



Operations Manual for Piloting Quality Management System

Implementation Guideline of TVET Provider's Quality Management in Sierra Leone: Ensuring Internal Quality Assurance for TVET Institution through the Cooperation with External Quality Assurance

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Acronyms

CIPP	Context, Input, Process and Product
EC	European Commission
EQA	External Quality Assurance
EQAVET	European Quality Assurance Vocational Education and Training
GoSL	Government of Sierra Leone
GTIs	Government Training Institutes
IQA	Internal Quality Assurance
MTHE	Ministry of Technical and Higher Education
MTNDP	Medium-Term National Development Plan
NVC	National Vocational Certificate
NCTVA	National Council for Technical and Vocational Education
NOS	National Occupational Standard
NQF	National Qualification Framework
QAF	Quality Assurance Framework
QMS	Quality Management System
TVET	Technical Vocational Education and Training

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Implementation Guidelines for TVET Provider's Quality Management System in Sierra Leone:

Ensuring Internal Quality Assurance for TVET institutions through the cooperation with External quality Assurance

1. Introduction

1.1 Background of QMS and Operation Manual

The operations manual is closely linked to two reports, that is, “the Concept Note” of development of the quality management system for the TVET institutions in Sierra Leone (Jeong-Yoon, Cho. 2023a) as well as “the Implementation Plan” for piloting the quality management system (Jeong-Yoon, Cho. 2023b), which is guidance for TVET providers to ensure internal quality assurance against the checklist of quality evaluation of TVET institution.

Quality could commonly be defined as the features and characteristics of a product or service that bears on its quality to satisfy given needs, based on customer' needs (TVETA. 2018:7). Ensuring quality is key to success of TVET institution, leading to secure sustainability being closely affected by employers and learners. In this regards, quality defined from many viewpoints has multidimensional aspects, which mean that there are quality of inputs, process and outputs. So, all these dimensions should consider quality and judging quality of TVET.

The operations manual for GoSL (Government of Sierra Leone) is designed to help the principals and the staffs taking responsibility to prepare the evaluation for IQA (Internal Quality Assurance) and EQA (External Quality Assurance), connecting to make the self-evaluation report. The manual focused on evaluation indicators which are belonging to the 4 evaluation areas such as context, input, process and product¹, producing evaluation scores based on [Appendix 2: Guideline of Applying for Indicators in QAF of TVET institution] included in the Implementation Plan. Ultimately, the operations manual is about matching the context, input, process and products to ensure efficient operation of TVET institution and effective delivery TVET services to customers.

As preparing self-evaluation report done by TVET institution, following procedures should be considered for producing the quality report:

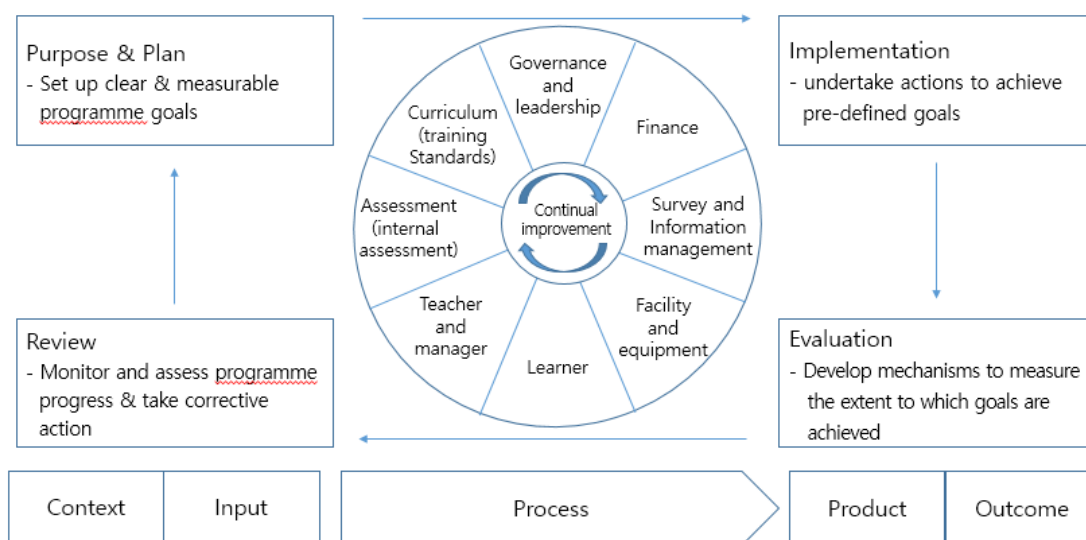
- 1) Find and verify evidence² according to evaluation
- 2) Identify strengths including the best practices.
- 3) Identify weaknesses to be improved in short-term as well as mid- and long-term period.
- 4) Establish rating against indicators, based on evidences.
- 5) Clarify rating based on evidence, strengths, and improvement areas regarding weaknesses
- 6) Prepare final report.

Figure 1 below is designed by considering 1) the key components of holistic quality assurance in TVET suggested in the Concept Note and 2) 4 components being comprised CIPP model including the component of outcome. Given the circle approach of PIER (Purpose & Plan, Implementation, Evaluation, and Review) shown in Figure 1, following content according to PIER step should be considered to produce the quality self-evaluation report.

¹ Refers to [APPENDIX 1: Checklist of Quality Evaluation of TVET institution] of the Implementation Plan.

² Refers to [APPENDIX 2: Guideline of Applying for Indicators in QAF of TVET institution] of the Implementation Plan. When collecting and selecting evidence, reliability of evidences is very important for producing credible evaluation results. Also considering indirect and direct evidences should be needed simultaneously, but the latter is more important than the formal.

Framework of IQA including EQA



[Figure 1] The Sierra Leone TVET Quality Assurance Framework (QAF) with Quality Cycle
Source: TVETA. (2018:11). Kenya TVET Quality Assurance Framework.

First, at the stage of Planning & Purpose, TVET institutions pay attention the following points (EC. (2019:30):

- 1) National, regional, and International TVET policy goals/objectives are reflected in the local targets set by the TVET institutions.
- 2) Explicit goals/objectives and targets are set and monitored, and programmes are designed to meet them.
- 3) Ongoing consultation with social partners and all other relevant stakeholders takes place to identify specific local/individual needs.
- 4) Responsibilities in quality management and development have been explicitly allocated.
- 5) There is an early involvement of staff in planning, including regarding quality development.
- 6) TVET institutions plan cooperative initiatives with relevant stakeholders.

Second, at the stage of Implementation, TVET institutions think of the following points (EC. (2019:30):

- 1) Resources are appropriately internally aligned/assigned with a view to achieving the targets.
- 2) Relevant and inclusive partnerships including teachers, are explicitly supported to implement the actions planned.
- 3) The strategic plan for staff competency development specifies the need for teachers.
- 4) Staffs undertake regular training and develop cooperation with relevant external stakeholders to support capacity building and quality improvement, and to enhance performance.
- 5) TVET institution's programmes enable learners to meet the expected learning outcomes and become involved in the learning process.
- 6) TVET institutions respond to the learning needs of learners by using a learner-centred approach which enable learners to achieve the expected learning outcomes
- 7) TVET institutions promote innovation in teaching and learning methods, supported by the use of digital technologies and online-learning tools
- 8) TVET institutions use valid, accurate and reliable methods to assess learner's learning outcomes.

Third, at the stage of Evaluation, TVET institutions consider the following points (EC. (2019:30):

- 1) Self-evaluation is periodically carried out under national/regional regulations/framework.
- 2) Evaluation covers processes and results of education and training including the assessment of learners' satisfaction as well as teachers' performance
- 3) Evaluation includes the collection and use of data, and adequate and effective mechanisms to involve internal and external experts.

Fourth, at the stage of Review, TVET institutions consider the following points (EC. (2019:30):

- 1) Learners' feedback is gathered on their individual learning experience and on the learning and teaching environment. Together with teachers' and relevant stakeholders' feedback, TVET institutions pay attention reflecting all stakeholders' feedback.
- 2) Procedures on feedback and review are part of a strategic learning process in the organization.

1.2 Vision and Mission of Quality Management

By Implementing the operations manual to TVET institutions as pilot project, GoSL wants to establish the quality of TVET institutions responding to the demands and needs from industries domestically and internationally. Under this objective, following vision could be adaptable for GoSL.

<Vision>

Establishing a competitive market driven TVET system producing competent workforce for supporting sustainable economic development and improving learners' standards of living

As mission along with the vision, following mission could also be acceptable to GoSL.

<Mission>

Developing TVET system to meet national, regional, and international labor market's needs & demands

To obtain vision and mission above mentioned through quality management system of TVET, the national TVET system is increasingly required to build strong partnerships with international and national big stakeholders. That is, addressing the growing international and national demands in terms of raising competent workforce, the national TVET should cooperate with various stakeholders internationally and domestically. It is important to realize that the performance of national TVET is critical for securing and reinforcing national competitiveness, together with the poverty reduction, which leads to be hired of TVET graduates in domestic and international labor market.

2. Guidelines for Operation in Key Aspects

2.1 Purpose

The purpose of this operations guidelines for TVET providers' Quality Management System (QMS) in Sierra Leone, is to guide TVET providers to evaluate their internal quality (Internal Quality Assurance). During the Pilot Phase, this guideline will be implemented by the 11 Government Technical Institutes (GTI).

There are 28 indicators against which the internal quality assessment of a TVET provider can be assessed. This document describes each indicator, the context of the indicators with respect to TVET institutions in Sierra Leone, the data required and how to collect the data. The key points that TVET providers must consider for each indication in preparing for evaluation are also highlighted.

Internal quality evaluation of TVET providers based on the CIPP³ model is generally conducted across four key aspects of operations as follows: - (i) Context; (ii) Input; (iii) process; and (iv) product. Each key aspect of operation has a set of indicators that are evaluated to produce evaluation scores based on the specific context of TVET Institutions in Sierra Leone.

2.2 Context of Operation (Domain #1)

There are 3 main indicators under the context of operation. These (i) Relevance to national TVET Policy; (ii) Select appropriate Job and Set up the learning program of TVE; and (iii) Leadership of the Principal. For each indicator, the context, data required and how to collect the required data and document for evaluation are described in Table 2.1.

The quality assurance framework should evaluate the relevance of TVET institutions to national development and TVET policies. With respect to relevant national development and TVET policies, the management and operation of any TVET institution must be underpinned by the following policies: -

- (a) National Technical and Vocational Education and Training Policy (2019)
- (b) National Dual TVET Apprenticeships Policy (2023).
- (c) Sierra Leone Education Sector Plan 2022-2026: Transforming Learning for all (2022)
- (d) Medium-Term National Development Plan (2019-2023).

³ Centex, Input, Process and Output

Table 2.1 Guidelines for Indicators under Context of Operation

DOMAIN 1. CONTEXT OF OPERATION	
Indicator #1. Alignment with national & regional TVET policy and industry demands.	The TVET system in Sierra Leone is guided by four key documents as follows: (a) National Technical and Vocational Education and Training Policy (2019); (b) National Dual TVET Apprenticeships Policy (2023), and (c) Sierra Leone Education Sector Plan 2022-2026: Transforming Learning for all (d) Medium-Term National Development Plan (MTNDP 2019-2023). Seven strategic sectors have been prioritized by government for accelerating economic growth and job creation. These are agriculture; fisheries and marine sector; tourism; manufacturing and services; oils and gas; mineral resources and rural economy. TVET institutions providing training in these sectors will certainly contribute to raising adequate level of workforce to meet the relevant national development objectives of the country. TVET institutions are aligned to government priorities. However, most TVET institutions do not involve industry in the development of curriculum, thus it is often the case that there is a mis-match between industry demand and supply of skills. Also, TVET institutions that have a road map for the development or improvements of TVET qualifications in the medium to long-term, do not involve industry in the preparation of document or its endorsement.
<p>Data Collection and Documentation</p> <p>What data to collect and how to collect data about indicator #1</p> <p>Data to be collected for assessing relevance of a TVET institution can be collected through desk research of the various policy documents and interviews with management of the TVET institutions:</p> <ol style="list-style-type: none"> 1. Annual TVET survey conducted by NCTVA 2. Documents providing institution’s vision, mission, strategic objectives, and main tasks. 2. National TVET and development policies. These documents are available at the MTHE. 3. Annual Budget disaggregated by sources, or budget received from government. Available at MTHE and MOF. 4. Employment reports of graduates. Can be collected through Tracer Studies⁴ involving interviews of graduates of the institution, and Skills gap studies reports⁵ 5. Programmes and Courses offered by the institution <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institutions’ vision, mission and strategy are aligned with national & regional TVET policy and industry demands can be assessed by:</p> <p>Qualitative data</p>	

⁴ ILO (2011): Tracer study - Book 1 - Methodology manual. Geneva, Switzerland.

⁵ Some useful documents to be consulted:

- FHI 360 and BRAC USA (2019): Job Demand & Employment Market Analysis Sierra Leone. Assessable at: <https://www.fhi360.org/sites/default/files/media/documents/resource-sierra-leone-labor-analysis.pdf>
- Yukiko Arai, Ata Cissé, Madjiguene Sock Promoting job creation for young people in multinational enterprises and their supply chains: Sierra Leone. International Labour Office. - Geneva: ILO, 2010 59 p. (Employment Sector – Employment Report No. 8; 2010).

1. Clarity and relevance of Vision, mission and objectives of TVET institution to national development and TVET policies. Answers to the following questions will determine the clarity and relevance:

1.1 Vision of institution: (a) What are our desires and our ideal future? (b) What do we want to accomplish?, (c) What is the legacy we want to leave behind?, (d) What do we want the society to think of us?, and (e) What should be the position of the institution in future?

1.2 Mission: (a) why the TVET Institution exist? (b) what do services does the institution believe in?

1.3 Availability of a clear strategy: (a) Does the institution have time bound budgeted plans, (b) defined pathways, and (c) techniques to achieve its objectives.

1.4 Clarity and SMART⁶ objectives based on the mission and vision statements of the institution.

2. There is evidence of alignment of the institution vision, mission and objectives with national and regional TVET policy and industry. This can be documented by (a) review of national development plan, and (b) national TVET policy, and (c) the education sector plan.

3. Questions regarding close relationship between vision & mission of the institution and government's policies includes: (a) Does TVET institution have a systematic approach reflecting national & regional government policies and national/regional industry demands? (b) Do the principal and managers have capabilities to reflect government policies and industry demands at national & regional level?

4. Questions as to successful achievements of TVET institution getting national & regional government's supports are: (a) Does institution have a good human network cooperating with national & regional government and industries?, and (b) does results of the institution's management and operation caters for industry needs and demands of government in terms of the necessary workforce, skills etc.

5. Are TVET course offerings aligned with priority sectors identified by the government?

Quantitative data

- 1) Number of programs offered using the NCTVA approved CBET curricula.
- 2) Number of TVET qualifications endorsed by industry for which the TVET institution has developed or improved or has plans to do so
- 3) Proportion of total budget from government
- 4) Proportion of graduates employed during a given period

Key Points for Evaluation: Key points for TVET institutions to consider to receive good evaluation results:

- Data connectivity related to vision, mission, strategic objectives, and main tasks of the institution against national TVET and development policies
- Specific information on alignment of programs with national TVET and development policies
- Quality Assurance plan for improvement of qualifications developed in cooperation with industry
- Number of graduates employed by industry

⁶ Are the objectives Specific, Measurable, Achievable and Reliable

Table 2.1 Guidelines for Indicators under Context of Operation (continues)

DOMAIN 1. CONTEXT OF OPERATION	
<p>Indicator #2.</p> <p>Selection of appropriate occupations & preparation of relevant learning programs</p>	<p>The purpose of this indicator is to assess TVET institution’s capacity to respond to changing labor market. A relevant TVET institution offers courses and programs and courses that responds to labor market needs.</p> <p>A survey of TVET Institutions in Sierra Leone conducted by NCTVA in 2021 indicates that most courses and programs offered in TVET institutions are mostly in the hospitality sector (67.3%) and construction sector (35.1%). Other productive sectors of the economy such as agriculture is offered in 29% of TVET institutions, while courses and programs in mining is represent less than 5% in TVET institutions, and courses and programs represent less than 1% of course offered. The study confirms that programs and courses offered in several TVET institutions are out of tune with the needs of the economy and specifically what is demanded by industry. This implies that many trainees are not equipped with the relevant technical skills to find jobs on the labor market.</p> <p>TVET institutions do not base the choice of programs offered on a skills gap assessment. Likewise, selection of qualifications students follow at the TVET institutions are rarely based career counselling. Choice of study at TVET institutions is still perceived as the last choice when a student does not meet the requirements for University admission. The preparation of relevant learning programs is mostly done without the inclusion of industry. The Sierra Leone Skills Development Project funded by the World Bank is supporting TVET institutions to develop curricula with inputs from industry.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #2</p> <p>In evaluating the responsiveness of courses and programs offered by TVET institutions it is the curriculum that is evaluated. Therefore, two key components are mostly evaluated. These are (a) the program (instructional area), and (b) the curriculum materials⁷. Therefore, to determine whether the learning program example agriculture is relevant, the instructional area (agriculture) and the curriculum material for impacting knowledge, skills and competency in agriculture should be evaluated. Data collection method includes desk review of programs and curricula; and surveys that involve interviews with staff, students and representatives of industry. Survey questionnaire should be administered to (a) students; (b) graduates, and (c) industry. Data to be collected for assessing relevance of training programs to labor market can include:</p> <ol style="list-style-type: none"> 1) Reports preparing competency-based learning program, relied on NOS, 2) Reports conducting job analysis to develop competency-based learning program, 3) minutes and results based on the meetings with employers and industry experts, etc., 	

⁷ This may include instructional materials – like guides, modules, books, worksheets, tools, computer software, etc.

- 4) Lists of promising jobs related to the learning programs
- 5) Reports of searching vacancies in labor market related to learning programs, etc.
- 6) TVET survey, tracer studies conducted by TVET institutes, other reports.

How to document data for Internal quality assurance

Evidence that occupations and preparation of learning programs are appropriate and relevant, by:

Qualitative data

- 1) TVET institution have a close cooperative relation with employers and industry experts?
- 2) Whether TVET institution have policy dialogue with government-related organizations periodically
- 3) Whether the TVET institution works with experts of labor economics when developing programs?
- 4) Whether TVET institution provides trainers and middle managers opportunities participating CPD to equip with the necessary competences to develop competency-based learning programs?
- 5) Whether TVET institution possess keen interests in internal labor market related to their learning program?

Quantitative data

Evidence that occupations and preparation of learning programs are appropriate and relevant, by:

Quantitative Data

- 1) Number of jobs available as a proportion of the number of graduates by occupation
- 2) Number of vacancies by sectors related to learning programmes
- 3) Number of students graduating as proportion of total registered for the program
- 4) number of graduates employed and retained one year after completing training
- 5) Satisfaction of graduates with curriculum documented.

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Evidence that programs are aligned with the appropriate occupations demanded from domestic & international labor market
- Documented evidence that graduates from programs are being employed by industry
- Level of satisfaction of employers with graduates from TVET programs
- Documented acceptance and satisfaction of trainees with the program
- Data on completion and achievement rates.

Table 2.1 Guidelines for Indicators under Context of Operation (continues)

DOMAIN 1. CONTEXT OF OPERATION	
Indicator #3. Leadership of principal	<p>In Sierra Leone, the Principal of a TVET institution is the top manager, that leads the Senior Management Team of the institution. As such the principal is responsible for the establishment of the strategic purpose and direction of the institution. In addition, the principal is to create and maintain conducive internal environment that allows people to be fully involved in achieving the institution's objectives. Therefore, the purpose of this indicator is to evaluate the vision, capability and dedication to lead a quality assurance process. Principals of TVET institutions in Sierra Leone are recruited through a competitive process by the MTHE. The recruitment is based on the candidate's leadership and vision for the development and growth of the institution, which by extension the capability and dedication lead a quality assurance process.</p> <p>However, there is presently no standardized internal quality evaluation framework for leadership of principal. It is in this respect that the MTHE is developing a Quality Assurance Framework to guide TVET institutions conduct internal quality evaluation.</p>
<u>Data Collection and Documentation</u>	
What data to collect and how to collect data about indicator #3	
<p>Data on leadership quality of the principal can be collected through desk review of annual reports and interviews with staff, students and some key stakeholders including industry and MTHE, Directorate of TVET. The desk review is to ascertain documentation of actions, showing that the principal is a visionary leader, acts in a transparent manner, encourages participation of all in the activities of the institution, and continuously encourages improvements in all aspects of the institution.</p> <p>The principal's leadership quality can be: (a) reviewing of the TVET institutions' vision, mission, strategic objectives, and main tasks to achieve the objectives, (b) assessing the principal's genuine passion and philosophy of achieving objectives, (c) leadership style with respect to transforming the TVET institution into a center of excellence, (d) the number of times the principal has taken practical measures to cope with current problems, limitations, and challenges of TVET institution, (e) reviewing the principal's main activities to communicate closely with internal & external key stakeholders, (f) documenting the best examples showing employees' commitment to develop TVET institution, (g) reviewing plan to shape positive learning culture for accomplishing objectives of TVET institution, etc.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of good leadership qualities of the principal of a TVET institution can be documented by:</p>	
<u>Qualitative data</u>	
<p>Answers to the following questions will allude to the qualities of the principal:</p> <ol style="list-style-type: none"> 1) Is the TVET principal's leadership visionary and forward thinking 2) Is the principal's leadership flexible responding to the changes of policies and circumstances happen around TVET institution? 	

- 3) Is leadership facilitating continuous improvement of all aspect of the TVET institution?
- 4) How do employees and key stakeholders feel about the principal's leadership in terms of achieving vision?
- 5) How well does the principal encourage employees to dedicate their commitment to TVET institution?

Quantitative Data

- 1) Number of staff meetings held and reported per year
- 2) Number of actions taken to cooperate with key stakeholders and industry
- 3) Number of external activities related to TVET institution's management
- 4) Investments (US\$) to upgrade key facilities, curricula, etc.
- 5) Internally generated funds as a percentage of total institutional budge

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Data to show that the principal has a clearly defined vision for the TVET institution, and the vision is regularly communicated to staff and key stakeholders
- Evidence to show that the principal is an effective leader that motivate, support, develop and value employees
- Data to show that the principal involves the key team members in decision making and running of the TVET institution
- Number of actions taken to cooperate with key stakeholders and industry
- Action plan to develop all key aspects of the institution, which is being implemented

2.3. Input of Operation (Domain #2)

There are eight (8) main indicators under the Inputs of Operation. These (i) Selection of Learners; (ii) Selection of Trainers; (iii) Operation of the internal department/team for quality assurance; (iv) Committee set up to cooperate with industry experts; (v) Procurement and maintenance of equipment and tools; (vi) Conducting skills Supply and demand survey; (vii) Carrying out promotion of TVET institution; and (viii) Securing sustainable financing. The quality assurance framework should evaluate the input indicators of TVET institutions for accreditation. Table 2.2 outlines the national context, data to be collected and how to collect such data for assessing each indicator.

Table 2.2 Guidelines for Indicators under Input of Operation

DOMAIN 2. INPUTS OF OPERATION	
Indicator #4	In Sierra Leone the education system follows a 6-3-3-4 system ⁸ . TVET institutions offer four programs (a) NVC/ANVC equivalent to (level 1). NTC (level 2), Diploma (level 2) and Higher Diploma (level 4). Admission requirement for NC/ANVC are candidate have a pass in BECE, and a pass in the entrance examination. For NTC, the candidate must have 3 credits in WASSCE, including English and Mathematics or pass in NVC/ANVC. In the case of Diploma, candidate must have 4 credits in WASSCE, including English and mathematics or pass in NTC and 4 relevant credits in NVQ. For higher Diploma applicant must have a Diploma in relevant area of specializations. There is an age limit of 17 years requirement for all programs. Emphasis on a pass in English and Mathematics for admission to some of the programs is a major problem to potential applicants to TVET institutions. These admission requirements are not broad enough and do not take into consideration testing in practical aspects of the trade in which the applicant intends to be trained and certified. Thus, the potential to succeed in the labor market is not selection criteria for TVET students, but the academic achievements. Vocational qualification as well as working experience are not part of the admission criteria.
<u>Data Collection and Documentation</u>	
Which data to collect and how to collect such data for Indicator #4	
Data can be collected through desk review and tabulation of data. In documenting information for the selection of learners, data has to be collected on the following the application procedure, selection process, admission, and completion rate. The required documents to be reviewed are as follows: (a) application forms, (b) formal selection criteria & procedure, (c) ideal learner profile and its application, (d) preparation, implementation & results of interview, (e) list of interviewer, and (f) competition rate, etc. The following sample questions will provide evidences about the selection of learners: Does TVET institution have a close cooperative relation with schools providing Jobs to most applicants? Does TVET institution have cooperative relationship with enterprises to exchange ideas selecting adequate number and level of learner, leading to find employment?	

⁸ Primary school 6 years at then of which students take the National Primary School Examination (NPSE); Junior Secondary School that ends with the Basic Education Certificate Examination (BECE); 3 years of secondary school ends with West Africa Senior School Certificate Education (WASSCE), and 4 years of Higher Education.

How to document data for Internal quality assurance

Evidence of good selection of learners can be documented by:

Qualitative data

- 1) TVET institution has a formal application form accessible to all potential applicants
- 2) There is formal selection procedures for learner based on requirements published by the TVET institution
- 3) An 'ideal' learner profiles were developed in conjunction with industry is used as part of selection activities
- 4) Participation of industry experts in the interview and selection process
- 5) Candidates are rated for suitability against the 'ideal' learner profile (criteria)

Quantitative data

- 1) Proportion of applicants interviewed to total number of applicants
- 2) Proportion of applicants to total number of applicants interviewed.
- 3) Number of teachers (or trainers) undertaking interviews that have received training

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution has a formal admission process
- Selection of learners is based on merit and a transparent process
- All interview procedures are documented
- Proportion of interview panel members trained in assessing candidates for admission

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2. INPUTS OF OPERATION	
Indicator #5 Selection of Trainers	<p>Teacher qualifications remain a major challenge in Sierra Leone. The Sierra Leone Education Sector Analysis (2020)⁹ estimates that around two out of five teachers are unqualified to teach a subject, or at the level they are deployed to teach. According to the same source, 59% of teachers in 2019 held the required qualification to teach at their education level, meaning that Sierra Leone is still far from achieving the 75% target set for the percentage of qualified teachers in the 2018-2020 Education Sector Plan. Half of pre-primary teachers are qualified to teach at that level. The highest share of qualified teachers is observed at primary level with 64% of teachers holding at least a Teachers’ Certificate (TC). At secondary level, the lowest share of qualified teachers is at senior secondary level, with two out of five teachers with the minimum qualification required for teaching at that level, against almost three out of five junior secondary teachers being qualified. It should be noted however that 35% of senior secondary teachers and 14% of junior secondary teachers have some qualification, but do not meet the requirements for teaching at this level. Although the Free Quality Education has put measures in place to increase the number of qualified teachers and tutors at all levels, it will take time and more efforts to meet the expected target. The followings could be regarded as selecting criteria of TVET teacher:</p> <p>1) the role of teacher, 2) shaping of learning processes, 3) methodological shaping of teaching & learning arrangements, 4) structurization of contents, 5) reflection on instruction, 6) shaping of learning environment, etc. In this context, selecting competent teacher (or trainer) is a very essential for securing quality of TVET institution.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #5</p> <p>Data on the selection of trainers can be collected through desk review and tabulation of data. In documenting information for the selection of trainers, data has to be collected on the following the application procedure, selection process, and completion rate. The required documents to be reviewed are as follows: (a) application forms, (b) formal selection criteria & procedure, (c) ideal trainer profile and its application, (d) preparation, implementation & results of interview, (e) list of interviewer, and (f) competition rate, etc. The following sample questions will provide evidence about the selection of trainers: Documents required: 1) application form, 2) formal selection criteria & procedure, 3) ideal trainer profile and its application, 4) preparation, implementation & results of structured interview, 5) list of interviewer, 6) competition rate, 7) contents of teachers’ training, etc.</p>	

⁹ Education Sector Analysis of the Republic of Sierra Leone, Assessing the enabling environment for gender equality, Republic of Sierra Leone, UNICEF, IIEP-UNESCO Dakar 2020.

How to document data for Internal quality assurance

Evidence of good selection of trainers can be documented by:

Qualitative data

Candidate questions to explore evidences:

- 1) Does TVET institution have cooperative relations with other TVET institutions for good teacher selection
- 2) Does the TVET institution have close collaboration with industries providing candidates?
- 3) Does TVET institution have cooperative enterprises to exchange ideas selecting teacher, reflecting industry viewpoints?

Quantitative data

- 1) Number of institutions that the TVET Institution has a close cooperative relationship (e.g. Twinning)
- 2) Number of industries with which the TVET institution is collaborating with industry for teacher selection
- 3) Number of enterprises involved in the exchange ideas reflecting industry needs for selecting teachers.

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution collaborates with other TVET institutions for good teacher selection
- Teachers are selected based on qualification, skills and merit
- Views and needs of industry form part of the criteria for selecting teachers.

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2. INPUTS OF OPERATION	
Indicator #6 Operation of the internal department/team for quality assurance	<p>Internal management of each TVET institution is headed by a principal who reports to the Board or Council of the institution. The board or council as the highest decision-making organ oversees the functioning of the institution. Internal management is headed by the Principal through a management team that comprises of the Heads of Departments (HoDs), including administration. The management team is supported by other committees, functioning at the institute-wide (such as exams, admission committee, etc.) or at departmental levels. Although the board/council, management team and the various committees– academic, finance, etc. contribute to ensuring good management of the TVET institution, there is no dedicated Quality.</p> <p>As Internal Quality Management is new, there is no dedicated Quality Management Team in the TVET institutions in the strict sense of QMS. In practice, the internal quality management team (The Quality Team) should comprise of representatives from the TVET institution that has the responsibility to ensure that all processes needed for the quality management system are established, implemented and maintained. In addition, the Quality Team has the task to regularly report to the management on the performance of the quality management system and any need for improvement.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #6</p> <p>Data required are internal documents that can be collected through desk reviews and survey. Specifically, the data to be collected include the following:- 1) list of staff in the Quality Team; 2) Work plan schedule of the Quality Team; 3) Reports of the Quality team indicating achievements; 4) Orders of principal for implementation of recommendations from the Quality Team; 5) Data on the activities of the Quality Team collected from other teams inside and outside TVET institutions, and 6) the challenges of quality assurance in TVET institution, etc. The last two (5 and 6) data sets can be collected through a short survey and analyzed using simple statistics to get mean values and percentages.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of good internal quality assurance can be documented by:</p> <p><u>Qualitative data</u></p> <p>Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) Does the TVET institution have a Quality Assurance Team? 2) Are the activities of the quality team reported regularly (Does reports of the quality exist?)? 3) Does principal have meetings with team leader of the Quality Team periodically? 4) Is the TVET institution’ vision, mission, and objectives evaluated every year? 5) Which internal and external organizations is the TVET institution Quality team associated with? 	

6) List of challenges of the quality assurance system of the TVET institution

Quantitative data

- 1) Number of time does the quality team meets in a year and reports of meetings available
- 2) Number of documented achievements of the Quality Team
- 3) Proportion of staff within TVET institution have positive perception about the work of the quality team
- 4) Proportion of teams outside TVET institution with positive perception about work of the quality team

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Existence of a Quality Assurance Team with clear terms of reference to assure quality
- QAT is empowered to collect data and prepare reports
 - based on reviews, including results of self- evaluations and external evaluations
 - feedback from trainees, employers and other stakeholders,
 - information on process performance and examination/assessment
 - results and the status of preventive or corrective actions
- The interest of principal with respect to the works of the QAT based on documented evidences of good perception of internal and external stakeholders about the QAT.

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2. INPUTS OF OPERATION	
Indicator #7 Committee set up to cooperate with industry experts	Despite the importance of formal cooperation between TVET institutions and companies, TVET institution in Sierra Leone do not have in place official committees that facilitates cooperation with industry experts and society with respect to aligning their programs to supply graduates to meet industry demands for manpower. This situation is due to the weak TVET regulatory framework and neglect of TVET until 2019, with the formulation of a national TVET policy. Although the NCTVA accredits TVET institutions, there is little or no emphasis on quality assurance in the delivery of training programmes, and the need to cooperate with industry experts. On the side of the TVET institutions, there are no formal internal quality assurance framework, including regular quality audits.
<u>Data Collection and Documentation</u>	
What data to collect and how to collect data about indicator #7	
Data required can be collected through desk review of relevant documents which includes 1) list of committee members, 2) meeting minutes of the committee, 3) application results of information from committee, 4) supports from big stakeholders to TVET institution, 5) achievements through cooperating with industry & society, etc.	
How to document data for Internal quality assurance	
Evidence that TVET institution has a committee to cooperate with industry experts can be documented by:	
<u>Qualitative data</u>	
Candidate questions to explore evidences:	
<ol style="list-style-type: none"> 1) What are the most important constraints for composing of industry committee? 2) What are the most important difficulties in recruiting influential participant in the committee? 3) What are the best strategies to collaborate with industry partners closely? 4) How did you explore meaningful industry partners? 5) What competencies are strongly required from industry partners? 6) How did TVET institution reflect their requirements to learning programmes? 7) What are the key achievements of the committee? 	
<u>Quantitative data</u>	
<ol style="list-style-type: none"> 1) Total number of committee members and proportion of committee members that are from industry 2) Number of times the committee meets in a year 3) Number of recommendations from the committee that have been implemented 	

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Evidence that a committee to cooperate with industry exist
- Participation of influential stakeholders in the committee
- Evidence that recommendations from the committee are implemented by the TVET institution
- List of achievements of the committee over a given period.

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2.	
INPUTS OF OPERATION	
<p>Indicator #8</p> <p>Procurement and maintenance of equipment and tools</p>	<p>Although workshops and laboratories exist in the GTIs and Higher Education Institutions offering TVET for practical purposes, they are not well equipped with the state-of-the-art equipment, tools and facilities. These equipment are largely procured from government budget allocated to the TVET institutions. However, due to the limited budgetary allocations there is very little capital expenditure in the sector. About 93 percent of the allocation is spent on salaries, leaving limited space for acquisition of goods and services that support quality learning. First aid equipment and safety gears though me available, they are insufficient for the number of learners. Safety instructions and emergency plans exist for existing tools, machines and equipment.</p> <p>Repair and maintenance plan for equipment and tools are prepared, implementation of plans is hindered by the lack of resources to purchase spare parts, which in most cases are imported. TVET institutions maintain up to date inventory. In addition, TVET institutions have plans to improve physical facilities, again due to lack of financial resources, implementation of such plans is delayed or not implemented. Although there is a policy of inclusivity, workshop equipment, tools, workbooks, workshop manuals, and instructional materials, are not adapted for the use of all categories of learners such as vulnerable, gender, and special needs. With the current limited resources allocated to TVET institutions, it will take special efforts and allocation of financial and human resources for TVET institutions to be inclusive.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #8</p> <p>Data required can be collected through desk review of relevant documents which includes 1) inventory of necessary equipment and tools, 2) procurement and maintenance plan of equipment and tools, 3) guidebook to operate and maintain equipment and tools, 4) participation of training of teacher to learn how to operate and maintain equipment and tools, 5) safety guideline of operating and managing equipment and tools, etc.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution procures and maintain equipment and tools can be documented by:</p> <p><u>Qualitative data</u></p> <p>Candidate questions to explore evidence:</p> <ol style="list-style-type: none"> 1) What are the best practices for securing necessary equipment and tools? 2) Does an updated inventory of workshop/laboratory equipment, tools, etc. exist? 	

- 3) Does the TVET institution have a procurement and maintenance plan of equipment and tools?
- 4) Does the TVET institution have state-of-the-art equipment, tools etc. for training?
- 5) What is the role of principal preparing learning environment by purchasing equipment and tools?
- 6) How often does teacher use equipment and tools while teaching learner?
- 7) How often does TVET institution maintain and updated inventory equipment and tools?

Quantitative data

- 1) Age and value of the important workshop/laboratory machines, tools, equipment, etc.
- 2) Expenditure on maintenance of workshop/laboratory machines, tools, equipment etc.
- 3) Proportion of trainers accessing safety and health equipment while in workshop/laboratory

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- An updated inventory of workshop/laboratory tools, equipment etc.
- Annual procurement and maintenance plan of equipment and tools
- Guidebook to operate and maintain equipment and tools in workshop/laboratory
- Safety and Health guideline for workshops/laboratory
- Knowledge of teachers to operate and maintain tools, equipment.
- Funding and fund-raising plan to procure key workshop/laboratory tools, equipment, etc.

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2. INPUTS OF OPERATION	
Indicator #9 Conducting skills Supply and demand survey	<p>MTHE/NCTVA and the Ministry of Labor do not currently have a formal mechanism to assess the demand for skills in the key economic sectors identified in the MTNDP 2023. Likewise, TVET institutions do not carry out skills gap assessments to align their programs to the demand of the labor market. Skills gap assessment requires substantial resources and time; thus it is not efficient for an individual TVET institution to make such an investment. A National Quality Framework (NQF) which a critical component of TVET quality system, has recently been developed. This manual and the support of the World Bank with through the Skills Development Project seeks to address these twin problems. TVET institutions have been supported under the Skills Development Project to implement demand driven skills development activities, including curriculum development in partnership with industry.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #9</p> <p>Data required can be collected through desk review of relevant documents, regular meetings with graduates that are employed in industry and most importantly through “Skills Gap Assessments” or skills supply and demand surveys, as well as tracer studies. These studies are complex and require time and significant financial outlay. Data from the surveys can be analyzed using simple statistics or by complex analytical approaches including modelling based on the objectives and hypotheses of the study.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution conducting skills supply and demand survey can be documented by:</p> <p><u>Qualitative data</u></p> <ol style="list-style-type: none"> 1) How does TVET institution identify the sectoral needs and demands in the labor market? 2) Does TVET institution itself carry out periodic supply and demand survey? 3) Does TVET institution have and maintain cooperative network with stakeholders including employers? 4) Does TVET institution collect stakeholder’ opinion including employers periodically? 5) Does TVET institution hold meetings with employers if necessary 6) Does TVET institution hold annual or half year meeting with graduates working at companies? 7) Does the TVET institution regularly carry out tracer studies? 	

Quantitative data

- 1) Number of cooperation networks with key stakeholders and employers periodically
- 2) Number of cooperative meetings with employers held per year
- 3) Number of meetings with employed graduates
- 4) Percentage of graduates in preceding year, for which institute has been able to record employment outcomes)
- 5) Results of tracer studies discussed and presented to institute management and industry representatives.

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Skills Supply and demand survey reports
- Operation of cooperative network with stakeholders including employers
- Reports of regular meetings with employers
- Report of tracer studies

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2. INPUTS OF OPERATION	
Indicator #10 Carrying out promotion of TVET institution	<p>Conducting regular and planned promotion of TVET institutions is necessary for 1) recruiting adequate number and level of learners, 2) exploring decent job vacancies for learners, and 3) expanding cooperation with companies providing learners to acquire working experience to be hired after graduation. However, TVET institutions in Sierra Leone do not have in place plans for carrying out regular and systematic promotion of their institutions. A possible reason for this is that there are few TVET institutions in the country thus little or no competition. The websites provide general information about the institutions including admission requirements and procedures, programmes offered, contact details, etc. Specific plans for carrying out promotional activities are not in place, although ad hoc promotion may be carried out through radio or TV interviews by the principals if invited to a radio or TV show to speak about his/her institution and programmes offered by the institution.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #10</p> <p>Data required for assessment are: 1) document detailing promotion plan, 2) documented achievements by implementing promotional activities, 3) meeting minute with promotion experts, 4) main media used for promotion of TVET institution, 5) management and operation of information system for promoting TVET institution, 6) principal’s interest facilitating promotion as documented in Management meeting reports, etc. These documents should be available in the institutions and can be collected through desk reviews complemented by interview with the senior management team of the institution, including the Principal. The interview can generate qualitative and quantitative data.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution carry out promotion of TVET institution can be documented by:</p> <p><u>Qualitative data</u></p> <p>Candidate questions to explore evidence:</p> <ol style="list-style-type: none"> 1) Which section in TVET institution take a responsibility for planning and implementing promotion? 2) Does TVET institution have annual plan for promotion? 3) How does the principal support promotion plan in terms of securing fund? 4) What are the positive feedbacks of promotion? 	

Quantitative data

- 1) Number of times senior management team or principal met with expert responsible for promotion
- 2) Budget allocated for promotional activities per annum
- 3) Number of staff involved in accompanying the promotion plan

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Availability of promotion plan accompanying
- Budget allocated to promotional activities per annum
- Number of suitable staff involved in the implementation of the promotion plan
- Availability of report on lesson learned and feedbacks from key stakeholders in relation to the promotion plan
- Evidence of the principal's interest in the preparation and implementation of promotion plan.

Table 2.2 Guidelines for Indicators under Input of Operation (continues)

DOMAIN 2. INPUTS OF OPERATION	
<p>Indicator #11</p> <p>Securing sustainable financing</p>	<p>Although there are generally three main sources of funding for TVET institution accredited by government. These are (a) allocation from government budgetary allocation; (b) financial and in-kind supports from companies, with whom TVET institution have cooperative agreement; and (c) project funds from international organization (donner). Among these, the most stable source of financing is the government, followed by project funding from donors. Despite technical education explicitly comes out as a key enabler of the MTNDP 2019-2023, spending levels by government on TVET depict a sharp departure from the policy intent. Recurrent spending in TVET during the 2019 fiscal year amounted to Le 23.8 billion, accounting for only 2.3% of the overall recurrent spending in the sector, with an average of 2.9% over the last nine years.</p> <p>The Skills Development Fund under the Skills Development Project funded by the Government of Sierra Leone and the World Bank has been the most important provider of financial resources to TVET institutions. Eligible TVET institutions have to submit a proposal for approval through a special committee established for the project. The fund provided to each TVET institution is to be used to finance expenditures of the TVET institutions for the updating of curricula, purchasing learning resources, training of trainers and instructors, industrial attachments, twinning arrangements, career counselling, internships, training needs assessments, and tracer studies. Financial and in-kind supports from companies to TVET institutions is rare, probably because several TVET institutions do not have cooperative agreements with companies for activities that justify funding from the companies.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #11</p> <p>Data to be collected includes financial statements, plan for raising funds, donor funded projects and most current audited financial report. These data can be collected through desk review focusing on the budgets and finance department of the TVET institution. This can be complemented by an interview with the Principal of the TVET institution.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution is securing sustainable financing can be documented by:</p>	

Qualitative data

Candidate questions to explore evidence:

- 1) Which organizations provide main financial resources for TVET institution?
- 2) Why do government and organizations do to provide financial support to TVET institution?
- 3) What are main difficulties in getting funding domestically and internationally?
- 4) What is the most important strategy for securing financial support domestically and internationally?

Quantitative data

- 1) Funds received by source of financing per annum
- 2) Funds raised by TVET institution's efforts, for example, providing services to neighbor in terms of learning
- 3) Amounts expected from government, cooperative partners and donor funded projects

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Financial plan reflecting financial sources of TVET institution
- Documented cooperative network of TVET institution and financial resources earned or saved
- Donor funded projects completed or being implemented
- The reputation of TVET institution with respect to research and development

2.4 Process of Operation (Domain #3)

There are 10 main indicators under the process of operation. These (i) Effective implementation of CBET; (ii) Securing relevant teaching & learning materials; (iii) Implementing competency-based internal assessment; (iv) Apply for external assessment to secure national qualification; (v) Conduct counselling and support job-seeking activity; (vi) Carry out finance management and operation; (vii) Build and maintain the learning environment; (viii) continuing Professional Development (CPD) for TVET teachers; (ix) Establish & operate computerized information system; and (x) Carry out follow-up service for graduates. Table 2.3 outlines the national context, data to be collected and how to collect such data for assessing each indicator.

Table 2.3 Guidelines for Indicators under Process of Operation

DOMAIN 3. PROCESS OF OPERATION	
Indicator #12 Effective implementation of CBET	Until recently TVET institutions did not have formal National Occupational Standards (NOS). With support from the Sierra Leone Skills Development Project, NCTVA and MTHE have developed 25 NOSs ¹⁰ by applying the DACUM method, which consist of unit standards. The NOS was developed as the basis for CBET. The curriculum was developed based on national unit standards developed by industry. The unit standards describe the competences which a successful worker should demonstrate in the world of work. The development of the curriculum based on the unit standards makes the curriculum relevant to the needs of industry. The unit standards will be the basis for the assessment of learners for the purpose of competence certification. This will enhance the local, regional, and international recognition of the qualification which will be awarded to the graduates of the training program. The competency-based curriculum relied on NOS and the emerging Sierra Leone NQF which promotes the establishment of a demand-driven competency-based TVET system are becoming the core part of competency-based or learning outcome-based approach reflecting the demands of industry to TVET system. These involve the active participation of business, industry, and other stakeholders in development of a TVET system which is responsive to the needs of the economy, and which produce high-leveled graduates who can drive the development of industry.
<u>Data Collection and Documentation</u>	
What data to collect and how to collect data about indicator #12	
Documents required can be collected through desk review of the following documents: 1) List of NOSs related to developing curriculum, 2) implementation of CBET, practical pedagogies, lesson plans, and learning materials 3) current situation implementing work-based learning, 4) development of structured OJT, 5) meeting minutes with industry experts preparing and implementing work-based learning, etc.	

¹⁰ Currently, 19 NOSs are developed for the following occupations - such as: 1) Excavator, 2. Fish processor, 3) Heavy duty equipment - Grader, 4) Housekeeper, 5) Medical laboratory technician, 6) Mobile Crane operator, 7) Painting and decorating, 8) Pastry maker, 9) Plumber, 10) Poultry farmer, 11) Slinger banksman, 13) Tiler, 14) Vegetable grower, 15) Welding and fabrication, etc. – and the remaining 9 NOSs are under development.

How to document data for Internal quality assurance

Evidence that TVET institution is effectively implementing CBET can be documented by:

Qualitative data

Candidate questions to explore evidence:

- 1) Does TVET institution make efforts to implement CBET in collaboration with industry experts?
- 2) Does TVET institution provide practical pedagogies in collaboration with industry experts?
- 3) What are main huddles to implement CBET?
- 4) How do TVET institution manage challenges in terms of implementing CBET?
- 5) Do teachers and trainers including principal competent to implement CBET?
- 6) Is CPD of teacher and trainer useful for understanding and conducting CBET?
- 7) What efforts have TVET institution made to upgrade results of internship and job attachments?

Quantitative data

- 1) Number of NOS for specific occupations implemented by TVET institution
- 2) Number of competent teacher and trainer to implement CBET, reflecting the demands of industry and society
- 3) Number cooperative network established by TVET institution with companies providing on-the-job training
- 4) Number of trainers/tutors registered in Continuing Professional Development programmes
- 5) Number of CBET-based lesson plans (based on NOS)

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution has competent teacher and trainer to implement CBET using relevant and practical pedagogies, reflecting the demands of industry and society
- TVET institution has sets up systematic approach to implement CBET-based lesson plans (based on NOS), by applying for adequate and practical pedagogies and learning methods alongside with learning materials
- Cooperative network of TVET institution with companies providing work-based learning is very critical for implementing internship and job attachment
- CPD (Continuing Professional Development) helps teachers and trainers for implementing competency-based teaching and learning and practical pedagogies

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3. PROCESS OF OPERATION	
Indicator #13 Securing relevant teaching & learning materials	<p>Teaching and learning facilities are inadequate for the learning goals of TVET institutions. In particular, the relevant textbooks, learning materials, consumables and equipment for implementing CBET curriculum are inadequate. In most cases, TVET institutions do not involve experts outside TVET institution in the preparation of curriculum, teaching and learning materials. Due to financial and other constraints, facilities such as workshops, laboratories, libraries and ICT infrastructure are inadequate to meet the needs of institutions tasked with preparing graduates to adequate skills demanded by labor market. In addition, general infrastructure such as lecture halls, WASH facilities, and recreational facilities have also deteriorated in the TVET institutions. Students with special needs are not adequately catered for as there are no support facilities provided for them. Although TVET institutions are supposed to provide adequate infrastructure for students with special needs, such infrastructure is not available. Also, there are no qualified and competent trainers to train students with special needs, nor are the laboratories and workshops equipped with equipment and facilities for such students.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #13 Data required can be obtained from the following: 1) List of teaching and learning materials developed, 2) Funds to invest for developing teaching and learning materials, 3) Collaboration with outside experts to develop teaching and learning materials, 4) meeting minutes with outside experts, etc. These data can be collected through desk reviews of the appropriate documents, which are available in the TVET institution. These could be complemented by an interview with the principal of the TVET institution.</p> <p>How to document data for Internal quality assurance Evidence that TVET institution is securing relevant teaching and learning materials can be documented by:</p> <p><u>Qualitative data</u> Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) Does TVET institution consistently make efforts to develop teaching and learning materials with industry experts? 2) What are main huddles to developing teaching and learning materials? 3) How does TVET institution overcome difficulties, developing and applying for adequate level and amount of teaching and learning materials? 4) Does TVET institution conduct survey for figuring out the needs for developing teaching and learning materials for teachers and learners periodically? 	

Quantitative data

- 1) Number of teaching and learning materials developed by TVET institution with industry experts
- 2) Number of studies conducted to ascertain the needs for developing teaching and learning materials
- 3) Amount budgeted and disbursed for periodic needs assessment for developing teaching and learning materials

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Teaching and learning materials for learner and teachers developed in collaboration with industry experts
- Amount of fund allocated to supporting development of teaching and learning materials
- Efforts and time consistently devoted by teachers to develop teaching and learning materials
- Cooperation with other TVET institutions, companies, etc. for sharing teaching and learning materials

2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3 PROCESS OF OPERATION	
Indicator #14 Implementing competency-based internal assessment	<p>NCTVA and MTHE have developed 25 National Occupational Standards (NOS)¹¹ by applying the DACUM method, which consist of unit standards. Each unit standard is allocated a certain number of credit, which are made of elements based on performance criteria with 1) competences required in readiness for assessment, 2) generic skills and 3) range statement (tools, equipment and materials, assessment and certification) (NCTVA & MTHE, 2021a). The NOS was developed as the basis for CBET. The development of the curriculum based on the unit standards makes the curriculum relevant to the needs of industry.</p> <p>Implementing Competency-Based internal assessment in TVET institutions is new in Sierra Leone. Also, curriculum based on NOS and NQF which promotes the establishment of a demand-driven competency-based TVET system are becoming the core part of competency-based or learning outcome-based approach. This approach reflects the demands of industry to TVET system. Although the these involve the active participation of business, industry, and other stakeholders in development of a TVET system, it is not quite in the case of TVET institutions in Sierra Leone. Also, the grading system for trainees which should indicate competency or capacities of trainee against the level of the employers should be competency-based, but, in practice, the capacity or performance of trainees in a subject is assigned a numerical (range) and letter grade (see NCTVA. (2009:5). Examination Manual).</p>
<u>Data Collection and Documentation</u>	
What data to collect and how to collect data about indicator #14	
<p>Data required can be obtained from the following: 1) Assessment results according to individual learner, 2) Internal document of assessment plan, 3) Relevance between internal and external assessment in terms of level and content, 4) No. of teachers participating CPD, 5) meeting minutes with industry experts preparing and implementing outcome-based assessment, etc. The data can be collected through desk review of documents available in the TVET institution complemented by interviews with key informants that are knowledgeable about the TVET institution.</p>	
How to document data for Internal quality assurance	
<p>Evidence that TVET institution is implementing competency-based internal assessment can be documented by:</p>	

¹¹ Currently, 19 NOSs are developed for the following occupations - such as: 1) Excavator, 2. Fish processor, 3) Heavy duty equipment - Grader, 4) Housekeeper, 5) Medical laboratory technician, 6) Mobile Crane operator, 7) Painting and decorating, 8) Pastry maker, 9) Plumber, 10) Poultry farmer, 11) Slinger banksman, 13) Tiler, 14) Vegetable grower, 15) Welding and fabrication, etc. – and the remaining 9 NOSs are under development.

Qualitative data

Candidate questions to explore evidences:

- 1) Does TVET institution consistently make efforts to develop and implement competency-based assessment with industry experts?
- 2) What are main huddles to develop and implement competency-based assessment?
- 3) How does TVET institution overcome difficulties, developing and applying for competency- based assessment?
- 4) Does TVET institution prepare strategies to match between internal and external assessment?
- 5) What kinds of feedbacks from competency-based assessment are useful for planning and operating CBET?

Quantitative data

- 1) Number of trying for the development of competency-based assessment approach cooperating with industry experts
- 2) Amount of budget allocated to develop and implement competency-based assessment as pilot project

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Understanding of the principal and teachers of the necessity for preparing and implementing NOS-based assessment in terms of operating learning-outcome system
- Assessment report that is based on performance criteria included in NOS
- Feedbacks from partners providing recommendations for improving teaching and learning
- Usefulness of assessment results for learners who want to acquire national qualification

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3 PROCESS OF OPERATION	
<p>Indicator #15 Apply for external assessment to secure national qualification</p>	<p>There is already an TVET accreditation framework (EQAF) implemented by the NCTVA that constitutes the external quality assurance (EQA) within quality management. In order for a TVET institution to be accredited, it must apply to the NCTVA and undergo a process that includes evaluation, assessment and ultimate certification of institution if it meets the requirements of basic minimum standards to competently provide courses in selected areas. Thus TVET institutions are required to apply to NCTVA to be accredited and secure national qualification. The major purpose of accreditation of TVET institutions and programs is to assure both candidates and the public that a given TVET program is of high quality and effective in preparing candidates to meet the basic minimum standards for the requirements for accreditation and the demands of the job market. A review of the NCTVA’s accreditation reveals that many evaluation items belong to the category of the physical environment, and the components related to quality of teaching and learning which is a core element of cultivating quality workforce responding to industry demands were limited even though industry linkage as new item is included currently.</p> <p>Prior to applying for external accreditation to NCTVA, the TVET institution must prepare the following for evaluation: 1) general information about the institution; 2) detailed information about the programs. With respect to the information about the institution, the following information are required: 1) governance and management, 2) composition of academic/examination board, 3) programs offered and enrolment requirements, 4) availability and assets of library, 5) information on access of trainers to computer/internet facilities, 6) availability of water and sanitation and health facilities, 7) description of available recreational facilities. With regards to the programs offered, the following information are required: 1) staffing and qualifications of each staff, 2) training infrastructure including laboratories, workshops, etc. 3) industry linkages, 4) specific tools and equipment available to trainees, 5) existence of departmental library, 6) departmental computer facilities, 7) available funding by sources, and 8) other departmental facilities.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #15</p> <p>Data to be collected can be obtained through desk review of documents available in the TVET institutions. This could be complemented by interview with the principal and senior management team of the institution, and industry leaders. Specifically, the following data required: 1) number of trained and qualified trainers and tutors; 2) Support provided to learners by TVET institution for the acquisition of qualification; 3) Usefulness of certificates to learners by the TVET institution; 4) meeting minutes with industry and qualification-related experts for exchanging professional information and of usefulness of certificates, etc.</p>	

How to document data for Internal quality assurance

Evidence that TVET institution is prepared to apply for external assessment can be documented by:

Qualitative data

Candidate questions to explore evidence:

- 1) Does TVET institution consistently make efforts to extend the cooperation with national and international qualification testing organizations?
- 2) What are main challenges to increase pass rate of qualification testing?
- 3) How does TVET institution overcome difficulties in supporting learners to have more chance to be passed
- 4) What is the perception of industry on the usefulness of certificates to be issued by TVET institution;

Quantitative data

- 1) Number of applicants and successful trainees to acquire national or international certificate
- 2) Number of meeting minutes with industry and qualification-related experts

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Available strategies for increasing learner's pass rate of national and international qualification and testing
- Understanding of principal and teachers' on the characteristic and usage of national and international certificates
- Understanding of qualification system's role and function in terms of controlling quality of TVET (add this one)
- Understanding of labor market needs and career development of learners after graduation.
- Competency of teachers and trainers to applying for international qualification testing
- Curriculum and teaching methodologies aligned to national and international qualification testing criteria
- Feedback and results of qualification testing used to manage and operate curriculum

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3 PROCESS OF OPERATION	
Indicator #16 Conduct counselling and support job- seeking activity	<p>In principle, career guidance or counselling is intended to assist individuals, of any age and any point throughout their lives, to make educational, training and occupational choices and to manage their careers. This includes three main elements: 1) Career information, covering information on courses, occupations and career paths, including labor market information; 2) Career counselling, conducted on a one-to-one basis or in small groups, in which attention is focused on the distinctive career issues faced by individuals; and 3) Career education, as part of the educational curriculum, in which attention is paid to helping groups of individuals to develop the competences for managing their career development. The first main element (career information, etc.) is made available by TVET institutions in print form, but is increasingly being provided on the websites of TVET institutions. The second main element (Career counselling, etc.) is hardly provided by TVE institutions, though some related information may be provided during orientation of trainees. The third main element (career education, etc.) is provided by training providers throughout the training program.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #16</p> <p>Data to be collected include the following 1) available TVET options and the qualifications to which they lead, and the further qualifications to which they give access; 2) occupations to which these qualifications provide access; 3) the extent to which the qualifications gained are sufficient for entry to other qualifications; 4) the salary/wage levels offered to graduates for each occupation; 5) the projected demand for each occupation; 6) employment of graduates that successfully complete the programs, and 6) the extent to which graduates are using the skills and competences acquired in the program. Some of these data can be collected through desk research of available documents at the TVET institution, while others are collected through labor market survey or documents from the Ministry of Labor. Interviews with learners and graduates will also provide additional data.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution provides counselling and support job-seeking activities can be documented by:</p> <p>Qualitative data</p> <p>Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) Does the TVET institution have a Career Counsellor? 2) Has TVET institution developed and implemented career guidance in cooperation with industry experts? 3) What are main constraints to develop and implement career guidance? 4) How does TVET institution support learners to participate in career guidance activities? 	

- 5) What are the available TVET options and the qualifications they lead to, including further qualifications?
- 6) Which occupations does the qualifications provide access to?
- 7) To what extent does the qualifications gained sufficient for entry to higher qualifications?
- 8) To what extent are graduates using the skills and competences acquired in the program?

Quantitative data

- 1) Number of learners that participated in career counselling activities
- 2) Number of graduates supported by TVET institution to gain apprenticeship
- 3) Number of graduates that successfully complete the programs,
- 4) Amount paid as salary/wage per month for different levels of graduates for each occupation;
- 5) Projected demand for each occupation

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution has in place counselling and guidance activities for trainees and job-seekers
- Periodically TVET institution provides career guidance service to learners
- TVET institution has developed and implemented career guidance in cooperation with industry experts
- Understanding of relationship between career development and qualification acquisition

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3. PROCESS OF OPERATION	
Indicator # 17 Carry out finance management and operation	<p>TVET institutions have in place a Budget and Finance Department responsible for the preparation of annual financial plans as well as the operation and management of financial systems. In all cases the principal is the lead financial official of the institution. Each TVET institution maintain dedicated Bank Account to which all payments and withdrawals are made. The principal and Head of Budget and Finance Department are signatories to the account.</p> <p>Separate accounts are maintained for Donor funded projects.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #17</p> <p>Data to be collected include the following: 1) existence and use of a financial management system; 2) qualification of the budget and finance officers; 3) systems in place for accountability for finances. These data can be collected through desk research focusing on documents available at the Budget and Finance department of the TVET institution. The following are useful documents to be reviewed: 1) Annual financial plan, 2) financial development plan; 3) operations manual for increasing transparency and preventive measures in place to reducing financial mistakes. The required data can be complemented by interviews with officers at the Budget and Finance Department of the TVET institution.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution carry out finance management and operation can be documented by:</p> <p><u>Qualitative data</u></p> <p>Candidate questions to explore evidence:</p> <ol style="list-style-type: none"> 1) Does TVET institution have in place a professional financial management system (FMS)? 2) Does TVET institution seek supports from external financial experts to perfect its FMS? 3) Is the TVET institution implementing best practices in financial management and operation? 4) What are the main huddles securing quality of financial management and operation? 5) Is the TVET institution audited periodically? 6) Are there financial regulations and guidelines in place and are they strictly followed? 	

Quantitative data

- 1) Number of trained and qualified staff at the Budget and Finance Department
- 2) Annual cost of maintaining the Financial Management System
- 3) Amount spent to purchase, install and train staff to use Financial Management System

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- High quality of finance management system promoting transparent operations
- Annual work and budget and financial plan
- Reputation of TVET institution with respect to transparency and procedures in financial management
- Harmonized internal regulation of finance and financial guidelines for external donors (government or international donors, etc.)

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3. PROCESS OF OPERATION	
Indicator #18 Build and maintain the learning environment	<p>TVET institutions like any other learning institutions should provide learning environment that foster safety, healthy and conducive learning. Such environment must be physically and psychologically safe and free from all forms of abuse or discrimination, especially for girls, women and people with disabilities. With respect to standards, several TVET institutions do not meet minimum standards for health and safety. Availability of a safe water source, adequate toilet and hand-washing facilities, and recreational facilities are part of the minimum standards for approval of TVET institutions. It is in this respect that the Education Sector Plan 2022-2026 have made provision for the MTHE to provide infrastructure support grants to TVET institutions to improve their infrastructure to enable them to meet minimum standards, making classroom buildings and WASH facilities more accessible to students with disabilities and girls.</p> <p>The laws of Sierra Leone and the Code of Conduct for teachers/tutors very explicitly prohibit all forms of abuse (sexual and otherwise), enforcement of the law and code of conduct for teachers is the challenge. In most cases, students, parents and communities are not always aware of the various channels available to them to report, and social norms also make it difficult to report abuse and violence.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #18</p> <p>Data to be collected include the following: 1) Plan for the implementation or results of implementing food hygiene & safety management in the areas of a) cleaning and sanitation, b) personal hygiene, c) pest control, d) plant and equipment at workshop, e) services such as lighting, ventilation, and storage facilities, f) waste management, 2) Plan for the implementation or results of environment management of TVET institution focused on a) waste reduction, b) energy efficiencies, c) water consumption. These data can be collected through desk research focusing on documents available at the TVET institution. Physical observation of infrastructure and facilities at the TVET institutions must be carried out to assess hygiene and safety of the learning environment.</p> <p>How to document data for Internal quality assurance.</p> <p>Evidence that TVET institution has built and maintained conducive learning environment can be documented by:</p> <p><u>Qualitative data</u></p> <p>Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) Does TVET institution have an internal policy to prepare and implement learner-centered learning environment? 2) Does TVET institution regard hygiene & safety management as paramount importance? 3) Does TVET institution consider environment management in the dimension of saving cost of operation? 	

Quantitative data

Candidate questions to explore evidences:

- 1) Allocated budget (USD) for planning and implementing food hygiene & safety management
- 2) Allocated budget (USD) for planning and implementing environmental management
- 3) Savings made (USD) as result of implementing environmental management plan

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution has adopted a comprehensive approach to hygiene and safety management system
- Staff and learners have a good knowledge of all relevant hygiene regulations and practices
- Institution have adopted a comprehensive safety management system that is regularly audited for compliance
- Institution consider safety a priority and defined safety measures are in place
- Fire safety and evacuation procedures are established and monitored
- A strong commitment to environmental management is shown at all levels in TVET institution
- An implementation plan is introduced to achieve the goals of the environmental management system
- Environment management system is regularly reviewed and improved

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3. PROCESS OF OPERATION	
Indicator #19 Continuing Professional Development (CPD) for TVET teachers	<p>Continuing Professional Development (CPD) for TVET teachers is considered a vital tool for enhancing quality of TVET institutions. It is known that professional development can improve the quality of teaching and learning in a sustainable manner, increasing the effectiveness of education and training and adding value for learners, teachers and employers. However, there is no policy for CPD for teachers in TVET institutions. As a result, TVET institutions do not have formal plans for CPD for teachers. However, the MTHE facilitates access to scholarships not just for TVET teachers but others inclusive for study and training abroad.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #19</p> <p>Data to be collected can be obtained from the following documents: 1) CPD policy and implementation plan; 2) Annual budget allocated for CPD for teachers; 3) List of CPD participants; 4) List of staffs taking responsibility of CPD; 5) meeting minutes selecting CPD topics between principal and teachers, including industry experts, etc. Data can be collected through desk research focusing on the documents listed. In the case of incomplete data, interviews can be held with the principal and other senior management team if the TVET institution.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence that TVET institution has CPD in place can be documented by:</p> <p><u>Qualitative data</u></p> <ol style="list-style-type: none"> 1) Does the content of CPD focus on teaching and learning-related one? 2) Do teachers have a strong interest in participating CPD? 3) What are the main huddles activating CPD organized by TVET institution itself? 4) What are the benefits participating CPD run by government? 5) Are CPD useful for upgrading capacity for teaching and activating learning? <p><u>Quantitative data</u></p> <ul style="list-style-type: none"> ▪ Annual budget allocated for CPD for teachers ▪ Number of teachers that have participated in CPD ▪ List of staffs responsible for managing CPD for teachers 	

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution understands the importance of CPD for teacher and trainer and provide financial support
- TVET institution-led CPD are prepared periodically according to the annual plan
- The necessary conditions of teacher's active participation to CPD depends on the supports from principal
- The quality of CPD available for teachers and trainers is very essential for activation of CPD

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3. PROCESS OF OPERATION	
Indicator #20 Establish & operate computerized information system	Digital transformation of industries and workplace is continuously requiring changes in the skills sets needed for work and life. In this respect teaching and learning at TVET institutions need to be upgraded to better address the changes and challenges emanating from the introduction and dominance of Information and Communication Technologies (ICT) in all spheres of life. While this has become a necessity for integration into the TVET curriculum it is still considered as an add on, thus TVET institutions in Sierra Leone are not making the best use and opportunities provided by ICT. Teachers as well as learners do not have adequate access to computers and internet services. While most of the TVET institutions have established ICT or Computer labs, adequacy of computers access to uninterrupted electricity is a limiting factor. In cases where ICT technologies are available for pedagogical purposes, inadequate and intermittent access to electricity limit their use. ICT knowledge is also limited among teachers and learners. Thus, there is need for upgrading ICT infrastructure as well as the strengthening the capacity of teachers and learners in the use and application of ICT to better prepare trainers for the evolving needs of the workplace.
<u>Data Collection and Documentation</u>	
What data to collect and how to collect data about indicator #20	
Data to be collected can be obtained from the following documents: 1) The plan for establishing computerized information system together with financial plan; 2) Contracts for the recruitment of experts to set up and operate computerized information system; 3) meeting minutes establishing and operating information system, including industry experts; 4) strategy establishing ITC or computer lab; 5) ICT curriculum, etc. The data can be collected through desk research and review of the listed documents.	
How to document data for Internal quality assurance	
Evidence that TVET institution has establish & operate computerized information system can be documented by:	
<u>Qualitative data</u>	
Candidate questions to explore evidences:	
<ol style="list-style-type: none"> 1) Does TVET institution has budget and plan to establish and operate information system? 2) Is there budget allocated for operations and maintenance of the information system? 3) Do principal and teachers have a strong interest in information system? 4) What are the main huddles for establishing and operating computerized information system? 5) Does the TVET institution have a functional ICT or Computer lab? 6) Is ICT integrated in the Curriculum of the TVET institution? 	

- 7) Do teachers and trainees have seamless access to ICT facilities?
- 8) Does TVET institution has plan with budget to upgrade teachers and staff ICT literacy?

Quantitative data

- 1) Amount budgeted for ITC in the annual financial plan
- 2) Computer to Students Ratio
- 3) Number of teachers/trainers that are functional in computer and internet use
- 4) Amount allocated for upgrading computer and related competency of teachers and non-academic staff

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution understands the importance of establishing and maintaining computerized information system necessary for handling with information
- TVET institution sets up the plan to manage and operate information system, backing up by financial plan
- TVET institution have a plan to upgrade teachers and staffs' computer-related competency through implementing CPD
- The principal has a strong interest to establish and operate computerized information system
- ICT or computer lab is established, maintained and operational

Table 2.3 Guidelines for Indicators under Process of Operation (continues)

DOMAIN 3 PROCESS OF OPERATION	
Indicator #21 Carry out follow-up service for graduates	<p>Following up to support TVET graduates can enhance the chances of graduates finding employment and maintaining a close cooperative relationship between graduates and the TVET institutions. Providing follow up services to graduates could also lead to a closer relationship between TVET institutions and companies that employ graduates. Despite the advantages, TVET institutions do not provide follow up services to their graduates. Also, the alumna from TVET institutions is not well organized or strong enough to provide the linkages between graduates and TVET institutions on one hand and with employers on the other hand.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #21 The required data can be collected from the following documents: 1) List of meetings between graduates and TVET institution management, 2) List of teachers and trainers participating follow-up service, 3) List of learners participating the event to meet graduates invited by TVET institution periodically, 4) Document related to activate follow-up service for graduates, 5) meeting minutes with industry experts preparing and implementing follow-up services, etc. Data can be collected through desk research focusing on the listed documents that are available at the TVET institution.</p> <p>How to document data for Internal quality assurance Evidence that TVET institution has follow-up service for graduates can be documented by:</p> <p>Qualitative data Candidate questions to explore evidences: 1) Does TVET institution consistently make efforts to increase the number of graduates involved in follow-up services? 2) What are the main huddles to activate follow-up service for graduates? 3) How does TVET institution overcome difficulties, supporting graduates to extend working period in same companies in order to obtain the mastery of skill? 4) Does TVET institution successfully engage in cooperative relationship with companies where graduates are working?</p> <p>Quantitative data 1) Number of graduates supported by TVET institution to acquire employment 2) Number of meetings held between graduates and TVET institution management 3) Number of teachers and staff in Graduate-TVET Institution Committee 4) Number of follow up services event organized by TVET institution per year 5) Number of graduates attending follow up services organized by TVET Institution per annum.</p>	

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution acknowledges the importance of follow-up service to graduates in terms of increasing employment rate and retention rate for 6 months
- Periodically TVET institution prepared the event inviting graduates to TVET institution, providing chances to meet learners who want to find jobs in same sector and similar jobs
- Teachers and trainers pay a lots of attention to providing follow-up service for graduates, which could give teachers and trainers reflections to their teaching and supports of learning

2.5. Product of Operation (Domain #4)

There are 7 main indicators under the Product of Operation. These include (i) Completion Rate; (ii) Qualification acquisition rate; (iii) Employment rate; (iv) Retention rate within 6 months; (v) Productivity; (vi) Wage increase; and (vii) Promotion at workplace. Table 2.4 outlines the national context, data to be collected and how to collect such data for assessing each indicator.

Table 2.4 Guidelines for Indicators under Product of Operation

DOMAIN 4. PRODUCTS OF OPERATION	
Indicator #22 Completion Rate	<p>Data on completion rate for current year is unavailable. However, data reported by UNESCO and UNICEF (2020)¹² indicates that in 2018, the overall success rate of TVET students in final examination was as low as 51%, and fell to 45% in TVET institutions. Beyond poor learning outcomes, the data shed light on poor management of the examination process, undermining the education system. It appears that 3% of TVET students were under investigation for cheating in the final examination, and in 4% of all TVET institutions. Accordingly, the quality of TVET seems to be a non-negligible issue in Sierra Leone.</p> <hr/> <p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #22 The required data can be collected from the following documents through desk research: 1) End of programme examination records; 2) document preparing countermeasures to decrease drop-out rate, 3) meeting minutes with industry experts to understand change of industry, technology, and skills, etc. for use to better prepare students for final examinations</p> <p>How to document data for Internal quality assurance Evidence of completion rate of the TVET institution can be documented by:</p> <p><u>Qualitative data</u> Candidate questions to explore evidences: 1) Does TVET institution consistently make efforts to increase completion rate? 2) What are the main challenges to increase completion rate, 3) How does TVET institution overcome difficulties, increasing or maintaining high level completion rate?</p>

¹² UNESCO and UNICEF (2020): Republic of Sierra Leone: Education sector analysis: assessing the enabling environment for gender equality.

	<u>Quantitative data</u>
	1) Number of students that graduated compared to number that registered at the beginning (percent) 2) Trends of drop-out rate in every 3 years
<u>Key Points for Evaluation</u>	
Key points for TVET institutions to consider to receive good evaluation results:	
<ul style="list-style-type: none">• TVET institution should understand that quality assurance of teaching and learning is the most important to increase completion rate• Close cooperation with companies provides the basis to maintain high level of completion rate by providing learners chance to acquire working experience• Learner's expectation to find decent job after graduation successfully leads to attain high level of completion rate• Teachers and trainers' concern to learners is also very important to possess high level of completion rate	

- 1) Number of students that graduated compared to number that registered at the beginning (percent)
- 2) Trends of drop-out rate in every 3 years

Key Points for Evaluation**Key points for TVET institutions to consider to receive good evaluation results:**

- TVET institution should understand that quality assurance of teaching and learning is the most important to increase completion rate
- Close cooperation with companies provides the basis to maintain high level of completion rate by providing learners chance to acquire working experience
- Learner's expectation to find decent job after graduation successfully leads to attain high level of completion rate
- Teachers and trainers' concern to learners is also very important to possess high level of completion rate

Table 2.4 Guidelines for Indicators under Product of Operation (continues)

DOMAIN 4 PRODUCTS OF OPERATION	
<p>Indicator #23</p> <p>Qualification acquisition rate</p>	<p>NCTVA is the institution mandated to certify and award certificates and diplomas to graduates from TVET institutions in Sierra Leone. The certificates and diplomas issued attests to employers that the certificate and diploma holders possess the qualifications and have the competencies that company asks for their workers. Such qualifications should in principle align with the industry demands and needs and based on the National Occupational Standards¹³ (NOS), which provides common platform for managing competency-based education & training as well as qualification system. NCTVA and MTHE have developed 25 NOSs by applying the DACUM method, which consist of unit standards. Each unit standard is allocated a certain number of credit, which are made of elements based on performance criteria with 1) competences required in readiness for assessment, 2) generic skills and 3) range statement (tools, equipment and materials, assessment and certification). Qualification acquisition rate, which is the number of applicants to qualify after testing compared to the total number of applicants for the specific test. Qualification rate is usually provided for specific tests and is not available presently.</p>
<p>Data Collection and Documentation</p> <p>What data to collect and how to collect data about indicator #23</p> <p>Data on qualification acquisition rate can be collected from the following documents through desk research: 1) Number of successful candidate for qualification testing, 2) List of qualifications (certificates) to be acquired by learners, 3) meeting minutes with industry experts to understand characteristic and reputation of qualification in labor market, 4) Document related to qualification promotion to learners, led by TVET institution etc.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of qualification acquisition rate of graduates from a TVET institution can be documented by:</p> <p>Qualitative data</p> <p>Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) Does TVET institution consistently make efforts to apply learners for qualification testing as much as it could? 2) What are the main challenges to increase qualification acquisition rate 3) How does TVET institution overcome difficulties to increase no. of qualification holders? 4) Does TVET institution explore adequate qualification for attracting learners' concern? 	

¹³ Currently, 19 NOSs are developed for the following occupations - such as: 1) Excavator, 2. Fish processor, 3) Heavy duty equipment - Grader, 4) Housekeeper, 5) Medical laboratory technician, 6) Mobile Crane operator, 7) Painting and decorating, 8) Pastry maker, 9) Plumber, 10) Poultry farmer, 11) Slinger banksman, 13) Tiler, 14) Vegetable grower, 15) Welding and fabrication, etc. – and the remaining 9 NOSs are under development.

Quantitative data

- 1) Number of successful candidate that qualified for a particular testing
- 2) No. of applicant to particular testing

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution should understand benefits of competency-based qualification, guiding qualification holders for finding decent jobs in labor market
- Teachers and trainers should understand the reputation and utility of qualification in labor market that they recommend their learners to acquire
- Learner's expectation to acquire qualification could lead to attain high level of completion rate
- It is essential that NOS-based qualification leads to develop competency-based curriculum at TVET institution

Table 2.4 Guidelines for Indicators under Product of Operation (continues)

DOMAIN 4. PRODUCTS OF OPERATION	
<p>Indicator #24</p> <p>Employment rate</p>	<p>TVET has been given higher prominence by government to help train and skill the youth for employment. Thus employment rate of graduates from a particular TVET institution is an important indicator as it depicts the quality of teaching and learning and most importantly the relevance of programs to industry needs and demands. Therefore, TVET institutions offering programs that are needed and relevant to the labor market are expected to achieve high level of employment at decent jobs. Employment rate of graduate is the most important factor estimating the achievement or performance of TVET institution, which is an important objective of government TVET policy. While it is desirable for TVET institutions to nurture and maintain cooperative relationship with companies, with the aim to increase employment rate of their graduates, this is not the case. Maintaining linkages with companies, help TVET institutions better align their programs with the needs and demands of industry. TVET institutions have not invested in creating such relationships with companies, thus, this could be a possible reason for the mis-match between supply of graduates and demand of industry.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #24</p> <p>Data on employment rate can be collected from the following documents: 1) Number of graduates finding decent job, 2) List of companies cooperating with TVET institution, 3) meeting minutes with employers and industry experts to get consultation increasing employment rate of their learners, and 4) Reports of tracer studies, etc.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of employment rate of graduates from a TVET institution can be documented by:</p> <p><u>Qualitative data</u></p> <p>Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) Does TVET institution consistently make efforts to explore cooperative companies providing job vacancies to their graduates? 2) What are main challenges to increase employment rate 3) How does TVET institution overcome difficulties to increase employment rate? <p><u>Quantitative data</u></p> <ol style="list-style-type: none"> 1) Number of graduates from particular TVET institution that have found a decent job within a year. 2) Number of graduates from TVET institution that have found jobs within a year after graduation 	

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- TVET institution should understand employment rate as the most important matter, directly connecting with the justification of existence of TVET institution
- Teachers and trainers should explore close cooperation tie with industry experts having influence to hire their learners
- Employment rate has linear relationship with completion
- It should be considered that numbers of decent jobs which graduates are employed are closely related to quality of employment.

Table 2.4 Guidelines for Indicators under Product of Operation (continues)

DOMAIN 4. PRODUCTS OF OPERATION	
Indicator #25 Retention rate within 6 months	<p>Employee retention rate is a measure of a company's/organization's ability to retain a stable workforce. It measures the number of employees who stays in a company/organization for a certain period of time in this case six months compared to the total number of employees in that period. In Sierra Leone, the probation period of new employees ranges from 3 to 6 months. During this period, employers can decide to retain the new employee or not, while it provides sufficient time for the TVET institution to keep track of graduates to see whether they have continued to study or they have found employment. The tracking of graduates is usually done through a tracer study. The aim of conducting a tracer study is to find out whether or not graduates are gainfully employed and that they were employed specifically by the sectors for which they were learned.</p> <p>Tracer studies not usually conducted by TVET institutions in Sierra Leone. However, the Skills Development Project (World Bank funded) funded some TVET institutions to conduct tracer studies at the end of grants allocated to those that applied for the grant under the Skills Development Fund Component of the project.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #25</p> <p>Data to be collected through tracer studies are as follows: 1) demographic information such as age, gender, place of residence, etc., 2) occupational information such as respondents' employment, sector involved, salary level, future prospect, etc. 3) type of contract at company, 4) satisfaction with and the utilization of skills at workplace, which are learned from TVET institution 5) No. of graduates being employed more than 6 months; 6) document of carrying out tracer study using different approaches; 7) List of companies cooperating with TVET institution; 8) meeting minutes with employers and industry experts to get consultation increasing retention rate of their graduates, etc.</p> <p>Through this survey, employers could provide feedback on their first-hand experience at employing graduate and on the graduates' preparedness and competences to carry out the required jobs and tasks. Employers' feedback enables TVET institution to assess the degree to which its learning programmes are meeting labor market needs.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of retention rate of graduates employed within 6 months from a TVET institution can be documented by:</p> <p>Qualitative data</p> <p>Candidate questions to explore evidences:</p> <ol style="list-style-type: none"> 1) What kind of efforts does TVET institution consistently exerts to secure retention rate within 6 months? 2) What are the main challenges to increase retention rate 	

- 3) How does TVET institution overcome difficulties to increase retention rate?
- 4) What is the demography of respondents (age, gender, place of residence, etc.?)
- 5) In which sectors/occupations are respondents' employed?
- 6) What is the type of contract issued to the employed graduate?
- 7) Document of carrying out tracer study using different approaches?

Quantitative data

- 1) How much does the employed graduate earn per month?
- 2) Number of graduates being employed more than 6 months.
- 3) Number of companies cooperating with TVET institution

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Retention rate within 6 months is as important as employment rate in terms of effectiveness of TVET
- Selection of decent job is very important to secure high level of retention rate
- Teachers and trainers do their best to monitor retention rate of graduates, reserving good reputation of their TVET institution
- Tracer survey could be carried out different methods depending on TVET institution's choice

Table 2.4 Guidelines for Indicators under Product of Operation (continues)

DOMAIN 4. PRODUCTS OF OPERATION	
Indicator #26 Productivity	<p>A major aim of TVET is to skill youth for productive employment that contributes to economic and social development of a country. Thus, TVET is generally considered a means for productivity enhancement at the company and national levels. Productivity in economics measures the output per unit of input. At the level of a company productivity is output by a company divided by the units used to generate that output. Apart from the skills and knowledge of the employed TVET graduate in a company, there are other factors that affects productivity. These could include the technology used, the working environment, etc. It is not a usual practice for TVET institutions to conduct studies to determine the productivity of their graduates. Although such information may be collected at the level of companies, they are not readily available. National data on productivity can be obtained from the Statistic Sierra Leone.</p>
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #26</p> <p>Data required to estimate labor productivity considers other workers at the level of a factor producing a product or set of products. data can be collected on (a) the unit of products produced; (2) the time spent to produce a unit of the product; 3) number of workers involved in the production of a unit product; and 4) price of the product. Labor productivity can be estimated by this simple formula:</p> <p>Labor productivity = value of goods and services ÷ total number of hours worked.</p> <p>Data for measuring labor productivity can be collected using questionnaire and focused group interviews with factory managers. At the factory/company level, labor productivity can help measure changes in productivity for a particular employee base over time. While labor productivity of an employee may be low at the start of employment, it may increase as their employees become more experienced. A company may also experience high labor productivity due to significant turnover.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of productivity of graduates employed from a TVET institution can be documented by:</p> <p><u>Qualitative data</u></p> <p>1) Evidence of data collection on labor productivity of graduates employed</p>	

Quantitative data

- 1) Number of workers involved in the production of a product
- 2) Number of hours each worker spent in producing the product
- 3) Unit value of the product
- 4) Trends of increasing the total productivity of companies hiring TVET graduates
- 5) Trends of changing a yearly turnover in 5 years

Key Points for Evaluation

Key points for TVET institutions to consider to receive good evaluation results:

- Evidence that graduates employed from TVET institution are productive
- Good reputation from companies hiring graduates in terms of increasing company's productivity

Table 2.4 Guidelines for Indicators under Product of Operation (continues)

DOMAIN 4. PRODUCTS OF OPERATION	
Indicator #27 Wage increase	Wage increase at the level of a company is usually associated with productivity and demand for labor, which is associated with profit maximization. Thus, companies would usually seek to produce the optimum level of output at the lowest possible cost. In Sierra Leone, minimum wage is set by government for workers. The wage for skilled workers is not fixed, but negotiated between the employer and employee. Due to high unemployment rate and the low performance of the economy, wage increase is usually not commensurate to productivity levels.
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #27</p> <p>Data to be collected include 1) demographic – such as age, sex, etc.; 2) sector in which TVET graduate is employed; 3) wage after probation period; wage after a defined period, e.g. 3 years; 4) average wage level of for same category of skilled workers in the company, etc. These data could be used to determine the performance of graduates from a specific TVET institution working in a particular company/firm.</p> <p>How to document data for Internal quality assurance</p> <p>Evidence of wage increase of graduates employed from a TVET institution can be documented by:</p> <p><u>Qualitative data</u></p> <ol style="list-style-type: none"> 1) Are TVET graduates satisfied with present salary when compared to the average with the company? 2) Are graduates resigning due to unsatisfactory wage? <p><u>Quantitative data</u></p> <ol style="list-style-type: none"> 1) Number of graduates that have resigned due to unsatisfactory wage increase 2) Average wage for same category in the company 	
<p><u>Key Points for Evaluation</u></p> <p>Key points for TVET institutions to consider to receive good evaluation results:</p> <ul style="list-style-type: none"> • Evidence that graduates from TVET institution are employed and retained • Evidence that the graduates are receiving wage/salary increase relative to the average wage 	

Table 2.4 Guidelines for Indicators under Product of Operation (continues)

DOMAIN 4. PRODUCTS OF OPERATION	
Indicator #28 Promotion at workplace	Promotions at workplace is generally related to productivity and should be merit based. However, promotions at workplace are personal to top management and may not necessarily be based on merit, but in the number of years spent in the firm or company. In the case where merit is used to evaluate the efforts of quality assurance of TVET institution, promotion of staff could be considered from the confidence a company or firm has by sending its employees for training to a specific TVET institution, and if successful completion of learning is accompanied by promotion.
<p><u>Data Collection and Documentation</u></p> <p>What data to collect and how to collect data about indicator #28</p> <ol style="list-style-type: none"> 1) Data required include 1) number of workers sent to learn at a specific TVET institution; 2) number of companies that TVET institution have having cooperative agreement; 3) number of workers completing training that received promotion at their places work after one year. 2) How to document data for Internal quality assurance 3) Evidence of promotion of graduates employed from a TVET institution can be documented by: <p><u>Qualitative data</u></p> <ol style="list-style-type: none"> 1) Are workers from a specific firm/company sent to a TVET institution for training? 2) Which training are provided for industry/company workers? <p><u>Quantitative data</u></p> <ol style="list-style-type: none"> 1) Number of workers from companies/firms sent to TVET institution for training 2) Number of workers that completed training from TVET institution that are promoted within 1 year 3) Number of companies having cooperative agreement with TVET institution. <p><u>Key Points for Evaluation</u></p> <p>Key points for TVET institutions to consider to receive good evaluation results:</p> <ul style="list-style-type: none"> • Companies are sending workers to be trained at TVET institution • Number of workers trained are promoted within one year. 	

3. Key Considerations Preparing for Evaluation

3.1 Outline of the Quality Assurance Framework of TVET Institution

Quality and Quality management are two different concepts: they related to each other but are distinct. To schematize, quality is concerned with “What”; quality management is concerned with “How”, which could be mentioned as “How well” more accurately in terms of quality assurance. The development of quality management systems and procedures can help to establish the validity and the reliability of the assessment of TVET learning programs (Ministry of Labor and Vocational Training, 2017: 1).

A quality management & assurance system for TVET institution has not only an internal aspect, but also external elements controlled by government also exist. EQA being managed & operated by MTHE & NCTVA is an important instrument, leading to provide accreditation that is an accountability instrument that we can verify TVET institution’s quality.

A general accepted description is that accreditation is a formal decision, based on evaluation of past performance, indicating that certain standards, certain minimum requirements are met. Usually, accreditation is seen as a bureaucratic process that tries to control TVET institution, but accreditation may have also positive effects, because it 1) provides with a quality label that we can use in competition; 2) offers opportunities for benchmarking; 3) delivers feedback on the self-assessment (The Inter-University Council for East Africa (Vol. 4), 2010: 6-7).

Meanwhile, IQA is a system aiming at setting up, maintaining and improving the quality and standards of teaching & learning and service to community. The overall objective of IQA is to continuously promote and improve the quality of the core activities, which should be done by TVET institution getting supports from government. Accordingly, if TVET institutions want to be the best one against QAF, they should be equipped with well-organized IQA system, leading to the outstanding outcomes.

3.2. Key considerations preparing QMS

As implementing QMS, the following things should be considered for getting smooth starting toward the establishment of QMS in Sierra Leone.

3.2.1. Roles expected from important stakeholders

As applying for the operational manual adequately, roles of important stakeholders such as MTHE, NCTVA, TVET institution and international donor (WB) are expected as follows:

First, MTHE carries out roles as regulator and supporter to implement QMS. Related to the former, MTHE should find solutions against current challenges such as 1) no harmonized TVET curriculum, 2) inadequate train and qualify TVET trainers, 3) inadequate tools and equipment, 4) inadequate refresher training for TVET teachers, and 5) little or no collaboration between the TVET institutions and industries, etc. MTHE tries to make possible situations implementing QMS at national level in terms of hardware and software aspects of TVET system. Also, connected to the latter, MTHE should provide supports for capacity building of TVET institution such as 1) improve infrastructure, 2) sustainable electricity, 3) sustainable financing, 3) refresher training for teacher, 4) on-line training system, 5) training on research and data collection, etc.

Second, NCTVA as QMS implementer should prepare for possible environment that TVET institutions could join QMS. AS QMS will be implemented as pilot project, it should develop different kinds of guidebooks that provides more detailed information of QMS to TVET institutions. Also, NCTVA should set up the department taking care of QMS matters, providing consultations to the TVET institution as well as implementation of QMS based on the Implementation Plan and Operation Manual.

Third, TVET institutions, especially GTIs, review their current system for teaching and learning against QAF indicators as soon as possible, finding their challenges and possible solutions of short, mid-, and long-term period. Some of challenges should be fixed by themselves as well as their stakeholders' support outside TVET institutions, remaining will be fixed through supports from MTHE and NCTVA. Self-rescue measures by TVET institutions could lay the foundation to get supports from government as well as big stakeholders.

Fourth, International donors such as World Bank (WB) provide initial supports starting the job preparing self-evaluation reports by TVET institutions. MTHE and NCTVA do not have enough capacity leading the whole process of QMS at the beginning stage, so that WB should strongly provide expertise and financial support. The collaboration between government and WB is so important that QMS could make soft landing.

3.2.2. Collaboration between internal and external experts

While implementing QMS in TVET institution, collaboration between internal and external experts is necessary for securing the expertise which TVET institutions don't have, and to guarantee the transparency seeking for credibility of QMS process, cooperation between TVET institutions and big stakeholders outside TVET institutions is important.

External experts could find the blind spots that internal experts in TVET institutions couldn't see it. However, TVET institutions in Sierra Leone commonly don't have collaboration networks with big stakeholders, so that TVET institutions couldn't get necessary supports from external experts. This limitation should be solved or alleviated by MTHE and NCTVA's efforts as well as WB's support, providing different kinds of incentives to big stakeholders outside TVET institutions.

When it comes to preparing self-evaluation report, the team being consisted of internal experts leads for this job, but it should be supported by external experts from industries to make well-balanced self-evaluation report, which leads to implement the practical-based teaching and learning in TVET institutions. Currently WB supports the development of NOSs which could make possible environment preparing CBET (Competence-Based Education and Training) in TVET system. Given the context of CBET, OJT supported by industries is essential for establishing and implementing CBET system in Sierra Leone, which is based on collaboration between industry and TVET system. In this context, private sectors' involvement to TVET is critical to implement CBET system.

3.2.3. Understanding QMS as the reforming process of current TVET system

As introducing QMS in TVET system, simultaneously MTHE has adopted the NOS and NQF policies, which means that MTHE want to reform current TVET system into the competency-based education and training. In addition, apprenticeship has been being established by MTHE. All these new policies and systems has been being supported by WB and other donor organization such as GIZ, etc.

In this sense, QMS should go with new polities such as NOS, NQF, and apprenticeship, but these new policies require lots of time and efforts in preparing initiation and it will also be needed some more time before normalization because new policies and systems are quite big challenges to developing countries from the standpoints of Korea experience. MTHE should prepare adequate strategies to overcome current limitations by applying for step by step and order of priority approach. For example, given the no. of indicators included in QAF, it should be prioritized for making soft landing in considering the capacity of NCTVA and TVET institutions in Sierra Leone.

Especially, as the policy objectives of apprenticeship could be different with normal TVET system, it could require different type of QMS with different key indicators. It would be useful for understanding difference between apprenticeship and normal TVET that Korea apprenticeship system has developed different kinds of QMS comparing to normal TVET system which is supported by Korean government

(Ministry of Employment and Labor).

When it comes to implementing NOS, NQF, and apprenticeship in Sierra Leone, TVET system should undergo big reforming process, which is supported by MTHE, WB, and other donor organizations. These reforming policies would unfold so huge scale that comprehensive concerted collaboration between MTHE, NCTVA, WB and other donor organizations is needed to attain policy objectives.

References

Charu Varma and Saroj Malik (2023): TVET in the 21st Century: A Focus on Innovative Teaching and Competency Indicators. In Technical and Vocational Education and Training. Edited by Dr. Jian-Hong Ye and Dr. Man Jiang

EC. (2019). Study on EU VET Instruments (EQAVET & ECVET).

Jeong-Yoon, Cho. (2023a). Concept Note: Development of the Quality Management System for the TVET Institutions in Sierra Leone. World Bank.

Jeong-Yoon, Cho. (2023b). Implementation Plan for Piloting the Quality Management System: Guidance to implement the TVET provider's quality management in Sierra Leone focused on ensuring internal quality assurance for TVET institution. World Bank.

Ministry of Labor and Vocational Training (Directorate General of TVE). (2017). Quality Assurance Manual for TVET (Cambodia).

The Inter-University Council for East Africa (Vol. 4). 2010. A Road Map to Quality: Handbook for Quality Assurance in Higher Education: Vol.4: Implementation of a Quality Assurance System.

TVETA. (2018). QMS Manual: TVET provider's Quality Management System Manual

UNESCO & UNIEVOC (): TVET in a Digital World Responding to a world turning digital. <https://unevoc.unesco.org/home/ICT+in+TVET>

Appendices

Appendix 1: Self-Evaluation Form based on the QAF of TVET Institution

<p>Chapter 1: key points to be considered at Introduction section</p> <ul style="list-style-type: none"> - How was the self-evaluation carried out in terms of QAF of TVET institution in terms of direction, main contents, methodologies, and procedure etc.? - Short description of the TVET institution, department, and learning program - Short description of TVET institution's current development plan & strategy
<p>Chapter 2: key points to be considered at Context section</p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Suggest strengths & weaknesses - Suggest improvement plan
<p>Chapter 3: key points to be considered at Input section</p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Suggest strengths & weaknesses - Suggest improvement plan
<p>Chapter 4: key points to be considered at Process section</p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Suggest strengths & weaknesses - Suggest improvement plan
<p>Chapter 5: key points to be considered at Product section</p> <p><Before employment></p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Suggest strengths & weaknesses - Suggest improvement plan <p><After employment></p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Suggest strengths & weaknesses - Suggest improvement plan
<p>Chapter 6: key points to be considered at Synthesis section for Strengths-Weaknesses Analysis and Quality Improvement Plan</p> <ul style="list-style-type: none"> - Suggest summary of Strengths - Suggest summary of Weaknesses - Suggest summary of Quality Improvement Plan¹⁴ for the Coming Years

Note: This table is quoted "the contents of self-evaluation report" from the implementation plan for piloting the quality management system.

Appendix 2: On-site Evaluation Form based on QAF of TVET Institution

<p>Chapter 1: key points to be considered at Introduction section</p> <ul style="list-style-type: none"> - Background of on-site visit evaluation: why is the on-site visit evaluation in terms of QAF of TVET institution? - Short description of TVET institution, departments and learning programs which are evaluated - Short description of carrying out on-site visit evaluation in terms of direction, main contents, procedure, and methodologies, etc.
<p>Chapter 2: key points to be considered at Context section</p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Review strengths & weaknesses - Review improvement plan - Suggest recommendations
<p>Chapter 3: key points to be considered at Input section</p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Review strengths & weaknesses - Review improvement plan - Suggest recommendations
<p>Chapter 4: key points to be considered at Process section</p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Review strengths & weaknesses - Review improvement plan - Suggest recommendations
<p>Chapter 5: key points to be considered at Product section</p> <p><Before employment></p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Review strengths & weaknesses - Review improvement plan - Suggest recommendations <p><After employment></p> <ul style="list-style-type: none"> - Suggest summary of the evaluation result - Review strengths & weaknesses - Review improvement plan - Suggest recommendations
<p>Chapter 6: key points to be considered at Synthesis section for Strengths-Weaknesses Analysis and Quality Improvement Plan</p> <ul style="list-style-type: none"> - Suggest summary of Strengths - Suggest summary of Weaknesses - Suggest summary of Quality Improvement Plan for the Coming Years - Suggest summary of Recommendations

Note: This table is quoted “the contents of on-site evaluation report” from the implementation plan for piloting the quality management system.