. A coordination mechanism among the BTEB, DTE and DME is essential where the information sharing and inter-agency reporting system becomes more frequent and spontaneous.
3. **Data Collection:** to promote policies and actions to enable strong data systems the collection of data needed to be more rigorous. The self-reporting means of data collection from the Head of the institution is needed to be replaced by more formatted data entry in a preferably automated system which can be cross verified.
4. **Interactive shared access:** The integration of statistical systems is expected for diverse data sets in order to be coherent, relevant and user friendly for dissemination, analysis, inference and decision support. A real time database for multiple agencies could be a solution in this regard. It may be organized by
 - a. enabling DTE to have administrative shared access to the BTEB data system so that DTE may retrieve essentially required information on teachers training or student enrolment at a real time whenever it is needed and vice versa. Similar arrangement with BMET can also be made. The HRMIS under STEP project, once implemented, may enable similar features for teachers and other employees of public institutes, but for students and other indicators the software

will be needed to be upgraded or new software will be needed. Moreover the implementation of the HRMIS is needed to be completed as soon as possible.

- b. The integration framework may include data/statistic agencies like BANBEIS or BBS for a stringent verification of the information in the system. To this end, it is also needed to be taken into consideration that a small segment of TVET trained personnel who are getting bachelor or higher degree are not accounted for in the BTEB system since their admission and examinations are held under different regulating universities. Their data base also are needed to be integrated with any prospective wide-ranging TVET MIS.
5. **An Integrated TVET MIS:** A comprehensive TVET MIS can be planned by assimilating the Integrated Educational Information Management System (IEMIS), a recently undergoing project under BANBEIS. In this proposed system, all educational data will be collected, produced and preserved by giving every student of every institute a unique identification by relating it to the civil registration and vital statistics (CRVS) database. While the project under BANBEIS focuses on only the educational institutes of the secondary level, a parallel project is under way for the primary level by the Directorate of Primary Education (DPE). The listing of the TVET institutions (under the management of DTE, BMET and other authorities) may be upgraded and they can be merged with the system of IEMIS to establish a live database of the TVET sector. A project can be proposed for such an initiative which, in the long run, will resolve the quality issues including accuracy, duplication, under coverage and reliability of all the TVET statistics.
6. **Technical capacity (data system and dissemination):** To improve data quality, functionality of the system within the DME, DTE, BTEB and their sub-national levels entities are required to be harmonized. The following recommendations can be made:
- a. Both the administrative data of BANBEIS, DTE, DME and TVET and the survey data of LAS, MSVSB and MICS will be needed to be under this arrangement. If cost is to be associated with making the data public a proper authorization for setting the price is needed to be set in the policy guidelines. If and when public access is given for a certain data, assistance should be provided to the users and monitored periodically.

- b. Implementation, maintenance and regular updating of software for the administrative data producers BANBEIS, DTE, DME and TVET should be planned and guided.
 - c. Improved record keeping formats/mechanism and cutting edge data visualization tools may be introduced at the institution level.
- 7. **Human resource capacity:** To keep the TVET data system sustainable, adequate number of human resource with training on statistical system is needed to be recruited and retained. The following specific issues need to be addressed:
 - a. The specific staff recruitment needs and staff retention policies of BBS, BANBEIS, DPE, DTE, DME, BNFE and other data agencies should be defined.
 - d. Adequate training facilities for capacity development are needed to be in place for them.
- 8. **Policy level recognition:** Policy level recognition of the needs of an integrated TVET MIS has to be mandated by all stakeholders in TVET including the government of Bangladesh. To start with, the DTE may form a Technical Working Group to agree on the indicators and the format of the Sector Performance Monitoring Report.
- 9. **An acceptable set of Core data:** To address to the need for monitoring different level of global and local targets and commitments with development partners, for example, the SDG, HCDP etc,
 - a. a set of core indicators necessary to be followed has to be determined in consensus of all the agencies associated with TVET activities.
 - b. of the core set, decision should be taken on what data are available and what more (according to different local and global goals) indicators should be added.

Appendix 1

Mapping of the HCDP 2 Indicators

Performance indicator 2.1: Increased number of TVET trainers trained and certified

Type of information available/required	<ol style="list-style-type: none"> 1. List of trained teachers in CBT 2. Project specific teachers training information
Primary Source of information (Current Practice)	<ol style="list-style-type: none"> 1. BTEB 2. DTE Training cell and Respective project office
Secondary Source of information (Current Practice)	<ol style="list-style-type: none"> 1. Training cell (copy of information shared by BTEB)
Key responsible person to compile the information	<ol style="list-style-type: none"> 1. BTEB (director curriculum) 2. Director Admin (for DTE training cell)
Periodicity	Annual
Timeliness/Frequency of reporting	<ul style="list-style-type: none"> - End of fiscal year (within a month) - Quarterly submission of the info (Annual performance agreement (APA) cell under director admin)
Agency responsible for reporting	<ol style="list-style-type: none"> 1. BTEB directly submits the information to TMED and gives a copy to DTE. 2. Training cell of DTE keeps information for teachers training under the projects.
Challenges	<ol style="list-style-type: none"> 1. BTEB submission to TMED are not always shared with DTE. 2. There is a structured process which sometimes is not followed. 3. Duplication of information due to inconsistency in collection and submission of information by DTE. 4. No central database is maintained at DTE. There is an ICT cell which is currently lacks structured information processing system. It receives information from BTEB.

Performance indicator 2.2: Increased enrolment rates in TVET (total and disaggregated by gender, PwD, minorities)

Number of students enrolled in TVET (total and disaggregated by gender, minorities, People with disability)

Type of information available/required	All types of information regarding enrolment (total and disaggregated by gender, minorities, People with disability)
Primary Source of information (Current Practice)	BTEB is the primary source (Director Curricula)
Secondary Source of information (Current Practice)	Mainly BTEB, and respective TVET institutes under DTE. However, Director P&D submits information by collecting from BTEB
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Annual
Timeliness/Frequency of reporting	- End of fiscal year (with in a month) - Quarterly submission of the info (Annual performance agreement (APA) cell under director admin)
Agency responsible for reporting	BTEB
Challenges	No designated cell or office at the DTE to preserve and document students information. It relies (manually) on its own institutes some times for collecting and reporting enrolment information
Support required	ICT cell (under director PIU) should have the central data base, to be linked with the BTEB central database which has enrolment information from other organizations.

Performance indicator 2.3: Development and implementation of a National Qualification Framework

- 2.3.1. Whether Draft NQF is available
- 2.3.2) Whether Validation and consultation has been done on draft NQF
- 2.3.3) NQF finalized and approved
- 2.3.4) Implementation Strategy and costed action plan for NQF has been developed.

Measurement Unit	Yes/No
Type of information available/required	Relevant policy and focal persons
Primary Source of information (Current Practice)	No activity has been done so far in this regard
Secondary Source of information (Current Practice)	No activity has been done so far in this regard
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Annual
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	MoE
Challenges	

Performance indicator 2.4 Planning, performance measurement and M&E practices in TVET

2.4.1) Data needs of TMED, DTE, BTEB, reviewed

Measurement Unit	Yes/No
Type of information available/required	1. Indicators in the Annual Performance Agreement (APA) for DG DTE to TMED, Principals to DG DTE 2. Other GOB reporting indicators
Primary Source of information (Current Practice)	1. DTE (Planning and Development wing) 2. TMED (Planning wing)
Secondary Source of information (Current Practice)	BTEB
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Every semester (half-yearly)
Agency responsible for reporting	TMED
Challenges	DTE has its own Data management system which is apparently disconnected, hence less coordinated among different wings of the directorate

2.4.2) Existing data collection/ generation/ management system of BANBEIS, BBS and BTEB reviewed

Measurement Unit	Yes/No
Type of information available/required	Current architecture of the data base
Primary Source of information (Current Practice)	BANBEIS
Secondary Source of information (Current Practice)	BBS
Key responsible person to compile the information	Deputy Director(planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Occasional
Agency responsible for reporting	DTE and BTEB
Challenges	1. BBS data are occasional survey based 2. BANBEIS data are only for the institutions having EIN given by BANBEIS (which are different from the identification of BTEB) and based on yearly reporting 3. Lack of Coordination

2.4.3) Key data gaps identified to meet the supply and demand side data needs

Measurement Unit	Yes/No
Type of information available/required	Current architecture of the data base
Primary Source of information (Current Practice)	BANBEIS, DTE
Secondary Source of information (Current Practice)	
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Occasional
Agency responsible for reporting	DTE
Challenges	1. While indicators 2.1 and 2.2 are available in current setups, non coverage is a concern due to exclusion of institutions

2.4.4) Current performance monitoring and reporting practices at TMED, DTE and other relevant institutions reviewed

Measurement Unit	Yes/No
Type of information available/required	Current architecture of the M&E System
Primary Source of information (Current Practice)	APA Principals to DG DTE, DG DTE to TMED, TMED to Minister under director Admin
Secondary Source of information (Current Practice)	
Key responsible person to compile the information	TMED
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Occasional
Agency responsible for reporting	DTE
Challenges	Other than the BTEB examination and admission data, the performance monitoring and reporting practices are unstructured. No option for validation and monitoring of these reporting system.

2.4.5) Key Sector Performance Indicators determined with baseline and targets

Type of information available/required	1. Indicators in the Annual Performance Agreement (APA) for DG DTE to TMED, Principals to DG DTE 2. Other GOB reporting indicators
Primary Source of information (Current Practice)	APA is the basis the respective APA formats are prepared for principals, DG DTE.
Secondary Source of information (Current Practice)	
Key responsible person to compile the information	APA Cell under director admin
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	information are also collected and reported quarterly
Agency responsible for reporting	DTE for DTE info
Challenges	1. Only quantitative information related target vs achievement is reported in the APA. Qualitative information cannot be collected. 2. No structured reporting format for qualitative information is not there. However there is a provision of Principal's conference (in every three months) and minutes are recorded regarding qualitative gaps, problems etc., 3. Excellent APA reporting system is there with all indicators application and/or required however, there are very less option for monitoring and validating the information provided in the APA.

2.4.6) A comprehensive TVET MIS is developed

Type of information available/required	Document and Software
Primary Source of information (Current Practice)	ICT Cell, DTE
Secondary Source of information (Current Practice)	BTEB
Key responsible person to compile the information	Director Admin (DTE)
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	1. The HRMIS under STEP project, is not fully implemented, this is only for students and other indicators does not enable similar features for teachers and other employees of public institutes. 2. BTEB has online data system for courses, enrollment, training etc. but not coordinated so as to be retrieved by DTE. 3. Similarly BMET data are also not coordinated with other data sources.

2.4.7) Develop and finalize TVET sector performance monitoring framework (SPMF)

Type of information available/required	Document and Software
Primary Source of information (Current Practice)	Planning and Development Cell, DTE
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	No activities is observed so far. NSDC has initiated some activities which are yet to be integrated with DTE.

2.4.8) Develop and finalize sector performance reporting plan through stakeholder consultation

Type of information available/required	Document and Software
Primary Source of information (Current Practice)	Planning and Development Cell, DTE
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	

2.4.9) Staff are oriented and capacitated to use the provisional TVET MIS

Type of information available/required	Training
Primary Source of information (Current Practice)	ICT Cell
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director Admin (DTE)
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	Yet to be done

2.4.10) The provisional TVET MIS is field tested.

Type of information available/required	Report of field test
Primary Source of information (Current Practice)	ICT Cell
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director Admin (DTE)
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	Yet to be done

2.4.11) Staff capacity of TMED, DTE and other relevant institutions strengthened to use SPMF and report accordingly

Type of information available/required	Training outcome
Primary Source of information (Current Practice)	Planning and Development Cell, DTE
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	Yet to be done

2.4.12) A robust SPMF is in place and practiced with periodic data collection on key performance indicators

Type of information available/required	Policy/agreement
Primary Source of information (Current Practice)	Planning and Development Cell, DTE
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	Yet to be done

2.4.13) The MIS is finalized based on field testing and further stakeholder consultation

Type of information available/required	Workshop
Primary Source of information (Current Practice)	ICT Cell, DTE
Secondary Source of information (Current Practice)	To Be Decided
Key responsible person to compile the information	Director Admin (DTE)
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	Yet to be done

2.4.14) Staff capacity enhanced on the use of data and managing MIS.

Type of information available/required	Training outcome
Primary Source of information (Current Practice)	Training cell under director admin
Secondary Source of information (Current Practice)	TBD
Key responsible person to compile the information	Director Admin (DTE)
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	TBD

2.4.15) Annual Sector Performance Reporting template agreed and tested

Type of information available/required	Policy/agreement
Primary Source of information (Current Practice)	Planning and Development Cell, DTE
Secondary Source of information (Current Practice)	TBD
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	TBD

2.4.16) Periodic tracking of progresses made and reported

Type of information available/required	Evaluation report
Primary Source of information (Current Practice)	Planning and Development Cell, DTE
Secondary Source of information (Current Practice)	TBD
Key responsible person to compile the information	Director (planning and development), DTE
Periodicity	Every semester (half-yearly)
Timeliness/Frequency of reporting	Not applicable at this stage
Agency responsible for reporting	DTE
Challenges	TBD

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
Goal 4: Ensure inclusive and equitable education and promote lifelong learning opportunities for all	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	Partially available; Disaggregation required	4.3.1 (a) Participation rate of youth in formal education and training in the previous 12 months, by sex	Partially available; Disaggregation required						
			4.3.1 (b) Participation rate of adults in formal education and training in the previous 12 months, by sex	Partially available; Disaggregation required						
			4.3.1 (c) Participation rate of youth in non-formal education and training in the previous 12 months, by sex	Partially available; Disaggregation required						
			4.3.1 (d) Participation rate of adults in non-formal education and training in the previous 12 months, by sex	Partially available; Disaggregation required						
			4.3.1 (e) Gender Parity Index in formal education and training	Available						
			4.3.1 (f) Gender Parity Index in non-formal education and training	Available						
			4.3.3 (a) Participation rate in technical-vocational programmes (15 to 24-year olds), by sex	Student of SSC Vocational level by grade and gender	Available					
				Student of HSC (BM) level by grade and gender	Available					
				Student of Diploma level by grade and gender	Available					
			4.3.3 (b) Percentage of intake capacity in TVET system by level and type of skills/training, by sex	No. of TSC established in upazilas (DTE)	Not available					
No. of new vocational institutes established lab facilities for SSC vocational course	Not available									
No. of new vocational institutes established for short courses (BTEB)	Not available									

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators						
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators
				No. of new BMTC institutes established for HSC BM course (BTEB)	Not available	Number of Institution, Teacher and Enrolment by management (Attached) 2017	Available		
				No. of new polytechnic institute established for diploma in engineering (DTE)	Not available	Number of Institution, Teacher and Enrolment in Technical & Vocational Education (All)	Available		
				No. of new polytechnic institute established for medical, agriculture and other diploma courses (DTE)	Not available	Number of Institution, Teacher and Enrolment by Type, Management and Gender 2017	Available		
				No. of new polytechnic institutes established in districts (DTE)	Not available	Number of Institution by Type, Management and Division 2017	Available		
				No. of Mohila/Female Polytechnic institute established in divisional HQ (DTE)	Not available	Number of Institution, Teacher and Enrolment by Location 2017	Available		
				No. of Mohila/Female TSC established in divisional HQ (DTE)	Not available				
				No. of engineering colleges established in 4 districts (DTE)	Not available				
				No. of non-government technical schools developed physical infrastructure	Not available				
				No. of business management colleges developed physical infrastructure	Not available				
				No. of CSE established in hill tract districts	Not available				
				No. of upazilas in haor, char and hill tracts established mobile training workshop	Not available				
			4.3.3 (c) Dropout rate in technical-vocational programmes, by level and by sex	Not available		Dropout Rate at SSC Vocational level by gender	Available		
						Dropout Rate at HSC BM level by gender	Available		

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators									
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators		
							Dropout Rate at Diploma level by gender	Available				
		4.1.4 (c) Completion rate of upper secondary/Madrasa education including TVET, by sex	Not available				Completion Rate at SSC Vocational level by gender	Available				
							Completion Rate at HSC BM level by gender	Available				
							Completion Rate at diploma level by gender	Available				
							Coefficient of Efficiency at SSC Vocational Level by gender	Available				
							Coefficient of Efficiency at HSC BM Level by gender	Available				
							Coefficient of Efficiency at Diploma level by gender	Available				
		4.1.5 (d) Out-of-school rate for children of upper secondary/Madrasa school age including TVET, by sex	Partially available; Disaggregation required									
		4.1.5 (j) Gross enrolment ratio at upper secondary/Madrasa education including TVET, by sex	Partially available; Disaggregation required	Percentage of enrollment in TVET, by sex (BTEB)	Not available		Gross enrolment rate in SSC Vocational	Available	2.2 Increased enrolment rates in TVET (total and disaggregated by gender, PwD, minorities)	Partially available		
							Percentage of female enrolled in TVET	Not available	Gross enrolment rate in HSC Business Management Level	Available		
							Percentage of differently abled people enrolled in TVET	Not available	Gross enrolment rate in Diploma Level	Available		
		4.1.5 (m) Net enrolment rate at upper secondary/Madrasa education including TVET, by sex	Partially available; Disaggregation required				Net enrolment rate in SSC Vocational	Available				
							Net enrolment rate in HSC Business Management Level	Available				
							Net enrolment rate in Diploma Level	Available				
							Enrolment by Type, Management and Division 2017	Available				

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
			4.3.5 (a) Percentage of youth in job markets after completing TVET courses, by sex	Not available						
			4.3.5 (b) Percentage of adults in job markets after completing TVET courses, by sex	Not available						
			4.4.4 (a) Percentage of youth receiving entrepreneurship training, by sex	Not available	No. of trainees received apprenticeship training	Not available				
			4.4.4 (b) Percentage of adults receiving entrepreneurship training, by sex	Not available						
			4.6.3 (d) Participation rate of illiterate youth in TVET programmes, by age and by sex	Not available						
			4.6.3 (e) Participation rate of illiterate adults in TVET programmes, by age and by sex	Not available						
			4.4.5 Administration of policy for global/regional recognition of qualification framework of tertiary education focusing TVET	Not available					2.3 Development and implementation of a National Qualification Framework	Not available; National Qualification Framework of Bangladesh is on progress of development under Higher Education Quality Enhancement Project for Bangladesh project
			4.7.2 (i) Percentage of formal and non-formal school/Madrassa including TVET that provide life-skills based HIV and sexuality education	Not available						

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators									
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators		
			4.7.2 (ii) Percentage of students in formal and non-formal school/Madrasa including TVET have full knowledge on life-skills based HIV and sexuality education, by sex	Not available								
			4.7.2 (iii) Number of school/Madrasa in primary and secondary level including TVET & non-formal centers have provision of health service for students including record keeping on Height, Weight, Blood Group, Nutrition, Vaccination, Immunization, Deworming, Vitamin Capsule, Eye Vision, Hearing, Psychological and other status at least once a year, by level of education	Not available	No. of general schools introduced at least 1 technical subject at lower secondary level (DTE)	Not available						
					No. of secondary schools introduced SSC vocational course (DTE)	Not available						
					No. of Madrasas introduced at least 1 technical subject at lower secondary level (DTE)	Not available						
					No. of Madrasas introduced Dakhil vocational course (DTE)	Not available						
					No. of general schools introduced pre-voc 1 (DTE)	Not available						
					No. of general schools introduced pre-voc 2 (DTE)	Not available						
					No. of Madrasas introduced pre-voc 1 (DTE)	Not available						
					No. of Madrasas introduced pre-voc 2 (DTE)	Not available						
					No. of TSCs introduced CTI Trade	Not available						
					No. of TVET institutes having green practice	Not available						
		4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill	Partially available; Disaggregation required	4.1.1 (b.ii.) Percentage of children and young people at the end of upper secondary/Madrasa education including TVET achieving at least a minimum proficiency level in ICT skills, by sex	Not available							

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
		4.1.2 (d) Administration of a nationally-representative learning assessment including ICT skills at the end of Grade 10/12 of upper secondary/Madrasa education including TVET	Not available	No. of RTOs and assessment centres established	Not available					
				Percentage of TVET institutes transformed into RTO assessment centre	Not available				2.4 Planning, performance measurement and M&E practices in TVET	Partially available
				Percentage of TVET institutes transformed into RPL assessment centre	Not available					
				No. of capacity building initiatives taken for developing registered assessors, registered trainers and industry assessors (DTE-Training Cell)	Not available					
				No. of private vocational institutes strengthened through capacity building for human resource development	Not available					
				No. of non-govt. TVET teachers received training on pedagogy and skills	Not available					
				No. of TTTC modernized/No. of initiatives taken for modernizing TTTC	Not available					
				No. of capacity building initiatives taken for teaching quality improvement in TVET	Not available					
				No. of initiatives taken for strengthening Regional Director Offices	Not available					
				No. of initiatives taken for strengthening TTTC	Not available					
		No. of initiatives taken for strengthening VTTI	Not available							

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
Goal 5: Achieve gender equality and empower all women and girls	5.1.1 Whether or not legal frameworks are in place to promote, enforce and monitor equality and non discrimination on the basis of sex	Available; Qualitative indicator, Metadata yet to be finalized	4.a.1 (d) Percentage of school/Madrasa including TVET institution and non-formal center with adapted infrastructure and materials for students with disabilities, by level and by type	Partially available; Disaggregation required						
			4.a.1 (j) Percentage of school/Madrasa including TVET institution and non-formal center with access to ICT facilities for the students with special needs, by level and by type	Not available						
			4.a.1 (v) Percentage of school/Madrasa including TVET institution having accommodation facility for the students by sex, by level and by type	Available						
			4.a.1 (w) Percentage of school/Madrasa including TVET institution having accommodation facility for the students with special needs, by level and by type	Not available						
			4.a.1 (x) Percentage of school/Madrasa including TVET institution having accommodation facility for the teachers by sex, by level and by type	Not available						

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
			4.a.2 (b) Existence of legal framework that ensures elimination of bullying, corporal punishment, harassment, violence, sexual discrimination and abuse in school/Madrasa including TVET institution, university, medical, engineering and agriculture institution, and non-formal center, by level and by type	Not available						
			5.1.1 (i) Legal frameworks are in place in education system to promote, enforce and monitor equality and non-discrimination on the basis of sex	Not available						
Goal 6: Ensure availability and sustainable management of water and sanitation for all	6.1.1 Proportion of population using safely managed drinking water services	Available; except Arsenic 97.9% in 2015 (SVRS), Disaggregation required for labour/work force population	4.a.1 (e) Percentage of school/Madrasa including TVET institution and non-formal center providing basic drinking water, by level and by type	Partially available; Disaggregation required						
	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	Available; without soap 73.5% in 2015 (SVRS), Disaggregation required for labour/work force population	4.a.1 (f) Percentage of school/Madrasa including TVET institution and non-formal center providing single-sex basic sanitation facilities for students, by level and by type	Partially available; Disaggregation required						
			4.a.1 (g) Percentage of school/Madrasa including TVET institution and non-formal center providing single-sex basic sanitation facilities for teachers, by level and by type	Partially available; Disaggregation required						

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators								
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators	
			4.a.1 (h) Percentage of school/Madrasa including TVET institution and non-formal center providing basic hand-washing facilities for girls and menstrual hygiene facilities for both girls and female education personnel (as per the WASH indicator definitions), by level and by type	Partially available; Disaggregation required							
			4.a.1 (i) Percentage of school/Madrasa including TVET institution and non-formal center providing basic hand-washing facilities for boys (as per the WASH indicator definitions), by level and by type	Partially available; Disaggregation required							
	8.5.1 Average hourly earnings of female and male employees, by occupation, age and persons with disabilities	Partially available; Disability module will be included in the next LFS	4.c.1 (h.i.) Percentage of teachers in secondary level at TVET system who have foreign training, by sex	Not available							
4.c.1 (h.ii.) Percentage of teachers in higher secondary level at TVET system who have foreign training, by sex			Not available								
4.c.3 (w) Percentage of teachers in TVET who have received training on Children with Special Needs for the mainstreaming of inclusive education, by sex			Not available								
				No. of training received by the teachers of existing TSCs (BTEB)	Not available	Number of Teacher by Type, Management and Division 2017	Available	2.1 Increased number of TVET trainers trained and certified	Not available		

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
					No. of teachers received new training (DTE-Training Cell)	Not available	Average Teacher and Enrolment by Type 2017	Available		
					No. of TVET teachers trained on green technology	Not available	Teacher-Student Ratio by Type(independent) 2017	Available		
					No. of teachers trained from Bangladesh Institute of Technical Teachers Training and Research	Not available				
					No. of research conducted by Bangladesh Institute of Technical Teachers Training and Research	Not available				
					No. of TVET teachers received in-service crash training programme	Not available				
8.5.2 Unemployment rate, by sex, age and persons with disabilities	Partially available; Data on PWD will be generated in the next LFS				No. of community outreach programme introduced to solve youth unemployment	Not available				
					No. of youth enrolled in community outreach programmes	Not available				
8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training	Partially available			Linked to indicator 4.1.5 (d)						
					4.3.6 Sector/sub-sector-based demand and supply of job market	Not available				
8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age	Partially available; Less than 14 year is regarded as child labour as per Bangladesh Labour Act 2006 (amended in 2013)									
8.8.1 Frequency rates of fatal and non-fatal occupational injuries, by sex and migrant status	Partially available; Disaggregation on migration status will be incorporated in next LFS			4.c.3 (ac) Percentage of teachers in TVET who have received training on road safety, by sex	Not available					

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators								
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators	
			4.c.9 Number of school/Madrassa in primary and secondary level including TVET and non-formal education designate teacher/facilitator for Road Safety issue	Not available							
			13.1.2 (i) Number of deaths of students by disaster per 100,000 people, by sex	Not available							
			13.1.2 (iii) Number of missing students by disaster per 100,000 people, by sex	Not available							
			13.1.2 (v) Number of students affected by disaster per 100,000 people, by sex	Not available							
			13.3.1 (i) Existence of integrated (climate change) mitigation, adaptation, impact reduction and early warning policy into primary, secondary and tertiary curricula including TVET, non-formal and professional education	Not available							
			13.3.1 (ii) Climate change mitigation, adaptation, impact reduction and early warning information integrated into primary, secondary and tertiary curricula including TVET, non-formal and professional education	Not available							

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
			13.3.1 (iii) Climate change mitigation, adaptation, impact reduction and early warning information integrated into primary, secondary and tertiary	Not available						
	8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	Not available; Metadata yet to be finalized								
	8.9.1 Tourism direct GDP as a proportion of total GDP and in growth rate	Available								
	8.9.2 Number of jobs in tourism industries as a proportion of total jobs and growth rate of	Partially available; Metadata yet to be finalized								
	8.10.1 Number of commercial bank branches and automated teller machines (ATMs) per	Available								
	8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider	Partially available	8.10.2 (i) Percentage of students/adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider, by sex	Not available						
	8.a.1 Aid for Trade commitments and disbursements	Partially available								
	8.b.1 Total government spending in social protection and employment programmes as a proportion of the national budgets and GDP	Available; Metadata yet to be finalized, Youth employment strategy has to be formulated	4.3.7 (a) Percentage of students at secondary/Madrassa including TVET receiving government contribution/assistance to promote and develop their scientific invention, by sex	Not available						

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators								
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators	
			4.3.7 (b) Percentage of students at tertiary/Madrasa level including technical, medical, engineering and agriculture education receiving government contribution/assistance to promote and develop their scientific invention, by sex	Not available							
			4.1.7 (j) Percentage of government contribution on education expenses for the students at upper secondary/Madrasa level including TVET (through stipend programme, supplying free teaching learning materials and other facilities)	Not available							
			4.1.7 (o) Percentage of students at upper secondary/Madrasa level including TVET getting government stipend, by sex	Partially available; Disaggregation required							
			4.1.7 (t) Percentage of students at upper secondary/Madrasa level including TVET getting free teaching learning materials from the government by Grade and by sex	Partially available; Disaggregation required							
			4.5.4 (a) Education expenditure per student by level of education from Government sources	Partially available; Disaggregation required							
			4.5.4 (b) Education expenditure per student by level of education from Private sources	Partially available; Disaggregation required							

SDG Indicators On and Linked to Skills and Decent Work		Data Availability of Global Indicators (in Bangladesh)	National Indicators to support the achievement of Global Indicators							
			NIF Indicators	Data Availability of NIF Indicators	DTE, BTEB Project Indicators (linked to HCDP 21 targets)	Data Availability of DTE, BTEB Project Indicators	BANBEIS Indicators	Data Availability of BANBEIS Indicators	MIS Review Indicators	Data Availability of MIS Review Indicators
	17.18.3 Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding	Partially available; NSDS will be updated if required to comply the SDGs targets								

Ref.: Data Gap Analysis for Sustainable Development Goals (SDGs) by GED; Monitoring and Evaluation Framework for Sustainable Development Goals (SDGs): Bangladesh Perspective by GED; National Indicator Framework on Education for Bangladesh, and Data Mapping and Action Plan by BANBEIS; Human Capital Development Programme for Bangladesh 2021(HCDP 2021) of GOB; DTE and BTEB Project Indicators of GOB; BANBEIS Indicators of GOB; MIS Review Indicators by GOB

Statistical Outputs

	Data Quality Assessment Framework	Level 4	Level 3	Level 2	Level 1	Score
6						
6.1						
32	The administrative school census is conducted	Administrative school census conducted at least annually		Administrative school census conducted irregularly		2
33	Data are disseminated in a timely manner	Data disseminated within same academic year	Data disseminated within the following year	Data are 2 years behind	Data are never disseminated	3
34	Internationally comparable data are timely reported	According to UIS surveys timeframes	According to UIS surveys 6 months later	According to UIS surveys more than 1 year	Not reported	1
35	A calendar of publication of education statistics exists	A calendar of publication exists and applied properly	A calendar of publication exists and applied with the deviation documented	A calendar of publication exists and not implemented	A calendar of publication non-existent	1
7						
7.1						
36	Consistency checks are conducted amongst data aggregates: enrolments, repeaters, drop-outs , financial and demographic data are observed.	Consistency checks are always conducted		Consistency checks are partially conducted	Consistency checks are never conducted	1
7.2						
37	Consistent time series data are available for an adequate period of time	Time series data are continuously available for 5 years and more	Time series data are continuously available for less than 5 years	Time series data are available but is not consistent (not always for continuous years)	No data time series are available	2
7.3						
38	Education statistics are reasonably reconcilable with data from other data sources including cross-checking across geographical areas and sub-groups of education .	Fully reconcilable (at all levels)		Partially reconcilable (only at some levels)	Never reconcilable with other data sources	1
8						
8.1						
39	Education data are published in a clear manner, charts and tables are disseminated with the data to facilitate the analysis.	Publication contains charts, tables with interpretation	Publication contains charts, tables without interpretation	Publication contains tables only without interpretation	No publication	2

	Data Quality Assessment Framework	Level 4	Level 3	Level 2	Level 1	Score
40	Data of different degree of aggregation (e.g. school region), sub-components (e.g. by gender, by level of education, by age, private and public, full-time and part-time) are routinely made available (not only ad-hoc request).	Data of different degree of aggregation at institution level with all sub-components	Data of different degree of aggregation at sub-national level with all sub-components	Data of different degree of aggregation at sub-national level with no sub-components	Data of different degree of aggregation at national level only	1
41	The data is disseminated in a manner that facilitates its access (e.g., websites, statistical publications) and its availability is well publicized	Data accessible to all users	Data accessible only to some users	Data difficult to access	Data not accessible at all	1
8.2						
42	Metadata , including information on concepts, definitions, classification and other methodology, data sources, and statistical techniques are prepared	Comprehensive metadata exist		Metadata partially exist	Metadata is non-existent	1
43	The metadata is disseminated in a manner that facilitates its access (e.g., websites, statistical publications) and its availability is well publicized	Metadata accessible to all users	Metadata accessible only to some users	Metadata difficult to access	Metadata not accessible at all	
8.3						
44	Mechanisms are in place to respond to users request	Mechanisms exist and are implemented		Mechanisms exist but not implemented	Mechanisms are non-existent	1
45	Assistance to users is provided and monitored.	Assistance to users is provided and monitored		Assistance to users is provided but not monitored	Assistance to users non-existent	2
46	Not routinely disseminated data is made available upon request	Not routinely disseminated data is always made available upon request		Not routinely disseminated data is made available on an ad hoc basis	Not routinely disseminated data is never made available	2

Statistical Process

Data Quality Assessment Framework		Level 4	Level 3	Level 2	Level 1	Score
4						
4.1	Concepts and definitions used are in accord with standard statistical frameworks					
15	Documents on statistical concepts and definitions available and are reconcilable with international concepts	Documentation available and used	Documentation available and partially used	Documentation in developmental phase	Documentation non-existent	2
16	Concepts and definitions (as above) used for this dataset are consistent with those used in other national datasets.	Concepts and definitions are always standardised across other datasets		Concepts and definitions are partially standardised across other datasets	Concepts and definitions are never standardised across other datasets (not addressed at all)	2
4.2						
17	Mechanisms are in place to align and reconcile different geographical boundaries within the same data source	Mechanisms are always in place	Mechanisms are partially in place	Mechanisms are in development phase	Mechanisms are non-existent	2
18	All relevant institutions are covered (e.g. public/ private, sub-sectors considered in the data source, local, regional, etc.)	All relevant institutions are covered		Relevant Institutions are only partially covered		2
4.3						
19	An agreed ISCED 2011 mapping including classifications exists (e.g. levels of education, field of study, literacy, vocational, technical, and student completion)	Mapping exists and all concepts are covered	Mapping exists but concepts are partially covered		Mapping is non-existent	1
4.4						
20	Referential integrity is applied.	Referential integrity is always applied		Referential integrity is partially applied	Referential integrity is non-existent	2
21	Nomenclatures are systematically used and Naming of variables and tables is standardised	These principles are always applied		These principles are partially applied	These principles are non-existent	2
22	The database allows to store all information in the questionnaire .	All information is stored in the database		Information is partially stored in the database	No information is stored in the database	1
23	Documentation material is available.	Documentation material is always available.		Documentation material is partially available	Documentation material is non-existent	1

	Data Quality Assessment Framework	Level 4	Level 3	Level 2	Level 1	Score
5						
5.1						
24	The data source covers the expected required information identified in the data mapping for this specific data source.	Data source covers 100% of the expected information	Data source covers 75% to 100% of the expected information	Data source covers 50% to 74% of the expected information	Data source covers less than 50% of the expected information	1
25	Mechanisms are in place to maintain the list of institutions (duplicates, confusion in naming, robustness of administrative code, other noticed discrepancies).	Mechanisms in place and implemented		Mechanisms in place but partially implemented	Mechanisms are non-existent	1
26	Age is collected based on legal documents and the reference date is harmonized over all statistical units	Age is always based on legal documents and reference date harmonized		Age always based on legal documents but reference date not harmonized	No legal documents and no reference date harmonized(ad hoc)	2
5.2	Data sources are regularly assessed and validated					
27	Data are annually audited to check the accuracy of source data (e.g. head count of sample schools)	Data are audit annually	Data are audited in an ad hoc manner		Data audits are non-existent	1
28	Information is compiled on coverage, non-response and missing data	Information compiled on all		Information is partially compiled (e.g. only on coverage)	Information is not compiled	1
29	Mechanisms are in place to ensure that standardised institution registers (including students and teachers details) are maintained, assessed and used	Mechanisms are in place and implemented	Mechanisms are in place and not implemented	No mechanisms are in place	No registers exist	1
5.3						
30	The data collection instruments are designed in a way that makes them easy to complete and to verify and is appropriate for computer processing, and they have also been pilot-tested with a sample of respondents.	Instruments are well designed and pilot tested	Instruments are well designed and not pilot tested	Instruments are poorly designed and pilot tested	Instruments are poorly designed and not pilot tested	2
31	Imputation methods are documented and implemented	Imputation methods are documented and implemented	Imputation methods documented and not implemented	Imputation methods exist and but not documented	Imputation non-existent	1

Institutional Environment

Data Quality Assessment Framework		Level 4	Level 3	Level 2	Level 1	Score
1						
1.1						
1	The structure in charge of the data source has a legal mandate	An Act exists and is implemented	A policy exists and is implemented	An Act or a Policy exists but is implemented in and ad hoc manner	There are no Acts, Policies or any formal arrangement for the production and dissemination of education data	1
2	The structure in charge of the data source is informed of data collection conducted by other structures and is empowered to authorize and coordinate it. It seeks to reduce respondents burden.	Arrangements exist and implemented		Arrangements exist but not implemented	No formal arrangements exist	1
3	The statistical activities is governed by methods and standards produced by the National Statistical Agency (NSO) and regular meetings take place between NSO and line ministries	Methods and standards exist and is implemented		Methods and standards exist but not implemented	NSO plays no role	
1.2						
4	Mechanisms (ACT or Policy) exist to ensure that individual data are treated with confidentiality	Mechanisms are in place and adhered to		Mechanisms are in place but not always applied	Mechanisms are not in place	
5	Mechanisms exist to ensure that individual data are treated with confidentiality	Mechanisms are in place and adhered to		Mechanisms are in place but not always applied	Mechanisms are not in place	1
2 Principle 2: Adequacy of resources						
2.1						
6	Overall, the number of staff is adequate to perform the required tasks.	Official staff establishment exists and all positions are filled	Staff establishment exists, not all positions are filled	There is no staff establishment and staff shortages are limited	There is no staff establishment but staff shortages are major	2
7	The qualifications, skills and experience of the staff are adequate.	100% related qualifications and related experience	80% related qualifications and related experience	50% related qualifications and related experience	Less than 50% related qualifications and related experience	2

	Data Quality Assessment Framework	Level 4	Level 3	Level 2	Level 1	Score
8	Efforts are made to ensure the retention at any point of time of a core contingent of skilled staff (e.g. succession planning is taken into account).	Strategy exists and applied	Strategy exists and is applied in an ad hoc manner	Strategy exists and not applied	No Strategy	1

	Data Quality Assesment Framework	Level 4	Level 3	Level 2	Level 1	Score
2.2						
9	Software utilized for compiling and analyzing data is adequate to perform existing and emerging tasks and the maintenance is sustainable.	Adequate Software and sustainably maintained	Adequate Software and not sustainably maintained	Not Adequate Software and not sustainably maintained	No Software	2
10	Hardware is adequate to ensure efficient processing of data and is adequately protected againts all types of security risks(e.g. back-up systems for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events)	Adequate Hardware and well protected	Adequate Hardware and not well protected	Not Adequate Hardware and not well protected	No Hardware	3
11	Physical facilities (office building, furniture and equipment, transportation arrangements) are adequate to perform required tasks.	Adequate facilities exist		Inadaquate facilities exist	No Facilities	4
2.3						
12	Adequate and sustainable funding exist.	Adequate funding exists and is fully implemented		Adequate funding exists but with inadequate implementation (delayed, partial disbursement, etc.)	Not Adequate Funding	2
3	Sharing					
3.1						
13	Processes are in place to regularly consult with users on their needs.	Users are consulted at least once a year		Users are consulted in an ad hoc manner	User are never consulted to get their input	2
3.2						
14	A User Satisfaction Survey is conducted among users.	A User Satisfaction Survey takes place at least once a year	There is no satisfaction survey but user feedback regulary obtained	User feedback is maintained but Ad hoc	No user feedback	1