Co-funded by the European Union

german cooperation
DEUTSCHE ZUSAMMENARBEIT

Diagnostic Study of the TVET Sector in Sierra Leone

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Imprint

Published by the
Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn, Germany
'Support to Technical Vocational Education and Training in Sierra Leone'
23A Cantonment Road
Freetown / Sierra Leone
Phone +232 76 691757
www.giz.de

As at
April 2018

Printed by
FABIZ ENTERPRISES
Freetown

Cover Design
EYES-OPEN, Berlin

Text
ICON INSTITUT Education and Training GmbH
Von-Groote-Str. 28
50968 Köln
Germany
Tel: +49 221 93743 0
Mail: education@icon-institute.de
www.icon-institute.de

GEFAK Gesellschaft für angewandte Kommunalforschung mbH
Ockershäuser Allee 40 b
35037 Marburg
Germany
Tel: +49 6421 17280
Mail: krug@gefak.de
www.gefak.de

On Behalf of the
German Federal Ministry for Economic Cooperation and Development (BMZ),
co-funded by the European Union (EU)

Disclaimer:
The analysis, results and recommendations in this paper represent the opinion of the authors and are not necessarily representative of the position of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Table of content:

1. Executive summary 1
1.1. Major findings and recommendations 1
2. Objective of the study 5
3. Background / Point of departure 7
4. Time frame 8
5. Team of experts and distribution of tasks and responsibilities 9
6. Research topics 10
7. Scope of the research 12
7.1. Scope of research: institutional level and degree level 12
7.2. Scope of research: economic sectors 13
7.3. Scope of research: districts 13
7.4. Scope of research: core skills areas / occupational areas 14
8. Research methodology 15
8.1 Identification of links and relations 15
8.2 Reporting 15
8.3 Validation workshop 15
9. Research area 1: legal, institutional, political, and actual framework conditions 16
9.1 General overview / Introduction 16
9.2 Methodology 17
9.2.1 Desk study 17
9.2.2 Identification of research subjects in area 1 framework 18
9.2.3 Meetings 18
9.2.4 Site visits 18
9.3. Research area 1 framework: issues (questions from the ToR) and findings 18
9.3.1. Which acts are relevant and what do they say about TVET in Sierra Leone? 18
9.3.2. Based on the National Qualifications Framework (NQF), what are the links between general education and TVET? 19
9.3.3. Which occupational areas already contain curricula? How can the quality of the curricula be assessed? 21
9.3.4. Do the curricula correspond to industry demands? 24
9.3.5. Are practical units (internships) included in the curricula? 25
9.3.6. Are there training possibilities for in-company trainers? 25
9.3.7. What kind of relevant literature exists for TVET in Sierra Leone? 25
9.3.8. How is TVET embedded within the Government of Sierra Leone? Who is primarily responsible for TVET? What is TVET's organisational structure? 27

9.3.9. Which percentage of the overall education budget is allocated to TVET? How are these TVET funds distributed? ... 28
9.3.10. Who has the overall responsibility for the certification of TVET graduates in Sierra Leone? ... 29
9.3.11. Who has the overall responsibility for training TVET teachers in Sierra Leone? How is the organisational structure? How do the responsible institutions implement their mandate? Where are the possible challenges? ... 30
9.3.12. Does in-service teacher training exist? ... 31
9.3.13. Who ensures the quality of TTIs, TVIs, and polytechnics? Is there an accreditation system? ... 32
9.4 Research area 1 framework: recommendations ... 33
9.4.1. R1: In order to strengthen TVET in Sierra Leone, which key factors need improvement? ... 33
9.4.2. R2: How can TVET become more practice-oriented? ... 34
10. Research area 2: demand side (industry, private sector) ... 36
10.1. General overview / Introduction ... 36
10.2. Methodology ... 36
10.3. Research area 2 demand side: issues (questions from the ToR) and findings ... 37
10.3.1 Focus on the most important economic sectors: agriculture, mining, construction, manufacturing/fabrication, tourism/hospitality, and energy (including renewable energy) ... 37
10.3.2. Who are the most important players in these sectors? ... 37
10.3.3. What is the development potential of each sector? ... 39
10.3.5. Which occupational areas most lack qualified personnel (by sector)? ... 41
10.3.6 Can potential employers absorb TVET graduates? ... 43
10.3.7 Based on long-time forecasts, in which occupational areas does the industry see employment potential? ... 43
10.3.8 How do potential employers recruit personnel? What is the application process? ... 44
10.3.9 How do potential employers value national certificates and how do they assess candidates from TVIs and polytechnics? ... 45
10.4. Research area 2 demand side: recommendations ... 45
10.4.1. Stakeholder map 1: Where are the identified stakeholders (1) located (by sector)? ... 45
10.4.2. R1: According to the results from questions 2 to 9, which occupational areas are eligible for assistance (a minimum of three)? ... 46
10.4.3. R2: How can the industry be better involved in TVET in Sierra Leone, and which incentives can be set? ... 47
11. Research area 3: supply side (training providers) ... 49
11.1. General overview / Introduction ... 49
11.2. Methodology ... 49
11.3. Research questions and findings ... 53

11.3.1 How many institutions (TTI, TVI, polytechnics) exist in the selected districts, and where are these institutions located? 53
11.3.2. How many teachers (by gender) are employed by the institutions? 54
11.3.3. How many students (by gender) are registered in the institutions? 56
11.3.4. Which courses are offered by the institutions, and at which level? 58
11.3.5. How are certain institutions' (random sample) classrooms, workshops, laboratories, equipment, IT equipment, and sanitation facilities equipped? 62
11.3.6. Is the available equipment sufficient to train students according to the curricula (particularly equipment for practical training)? 63
11.3.7. Do teachers have the capacity and necessary skills to train students according to the curricula? 65
11.3.8. How many TTIs, TVIs, and polytechnics are accredited by MEST and by NCTVA? 65
11.3.9. What are the budgets of these institutions (random sample)? Where do they receive their funds and how do they invest these funds? 66
11.3.10. What is the management structure of TTIs, TVIs, and polytechnics? Are the capacities sufficient? 68
11.3.11. Assessment of TVIs according to quality criteria for TVET institutes of the TVET Coalition 70
11.4. Recommendations 72
11.4.1. Stakeholder map II: Where are the identified TTIs, TVIs, and polytechnics (11.3.1.) located? 72
12. Research area 4: synergies between demand and supply sides 73
12.1. General overview / Introduction 73
12.2. Methodology 73
12.3 Research area 4: synergies between demand and supply sides – issues and findings 73
12.3.1. What is the correlation between the supply of TVET graduates and the demand for qualified personnel? 73
12.3.2. Which institutions coordinate and regulate the alignment of demand and supply? 74
12.3.3. Who is responsible for curriculum development / modernisation in order to meet the demands of potential employers? 76
12.3.4. What is the dialogue between TVIs and polytechnics, and potential employers? 76
12.3.5. Which technical facilities exist to organise and improve, on a regular basis, the dialogue between training providers and potential employers? 76
12.3.6. Which improvements can be made regarding the dialogue between demand and supply sides? 77
12.3.7. Do job centres exist to help place TVET graduates into employment? 77
12.3.8. Do potential employers offer internship programmes for TVET students? 77
12.3.9. How do employers fill possible skills gaps? 78
12.4 Research area 4: synergies between demand and supply sides – recommendations 79

12.4.1. R1: Which improvements can be made towards increasing dialogues between the demand and the supply sides? Which tool is recommended in order to guarantee equal participation? 79
12.4.2. R2: Which improvements can be made to the area of curriculum development / modernisation to meet the demands of potential employers? 84
12.4.3. R3: How can potential employers involve themselves in the development of a new certification scheme? 84
12.4.4. R4: How can potential employers involve themselves in the development of a new in-service teachers training system? 85
13. Annexes 86

List of Graphics

Figure 1: Assessment of surveyed TVIs 3
Figure 2: Time frame 8
Figure 3: Overview of the education system in Sierra Leone 12
Figure 4: Research area locations 13
Figure 5: SL education development capacity strategy 2012 – 2016: TVET strategic actions (SL Education Development Capacity Strategy 2012 – 2016, p. 3ff, 39ff). 17
Figure 6: Educational Structure in Sierra Leone (source: 2013 CSR with author's modification) 20
Figure 7: Existing curricula according to NCTVA examinations (2015) 23
Figure 8: Organisational structure Directorate of Higher Education, Science and Technology, MEST 28
Figure 9: Public Education Expenditures, 2008-2010 29
Figure 10: ESP Intervention Costing, 2018-2020 in US Dollars 29
Figure 11: Occupational areas that employers lack qualified personnel 41
Figure 12: Data field sample only (QGIS, presentation of basic data on employers) 46
Figure 13: Mapped data for companies 46
Figure 14: Occupational areas that have been prioritised for assistance. 47
Figure 15: Identified research objects in research area 3 'Supply' 51
Figure 16: TVIs and TTIs in each district 54
Figure 17: Number of lecturers at the surveyed TVIs and TTIs, and composition by gender 55
Figure 18: Number of students at surveyed TVIs and TTIs and composition by gender 57
Figure 19: Student – teacher – relation in surveyed TVIs and TTIs 58
Figure 20: Overview of programmes offered at analysed TVIs and TTIs. 61
Figure 21: Size of the management teams in TVIs and TTIs 70
Figure 22: Quality criteria and performance levels 71
Figure 23: Data for TVIs, mapped with the QGIS software 72
Figure 24: Synergies between demand and supply sides 73
Figure 25: Graduates of selected areas of specialisation (in 2015) 74
Figure 26: Present membership composition of TVET Coalition of Sierra Leone (2017) according to the TVET Coalition MoU. 80

List of annexes:

No.:	Title:
1	Working schedule
2	Questionnaire for framework institutions
3	Questionnaire for labour market (institutions)
4	Questionnaire for labour market (companies)
5	Questionnaire for training institutions (TTI, TVI, and polytechnics)
6	List of TVIs and TTIs with NCTVA certification
7	List of tertiary education institutions with TEC-SL accreditation

List of acronyms used in this report (in alphabetical order):

ADDAX	Addax BioEnergy Sierra Leone Ltd., a subsidiary of the Addax Oryx Group (AOG)
AfDB	African Development Bank
ASEM	Asia-Europe Meeting
BA	Bachelor of Arts
BECE	Basic Education Certificate Examination
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development)
BSc	Bachelor of Science
CAFEAMS	CEMMATS ATVENT Facilities Engineering and Maintenance Services
CAPS	Career Advisory and Placement Service
CEMMATS	CEMMATS GROUP Ltd, Multidisciplinary Engineering and Project Management Consultancy in Sierra Leone
CSE	Compagnie Sahélienne d'Entreprises
EBK	Ernest Bai Koroma (University)
ECOWAS	Economic Community of West African States
EDP	Education Development Partners
EPP	Employment Promotion Programme
ESP	Education Sector Plan
ETSSIE	ECOWAS Technical and Vocational Education Training Strategy for Skills Improvement and Employability
EU	European Union
FTC	Freetown Teachers College
GEFAK	Gesellschaft für angewandte Kommunalforschung (Agency for applied communal research)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GOAL	International non-governmental organisation (registered in Ireland and the United Kingdom)
GoSL	Government of Sierra Leone
GTI	Government Technical Institute
HEI	Higher Education Institute
HND	Higher National Diploma
HTC	Higher Teachers' Certificate (for primary and junior secondary schooling)
IBIS	International NGO, working in partnership with OXFAM (registered in Denmark)
ICON	ICON-INSTITUT Education and Training GmbH
IDB	Islamic Development Bank
IFC	International Finance Centre (World Bank Group)
IGC	International Growth Centre
ILO	International Labour Office
(I)NGO	(International) non-governmental organisation
Intrapex	Sierra Leone indigenous company (producers of GRAFTON mineral water)
IPC	Sierra Leone travel agency
ISCO	International Standard Classification of Occupations
ISTT	In-Service Teacher Training
JSS	Junior Secondary School
KldB	Klassifikation der Berufe (German classification of occupations)
KPMG	Global network of professional firms providing audit, tax, and advisory services

Leocem	Sierra Leone Cement Corp., a subsidiary of Heidelberg Cement/Germany
MDAs	Ministries, Departments, Agencies
MEST	Ministry of Education, Science and Technology
MILLA	MILLA Group House of Plastic (producers of water tanks)
MLSS	Ministry of Labour and Social Security
MMCET	Milton Margai College of Education and Technology
MS	Market Survey
MoU	Memorandum of Understanding
MoYA	Ministry of Youth Affairs
NASSIT	National Social Security and Insurance Trust
NRA	National Revenue Authority
NTC	National Technical Certificate
NCTVA	National Council for Technical, Vocational and other Academic Awards
NCTVE	National Council for Technical and Vocational Education
ND	National Diploma
NIETAR	National Institute for Education, Training and Research
NIMO	NIMO Construction Company
NPSE	National Primary School Examination
NQF	National Qualifications Framework
NRDC	National Research and Development Centre
NTA	National Training Authority
NTB	National Training Board
NQA	National Qualifications Authority
NVQ	National Vocational Qualification
QGIS	Quantum Geographic Information System
QMS	Quality Management System
SECN	State Enrolled Community Health Nurse
SLCCIA	Sierra Leone Chamber of Commerce, Industry and Agriculture
SLIEPA	Sierra Leone Import and Export Promotion Agency
SLLCA	Sierra Leone Local Content Agency
Socfin	Socfin Agricultural Company (development and management of oil palm plantations and rubber tree plantations)
SRN	State Registered Nurse
SSS	Senior Secondary School
SSSTV	Senior Secondary School / Technical Vocational
SWOT	Strength, Weaknesses, Opportunities, Threats (Analysis)
TA	Technical assistance
TC	Teacher Certificate (solely for primary school teachers)
TEC	Tertiary Education Commission
TNA	Training Needs Assessment
ToR	Terms of Reference
ToT	Training of Trainers
TSC	Teaching Service Commission
TTI	Teacher Training Institute
TVC	Technical and Vocational (Training) Centre
TVET	Technical and Vocational Education and Training
TVI	Technical and Vocational Institute
UK	United Kingdom
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation

UNEVOC	International Centre for Technical and Vocational Education and Training of the United Nations Educational, Scientific and Cultural Organisation
UNIMAK	University of Makeni
UNOPS	United Nations Office for Project Services (based in Denmark)
VIMETCO	Sierra Minerals (Part of int. VIMETCO Holding), Bauxite Mining
VSL	Visit Sierra Leone
WAEC	West African Education Council
WASSCE	West African Senior Secondary Certificate Examination
WB	World Bank
YWCA	Young Women's Christian Association

1. Executive summary

This 'Diagnostic Study of the TVET Sector in Sierra Leone' was commissioned in September 2017 by 'Support to the TVET Sector in Sierra Leone'. 'Support to the TVET Sector in Sierra Leone' is an action that is co-financed by the EU and BMZ, and implemented by GIZ. 'Diagnostic Study of the TVET Sector in Sierra Leone' was implemented by the ICON/GEFAK consortium between October and December 2017. The study was conducted in close collaboration with GIZ's Technical Assistant (TA) team and the targeted key stakeholders. GIZ's TA team is responsible for the implementation of the TVET component of the action titled 'Support to the Education Sector in Sierra Leone'.

The study will contribute to improving the management and delivery of TVET in Sierra Leone through creating a foundation to implement the GIZ's TA team's fields of activities 2-4. These fields of activities include developing and implementing a skills certification programme, developing and implementing an in-service teacher training scheme (as well as developing the curriculum for this scheme), and, lastly, establishing a communication platform to support the work of a multi-sector coordinating structure.

In Chapters 2-8, the objectives, background, research topics, methodological approach, time frame and results of the study, as well as the configuration of the consultancy team, are described in detail. Recommendations for further measures to strengthen the management and delivery of TVET are presented under each research area. These recommendations originate from of a one-day validation workshop with stakeholders.

1.1. Major findings and recommendations

1. Digitalisation and internet access
During the visits to TVIs and TTIs, the study team discovered that many of the institutions do not have reliable internet connections. This lack of reliable internet access is problematic for training providers in Sierra Leone, as online digital technologies are a part of daily life. It is paramount for at least all major TVIs and TTIs to have reliable internet access in order to successfully implement the proposed communication platform (activity 4 of Technical Assistance)

Recommendation 1: Reliable internet access for training providers is increasingly important to respond to the transition to digital communication and to meet the needs of a young and dynamic society.

2. Financial status of TVET providers and income / revenue generation by TVIs
The study team also discovered that TVET providers lack dependable financing to sustainably run their institutions. Government funding is limited to paying the salaries of teachers. Therefore, certain institutions, mainly private ones, conduct commercial activities to supplement their budget. This allows these institutions to support their infrastructure, maintain and repair equipment, purchase new equipment and tools, replenish consumable goods, etc.

Recommendation 2.1: We propose a revision of the regulatory framework for public TVIs. These revisions should support commercial ventures – provided that the aim of these ventures is to improve opportunities for student practical training. TVIs should only invest the generated revenue to acquire equipment, tools, and materials necessary for practical training.

Training providers could partner with companies, government institutions, schools, etc. that require the products and services of TVIs. However, we feel that prior to the commencement of entrepreneurial/commercial training activities, Training Needs Assessment (TNA) and Market Surveys (MS) should be conducted in order to gauge the feasibility of these activities. Alternatively, or additionally,

the following option may also be taken into consideration: the establishment of non-formal companies or cooperatives by students (known as school companies or cooperatives). These companies and cooperatives could act as training establishments and could also take part in relevant commercial ventures.

Recommendation 2.2: We propose to TVIs to consider concluding agreements with existing enterprises in the neighbourhood or region. This would allow students to be involved in these commercial activities. If this measure is successful, clear regulations in relation to occupational accidents must be implemented and insurance options investigated.

3. Assessment of surveyed TVIs

This table explores performance criteria, experience, and training possibilities in selected occupational areas. Chapter 11.4 features in-depth descriptions of each subject area.

No.	TVIs	Occupational area(s)	Justification (best practices)	Required inputs
1	Conforti, Calaba Town	Catering (cooking, serving)	Experience in supporting the self-employment of graduates	Skills certification, equipment, in-service teacher training
2	Eastern Polytechnic Kenema	Electrical and Solar Photovoltaic Installation; Plumbing (incl. high-pressure plumbing)	Support from project cooperation for women students; Company relationships	Skills certification, in-service teacher training, equipment (for plumbing only)
3	EBK University GTI Magburaka	Electrical and Solar Photovoltaic Installation	Support from project cooperation for women students	Skills certification, in-service teacher training
4	EBK University, University College Makeni	Livestock Production Agro-Processing	Experience in training provision; Relevant companies in the region	Skills certification, facilities, in-service teacher training
5	GTI Kissy	Electrical and Solar PV Installation; Plumbing (incl. high pressure plumbing); Building Technology	Support from project cooperation for women students; High demand for graduates; Good facilities	Skills certification, in-service teacher training, equipment (for plumbing only)
6	IAMTECH, Freetown	Mining Engineering	Sole institute providing training in mining	Equipment, in-service teacher training
7	Milton Margai CET, Brookfields Campus	Hotel Management; Catering	Oldest TVI in this occupational area	Skills certification; facilities, equipment, in-service teacher training
8	Milton Margai CET, Congo Cross Campus	Mechanical Engineering	Relatively modern equipment available	Skills certification, in-service teacher training
9	Murialdo Vocational Institute	Building Technology; Mechanical Engineering	Focus on practical training of students; own business activities; Good facilities	Equipment, in-service teacher training

10	Njala University, School of Agriculture	Agro Processing Livestock Production	Certain facilities and equipment available, capability in curriculum development; Certain facilities available, capability in curriculum development;	Skills certification, equipment, in-service teacher training
11	St. Joseph's Vocational Institute Lunsar	Electrical Installation; Building Technology; General Metal Work	Good performance in all TVET areas, links with private sector, own business activities; Good facilities	Skills certification, equipment, in-service teacher training
12	YWCA Freetown	Catering (cooking, serving)	Extensive experience in catering, training women students; links with private sector	Skills certification, equipment, in-service teacher training

Figure 1: Assessment of surveyed TVIs

4. In-service teacher training

There is no formalised in-service teacher training in Sierra Leone. The responsibility for further education for teachers lies with TVIs or with the teachers themselves. However, most TVIs lack the funds to offer training, and teachers have little incentive to invest their own financial resources in capacity development if their efforts are not appreciated by employers and do not lead to a salary increase. However, there is a great need for training as many TVET lecturers are skilled engineers, but lack teacher training and qualifications. Furthermore, most teachers are not aware of the latest technical standards, modern technologies, business processes, etc. within companies.

5. Synergy effects – TVET Coalition of Sierra Leone

The existence as well as the work and efforts of the TVET Coalition of Sierra Leone are a major accomplishment in the overall development of TVET in Sierra Leone. Created during the initial development of a Public Private Partnership between the former London Mining Company, GIZ, the Ministry of Education, Science and Technology (MEST), and the St. Joseph's Vocational Institute Lunsar in 2013, the TVET Coalition has greatly developed since its establishment.

It now comprises members from training providers, the private sector, the government, the international (donor) community, and national and international NGOs. Members cooperate on the basis of a Memorandum of Understanding, which will be renewed in 2018, and have generated much interest within the community of TVET actors.

The TVET Coalition needs to formalise and strengthen its membership structure in order to gain more influence and to become a recognised key ally. This will help the coalition achieve more visibility and interest for TVET in Sierra Leone. However, we do not advocate for the TVET Coalition take over the work and duties of other organisations – in particular the government who is legally mandated to do this work. The roles, functions, and duties of government bodies pertaining to TVET and its development are clearly outlined in this report. Specific recommendations are formulated.

Recommendation 5:

MEST: revitalise the TVET division by staffing it:

- preferably establish a self-sufficient TVET directorate, equal in status to the other existing directorates within MEST;
- revitalise the Curriculum Development Unit;
- explore and eventually secure a sustainable financing system for TVET and training providers;
- support, alongside other GoSL partners, the establishment of a National Training Board.

NCTVA: clear the 'backlog' of certificates;

- establish a Certification Unit.

TVET Coalition: formalise membership and institutionalise cooperation structure;

- seek a hosting agency;
- become an active member of the UNICEF Education Development Partners (EDP) group.

6. Synergy effects – Skills Development Fund (SDF)

There is an envisaged cooperation between the 'Support to the TVET Sector in Sierra Leone', which is an action co-financed by the EU and BMZ, and the 'Skills Development Fund' (SDF), the first component of the World Bank-funded 'Skilling Up Sierra Leone' programme provided through the Sierra Leone Ministry of Finance and Economic Development (MoFED). The synergy effects resulting from this envisaged cooperation could be very important.

The SDF funds the activities of TVET providers (formal and non-formal). These activities pertain to the development of the delivery structure of these providers in order to provide a transparent, skilled, competent, and, thus, employable workforce.

Furthermore, the SDF provides funding for private sector businesses offering apprenticeships, internships, and other means of skills development that lead to a better-qualified workforce. The GIZ TA team envisages that it could assist candidates (both training providers and enterprises) in their applications to these funds through, for example, formulating their own skills development improvement strategies.

Words of thanks

To conclude this summary, the study team wishes to express their sincere thanks to the following organisations and individuals who provided technical and logistical support, thus contributing in many valuable ways to this report:

- the GIZ TA team
- the ministries, departments, and agencies visited
- the national and international non-governmental organisations consulted
- the management, teaching staff, and students of the TVIs, TTIs, polytechnics, and universities visited
- the management of the enterprises and industries consulted
- the business associations visited and consulted
- all the individuals with whom we met and spoke.

Without their readiness to meet, talk, and support us, this study would not have been successfully completed.

2. Objective of the study

The study was conducted as one of four main activities of the component 'Support to Technical Vocational Education and Training in Sierra Leone'. This component is a multi-donor action co-financed by the 11th European Development Fund National Indicative Programme for Sierra Leone and by the German Federal Ministry for Economic Cooperation and Development (BMZ). It is implemented by GIZ during the project period 2017 to 2020. The Technical Assistance (TA) team from GIZ (hereinafter referred to as the TA team) is responsible for the implementation of the co-financed TVET component. The action falls under the specific Objective 3 of the indicative programme: Strengthening the relevance and capacity of TVET. This programme focuses on improving the management and delivery of technical and vocational education and training.

The main fields of the TA are as follows:

1. Activity 1: A diagnostic study for mapping TVET institutions, providing the basis for developing a legal and institutional framework, and providing the information required for implementing the programme.
2. Activity 2: Creating and implementing a skills certification programme in at least three core occupational areas.
3. Activity 3: Implementing in-service teacher training, including curriculum development and training of trainers, with a teacher training scheme introduced in a minimum of two districts.
4. Activity 4: Establishing an online communication platform to support a multi-sector coordination structure.

The diagnostic study functions as a foundation for all other TA intervention activities. The results will be used:

1. to inform the concrete planning and design of activities 2-4 of the TA;
2. to provide the basis for improvement and further development of a legal and institutional framework;
3. to enable information sharing for TVET.

As a starting point for implementing the action, the study has the following four objectives:

1. To analyse the existing framework and functioning of Sierra Leone's TVET system in relation to existing skills certification and in-service teacher training regulations or schemes, as well as to collect data on relevant acts, policies, curricula, and existing and accredited TTIs, TVCs, and TVIs.
2. To collect data on employment and economic activities in selected districts, as well as to identify sectors and core skills areas according to the demand of employers and in relation to employment opportunities.
3. To achieve the mapping and situational analysis of TVIs, TVCs, and other relevant TVET institutions such as TTIs and polytechnics. This process includes verifying service capabilities, and gathering information on the status of equipment, facilities, human capacities, as well as the number of students and graduates in various programmes and courses.
4. To analyse existing and potential new synergies between the supply and demand sides as well as between TVET stakeholders in general.

The study team outline the objectives of the study as follows:

There is a lack of comprehensive, reliable, and easy to understand information regarding framework conditions, relevant actors, and detailing the link between the provision of TVET, employer demands, and employment opportunities. This lack of pertinent information is a major obstacle to policy-making and institutional development in the TVET sector of Sierra Leone.

The study intended to bridge that information gap and make information and planning data available to all relevant stakeholders. To this end the results of the study shall be published on the online communication platform, the outcome of activity 4 of the TA, which will function as an ongoing mechanism for updating and sharing data in the long run. This will enable the creation of approaches and incentives for informed discussions among the stakeholders through the online platform, and other (dialogue) fora and events.

The entire action and, the diagnostic study in particular, examine the systemic deficiencies within the TVET sector. The deficiencies within this sector are a major development challenge for Sierra Leone. Youth unemployment is high, which could result in renewed instability. An internal rapid scope study of the labour market in three target districts was conducted by the GIZ Employment Promotion Programme (EPP III) in April 2017. The study showed that 60% of the youth surveyed have been unemployed during the last two years. An improved TVET sector contributes to the consolidation of peace and stability. Improvement in this sector is also beneficial for students and their families, as it can lead to employment, which elevates standards of living and strengthens self-identity and social status. The development of the TVET sector according to actual labour demands ensures that appropriate skills and knowledge are available to the changing economy. Labour demands are present in the agriculture sector (mainly cocoa, coffee, rice, and vegetables), public and private industries, mining, and the service sector. These industries all need qualified professional personnel and also benefit from opportunities created for entrepreneurs to set up new businesses. A highly skilled and qualified workforce is a prerequisite to promote industrial initiatives and private enterprises in key economic sectors.

On the basis of the findings and recommendations in each of the four areas, the study has identified approaches for synergies or for an improved alignment between the demand and supply sides. The study has also identified areas of potential for better cooperation between the actors in the three relevant fields (framework actors, industry and private sectors, and TVET providers).

3. Background / Point of departure

The TVET sector's current situation can be summarised by the following main opportunities and challenges.

Opportunities:

1. Appropriate skills and knowledge help support the changing economy. They also make use of available resources.
2. Solid education policies and plans are in place.
3. Progress was made in the re-establishment of education service delivery.
4. Enrolment in primary schools increased due to free primary education.
5. Overall responsibility for education is concentrated in the MEST.
6. The Local Content Agency Act of 2016 supports employment of Sierra Leoneans.
7. The accepted informal sector as well as the low regulatory obstacles in setting up formal businesses support self-employment and paid labour.

Challenges:

1. Youth unemployment is widely present and can threaten social stability.
2. The implementation of various policies and plans appears to be inconsistent.
3. A weak teaching and training force leads to low levels of learning.
4. All economic sectors need qualified personnel and entrepreneurs to set up businesses.
5. MEST lacks an organisational framework, experienced staff, and an infrastructure to ensure the provision of an effective and efficient TVET system.
6. Since 2014, the TVET Unit within the MEST 'Directorate of Higher Education, Science and Technology' lacks key staff members.
7. Companies that wish to fulfil the local content requirements struggle to find skilled and qualified national employees.
8. Many gaps in skills result from outdated or inappropriate curricula and poor teaching methods.
9. The capacity of TVET institutions is inadequate for the growing number of students and for the qualitative challenges of the future. Infrastructure for practical training is either inappropriate or lacking.
10. Secondary education is not conducive for TVET. Focus is placed on the attainment of academic qualifications as opposed to technical and professional qualifications.

These issues and areas of potential have been considered and implemented within the design of the research approach and the analytical tools.

4. Time frame

The diagnostic study was conducted by the research team ICON/GEFAK between 24 October 2017 and 12 December 2017. The milestones determined in the ToR as well as the corresponding main activities were tentatively scheduled as follows.

Main activities	Deliverables	Proposed time
1. Review literature	**1. Inception report**	7 Nov.
2. Develop and provide methodology		
3. Carry out field research on ToR-stipulated subject areas	**2. First draft report**	4 Dec.
4. Prepare a draft report		
5. Revise the draft report	**3. Second draft report**	7 Dec.
6. Present the main results of the study in a one-day validation workshop	**4. Validation workshop**	11 Dec.
7. Prepare a final report incorporating comments received in the validation workshop	**5. Final report**	12 Dec.

Figure 2: Time frame

The presentation of findings and recommendations based on the second (final) draft report during the joint validation workshop was an important event and took place on 11 December 2017. The ICON/GEFAK research team, the GIZ TA team, members of the TVET Coalition from both public and private sectors, important respondents, various national institutions, and international development cooperation partners were present. The validation workshop enabled the stakeholders to obtain immediate access to the study results, to provide further input, and to improve certain recommendations.

5. Team of experts and distribution of tasks and responsibilities

The ICON/GEFAK team was comprised of two international and two national experts. The international team experts were Mr Siegfried J. Gross (team leader) and Mr Carl E. Krug, who both have extensive work experience in the area of employment and education in Sierra Leone.

The national experts were Ms Edleen B. Elba and Mr Sahr P. Sorrie. Ms Elba is the director of a successful human resource management organisation and Mr Sorrie was the long-time principal of the Freetown Teachers College (FTC). They are both uniquely suited to contribute to the research work.

The division of work within the team was as follows (please refer to Chapter 6 'Topics of Research' below):

1. Mr Siegfried J. Gross, Areas 1 and 4 (Framework conditions and synergies between demand and supply sides),
2. Mr Carl E. Krug, Areas 3 and 4 (Supply side and synergies between the demand and supply sides),
3. Ms Edleen B. Elba, Areas 2 and 4 (Demand side and synergies between the demand and supply sides),
4. Mr Sahr P. Sorrie, Areas 3 and 4 (Supply side and synergies between the demand and supply sides).

Each team member was responsible for the analysis of one area within areas 1 to 3. In addition, all team members contributed insights and recommendations from their specific area to help identify synergies and improve cooperation in the overarching research area 4. This arrangement combined the clear division of responsibilities with the need to elaborate concrete and comprehensive findings and recommendations at the final stage.

The study team met on a weekly basis and, when required, more often. Through practical information tools, the team members kept each other informed in regard to their schedules and respondents. These tools comprised:

1. The work schedule, including specific activities, and the work location of each team member (see Annex 1);
2. List of respondents and contact persons (framework institutions, TVET schools, institutions, companies, and other organisations). Each team member was responsible for one research area.

In addition to the regular exchange and compilation of these information tools, the team members kept each other informed, updated, and exchanged information by means of phone, email, and 'Skype' communication.

6. Research topics

The study topics were defined in the ToR. In each area, these study topics were composed of research-specific issues, requested recommendations, and various additional tasks. Here is an overview of the topics:

Research area 1 framework: issues

1. Which acts are relevant and what do they say about TVET in Sierra Leone?
2. According to the National Qualifications Framework (NQF) which links exist between general education and TVET?
3. Which occupational areas contain curricula, and how can the quality of the curricula be assessed?
4. Do the curricula correspond to industry demands?
5. Are there practical units (internships) included in the curricula?
6. Are there training possibilities for in-company trainers?
7. What kind of relevant literature exists for TVET in Sierra Leone?
8. How is TVET embedded within GoSL? Who has the overall responsibility for TVET and what is the organisational structure?
9. How is TVET financed (which percentage of the entire education budget)? How are these funds used?
10. Who has the overall responsibility for the certification of TVET graduates in Sierra Leone? What is the organisational structure? How do the responsible institutions implement their mandate? Where are possible challenges?
11. Who has the overall responsibility for the training of TVET teachers in Sierra Leone? What is the organisational structure? How do the responsible institutions implement their mandate? Where are possible challenges?
12. Does in-service teacher training exist?
13. Who ensures the quality of TTIs, TVIs, and polytechnics? Is there an accreditation system?

Research area 1 framework: recommendations

1. R1: What are the key factors needed to improve and enhance TVET in Sierra Leone?
2. R2: How can TVET become more practice-oriented?

Research area 2 demand (industry): issues

1. To focus on the most important economic sectors: agriculture, mining, construction, manufacturing/fabrication, tourism/hospitality, and energy (incl. renewable energy).
2. Who are the most important actors in these sectors?
3. What are the development potentials in these sectors?
4. What is the potential for innovation, growth, and job creation (by sector), and what is its form?
5. What are the most important core skills? Which are the most important occupational areas lacking qualified personnel (by sector)?
6. Can potential employers absorb TVET graduates?
7. Based on a long-time forecast of industry needs, which occupational area has employment potential?
8. How do potential employers recruit personnel? What does the application process look like?
9. How do potential employers value national certificates and how do they assess applicants from TVIs and polytechnics?

Research area 2 demand (industry): recommendations

1. Stakeholder map 1: Where are the identified stakeholders (1) located (by sector)?
2. R1: According to the answers of questions 2 to 9, which occupational areas (a minimum of three areas) are eligible for assistance?

3. R2: How can the industry be better involved in TVET in Sierra Leone, and which incentives can be carried out?

Research area 3 supply (training providers): issues

1. How many institutions (TTI, TVI, polytechnics) exist in the selected districts, and where are they located?
2. How many teachers (by gender) are employed by the institutions?
3. How many students (by gender) are registered at the institutions?
4. Which courses do the institutions offer, and at which level?
5. How are various (taken from a random sample) institutions equipped?
   - classrooms
   - workshops
   - laboratories
   - equipment (hand and machine tools)
   - IT equipment
   - sanitation facilities
6. Is the available equipment (especially equipment for practical training) sufficient to train students according to the demands of the curricula?
7. Do teachers have the capacity and necessary skills to train students according to the demands of the curricula?
8. How many TTIs, TVIs, and polytechnics are accredited by MEST and NCTVA?
9. What is the budget of the institutions (random sample)? Where do they receive funds? How do they invest these funds?
4. What is the management structure of TTIs, TVIs, and polytechnics? Are the capacities sufficient?

Research area 3 supply (training providers): recommendations

1. Stakeholder map 2: Where are the identified TTIs, TVIs, and polytechnics (1.) located?

Research area 4 synergies (between demand and supply sides): issues

1. What is the correlation between the supply of TVET graduates and demand for qualified personnel?
2. Which institutions coordinate and regulate the alignment of demand and supply?
3. Who is responsible for curriculum development / modernisation in order to meet the demands of potential employers?
4. What is the dialogue between TVIs, polytechnics, and potential employers?
5. Which technical facilities exist to organise and consistently improve communication between training providers and potential employers?
6. What improvements need to be made regarding the communication between demand and supply?
7. Do job centres exist to help TVET graduates find employment?
8. Do potential employers offer internship programmes for TVET students?
9. How do employers fill possible gaps in skills?

Research area 4 synergies (between demand and supply sides): recommendations

1. R1: Which improvements can be made regarding communication between the demand and supply sides? Which tool is recommended to guarantee equal participation?
2. R2: Which improvements can be made to curriculum development / modernisation in order to meet the demands of potential employers?
3. R3: How can potential employers be involved in the development of a new certification scheme?
4. R4: How can potential employers be involved in the development of a new in-service teachers training system?

7. Scope of the research

The scope of the research can be outlined in the following areas: (i) on the institutional level; (ii) in the economic sectors; (iii) in the selected districts (iv); within the categories of 'core skills areas / occupational areas'.

7.1. Scope of research: institutional level and degree level

According to ToR requirements, the diagnostic study focuses on the tertiary level of education within the formal TVET system. In Sierra Leone, this includes institutions such as TVET institutes or colleges (TVI), polytechnics, and universities. Within these institutions, the study team only analysed courses that result in students graduating at the levels of National Technical Certificate (NTC), (National) Diploma (ND), or Higher (National) Diploma (HND). For institutions offering graduation at the degree level (such as universities), we only analysed their courses at the ND and HND levels.

This approach was chosen in order that the scope of the research be independent from the actual legal status of the institutions. This approach was useful when colleges and polytechnics were attempting to upgrade to the rank of university (such as Eastern Polytechnic).

Additionally,, institutions at the tertiary level were analysed. The analysis focused on the Higher Teaching Certificate (HTC) that these institutions offered TVET teachers. The Fourah Bay College, which is part of the University of Sierra Leone, and the Freetown Teachers College were also included in the research.

The figure below provides an overview of the education system in Sierra Leone.

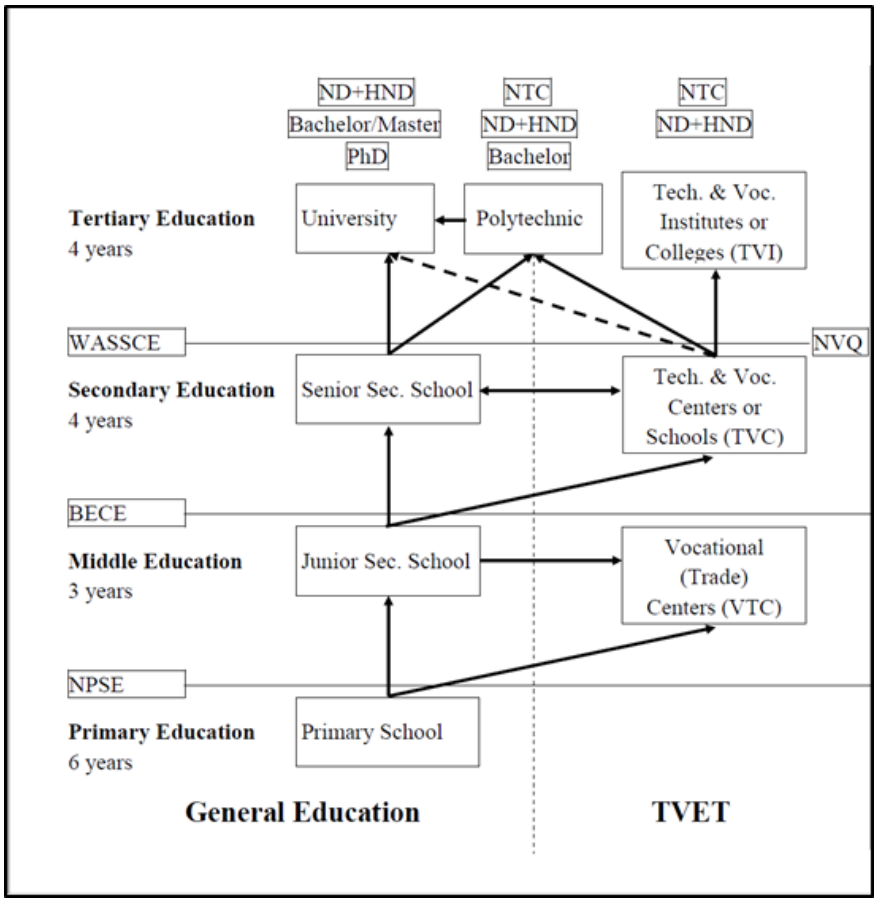


Figure 3: Overview of the education system in Sierra Leone

7.2. Scope of research: economic sectors

According to ToR requirements, the research is focused on TVET qualifications in the following economic sectors: 1. agriculture 2. mining 3. construction 4. manufacturing/fabrication 5. tourism/hospitality 6. energy (including renewable energy). The research excludes most areas of the public and health sectors – sectors that provide the majority of national employment opportunities.

7.3. Scope of research: districts

The GIZ TA team carried out the selection of districts to be surveyed prior to the commissioning of this study. They based their selection on the target areas of the EU's 11th European Development Fund National Indicative Programme for Sierra Leone.

According to ToR requirements, the research was focused on TVET institutions, which have their administrative seat or a subsidiary campus in any of these selected districts: (i) Western Urban (Freetown), (ii) Port Loko; (iii) Bombali; (iv) Bo; (v) Kenema. The study now also encompasses the Ernest Bai Koroma University and the Njala University, whose administrative seats fall outside of the research area (in Tonkolilli and in Moyamba respectively). However, these universities possess subsidiary colleges or faculties in campuses inside the research area (in Makeni and in Bo respectively). The research area locations (districts) are indicated by the boxes featured in the following map.

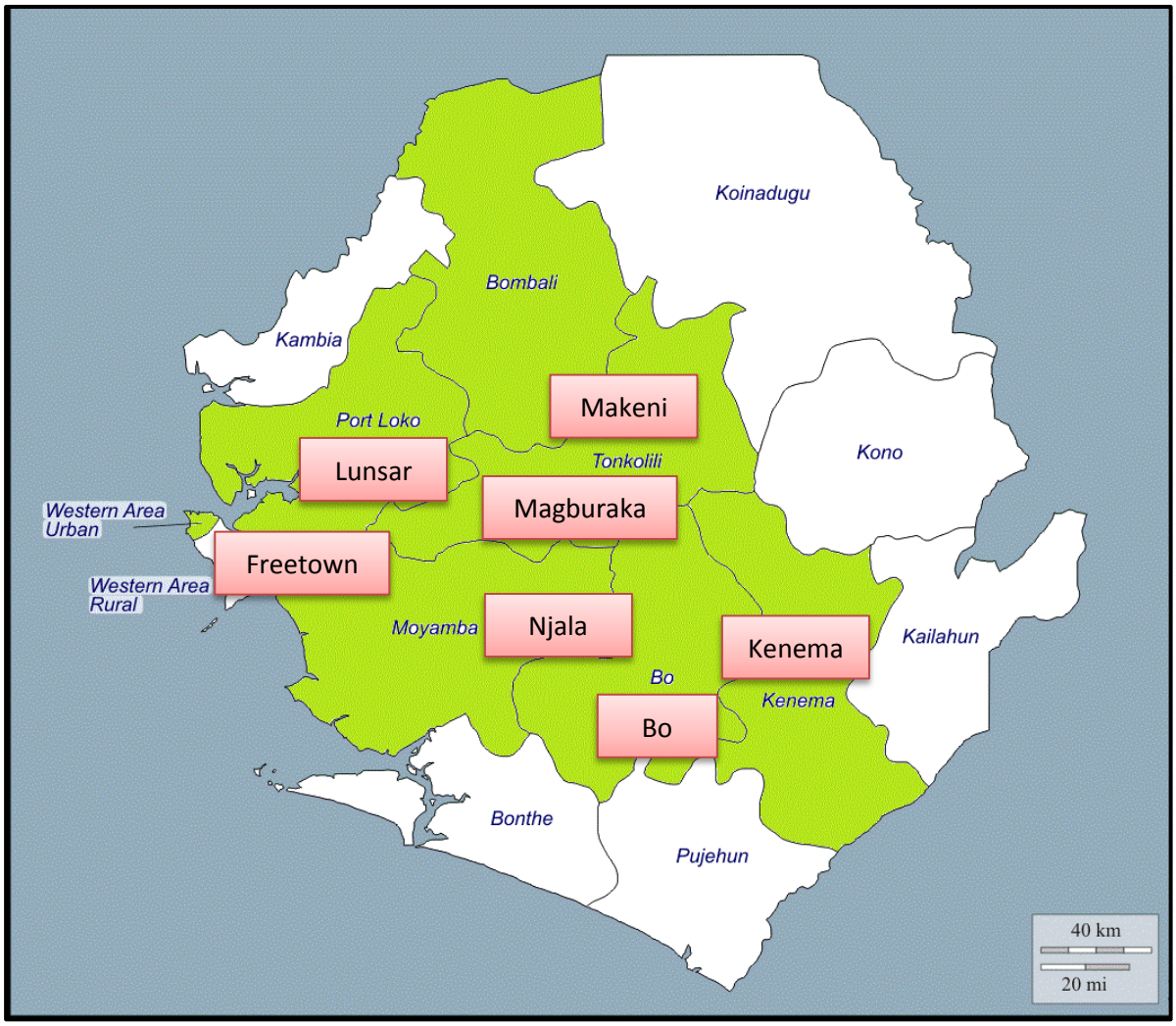


Figure 4: Research area locations

7.4. Scope of research: core skills areas / occupational areas

The ToR required the study team to identify at least three areas of core skills / occupational areas that are currently lacking on the employment market. These areas can thus be further developed by the project, in partnership with TVET institutes. Because it is an important, but ambiguous term, we wish to clarify the terms 'areas of core skills areas / occupational areas'.

Firstly, the ToR does not refer to cross-sectoral core skills, such as communication skills, planning and organisational skills, and personal soft skills. However, there is a need to examine if the existing curricula are developing all skills (soft and technical), which are required by potential employers from TVET graduates.

The term 'core occupational area' was decided on. It was necessary to propose focal areas at the appropriate categorisation level – focal areas that were neither too wide nor too narrow. If the category that was too general or too narrow, it would not correspond to existing TVET courses. To assist in this process, the study team referred itself to:

- the German system of occupational classification from 2010 (Klassifikation der Berufe (KldB) 2010)
- the International Standard Classification of Occupations (ISCO) of the International Labour Organisation (ILO) from 2008.

After discussions with the GIZ TA team, a decision was made to follow the ISCO system of ILO, more specifically the grouping under Section IV (occupational minor groups), which is equivalent to the fourth category in the German KldB 2010 system.

8. Research methodology

The research methodology followed the systematic execution of the following eight steps. These steps will be examined in more detail in the following chapters:

1. Desk study for the review of relevant acts, laws, regulations, reports, and literature primarily centred on the legal, policy, and regulatory framework conditions of TVET in Sierra Leone.
2. Identification of research objects and respondents for analysis within three research areas: framework, demand, and supply.
3. Elaboration of research methods and tools (questionnaires) for the analysis of identified respondents in each research area.
4. Data analysis of the feedback received from respondents in each research area.
5. Formulation of findings and of recommendations in each research area.
6. Identification of links and relations between findings and recommendations in all areas, and elaboration of conclusions for research area 4 (matching of demand and supply as well as cooperation between actors).
7. Writing a first draft of the final report, which features findings and recommendations. Writing a final report, which includes comments from the GIZ TA team and stakeholders.
8. One-day validation workshop with GIZ TA team, stakeholders, and several respondents in order to present findings and recommendations, to discuss results, to obtain further input, and to finalise the report.

8.1 Identification of links and relations

Within the findings and recommendations in all three research areas, the study team identified links and relations during joint working sessions. As a result of these discoveries, the study team formulated conclusions for the research area 4 (matching of demand and supply as well as cooperation between actors).

8.2 Reporting

A first draft of the final report was completed on 4 December 2017. This draft included these findings and recommendations. A second draft of the final report was presented on 7 December 2017. This draft included comments from the GIZ TA team. After discussing the study results with the stakeholders during the validation workshop, the final report was completed on 12 December 2017.

8.3 Validation workshop

The validation workshop was organised with the GIZ TA team, and included stakeholders and several respondents. It took place over the course of one day on 11 December 2017. The aim of the workshop was to present to stakeholders the study team's findings and recommendations. After the presentation, the results were discussed with the stakeholders, who gave the study team their input. From this input, the study team finalised the report.

9. Research area 1: legal, institutional, political, and actual framework conditions

9.1 General overview / Introduction

'In Sierra Leone, TVET was originally designed for school dropouts and those who failed the Basic Education Certificate Examination (BECE), West African Senior Secondary Certificate Examination (WASSCE) or failed to enter tertiary institutions. Consequently, the TVET system is stereotyped as for those with a low level of academic achievement. This may account for some of the poor salaries, low level of qualified teachers and poor quality of infrastructure, students and equipment. For example, the qualification of the teachers mostly consists of high school graduates, Teachers Certificate (TC), Higher Teachers Certificate (HTC) and very few with BA and B.Sc. Less than 1% have masters or higher degrees.'
(*Lessons for Developing Countries from Experience with Technical and Vocational Education and Training*, 2012, p. 71)

The above quote summarises thoughts that many respondents expressed during meetings and discussions. Consequently, TVET's poor image among many originates from the explanations offered in this introductory statement.

In order to better understand the current situation of the TVET sector in Sierra Leone, and to put the consultancy tasks (ToR findings and recommendations) into context, the following excerpts and table (Figure 6) can help clarify the situation. They originate from the SL Government Education Sector Capacity Development Plan 2012-2016, and reflect on the importance given to TVET from GoSL's perspective:

'The Capacity Development Strategy has 14 objectives (we will only look at objective 11, SG):
11. The technical and vocational education and training (TVET) system provides demand-led qualifications that meet regional and international standards and enhance national employment prospects for sustainable development.

Capacity development for the education sub-sectors

Technical and vocational education and training (Code TVET), Critical issues:
'TVET is offered in a wide variety of institutions, which are weakly regulated for quality, and operate at a number of different levels within the education system (including an indistinct division with the NFE sub-sector). TVET curriculum development is not responsive to labour market change and there is too little interaction with employers. The TVET examining body has a mixed brief in relation to paid and non-paid examinations which introduces perverse incentives. A national TVET policy has recently been drafted and is awaiting finalisation and approval. This will provide a road map to guide the development of the TVET sector in the medium term.'

Education sub-sectors: technical and vocational education and training (TVET) strategic actions:

Code:	Strategic action:	Timing:	Dependencies:	Responsible body:	Inputs:
TVET 1	Finalise and promulgate the TVET policy	Mid 2012		MEST	Dissemination
TVET 2	Review the registration criteria for TVET providers, including cost and cost recovery criteria	Late 2012	TVET 1	MEST TVET Division, NCTVA	Consultant (medium): licensing of TVET centre

Code:	Strategic action:	Timing:	Dependencies:	Responsible body:	Inputs:
TVET 3	Revise licensing and standards enforcement system for TVET providers	Early 2013	TVET 2	MEST TVET Division, NCTVA	Consultant (medium): as above
TVET 4	Commission a business review with the goal of making the NCTVA a cost centre, based on registration and examination of income	Mid 2013	Decision on NIETAR* roles and responsibilities	MEST TVET Division	Consultant (short), Market study
TVET 5	Establish employer consultation mechanisms	Early 2013		MEST TVET Division	Employer consultation meetings, Market survey
TVET 6	Identify options for regional and international collaborations on qualifications, standard-setting, etc. with the possible delivery of an international qualification	Mid 2013	TVET2 TVET3	MEST TVET Division, NCTVA	No cost

* National Institute of Education, Training and Research

Figure 5: SL education development capacity strategy 2012 – 2016: TVET strategic actions (SL Education Development Capacity Strategy 2012 – 2016, p. 3ff, 39ff).

The study team wishes to note that none of the listed 'strategic actions' have been implemented to date. This explains the many references to the same or similarly named interventions and/or objectives within the various reports that are quoted and referred to throughout this document.

The TVET sector is currently encountering a multitude of problems. These problems are due to the fact that the number of registered TVET providers has risen from approximately 33 in 2009 to over 380. Moreover, the TVET Division in the Ministry (MEST) has remained unstaffed since the TVET Deputy Director retired in 2014 and the Curriculum Development Unit ceased operations in 2012. Subsequently, the NCTVA has been overwhelmed with an ever-increasing number of examination and certification issues, and has been plagued by malpractices, which have led to a halt in the issuing of certificates.

9.2 Methodology

9.2.1 Desk study

Relevant acts, laws, regulations, reports, and literature that address the legal, policy, and regulatory framework conditions of TVET in Sierra Leone were reviewed as stipulated in the ToR. Additional documents were reviewed, which were either supplied by the GIZ TA team, recommended by others, or chosen by the study team. Internet research was also conducted.

The same research methods applied to secondary data chosen from relevant acts, policies, reports, and strategies on the topic of the labour market and labour demand in Sierra Leone. Findings, observations, and quotes from these documents were incorporated into this report if and where applicable.

9.2.2 Identification of research subjects in area 1 framework

The study team identified the following partners, with whom to meet and to hold discussions:

1. Delegation of the European Union (EU) to Sierra Leone
2. Ministry of Education, Science and Technology (MEST), TVET Unit (this unit is unstaffed)
3. Ministry of Labour and Social Security (MLSS)
4. Ministry of Youth Affairs (MOYA)
5. National Council for Technical, Vocational and other Academic Awards (NCTVA)
6. National Youth Commission (NAYCOM)
7. Sierra Leone Local Content Agency (SLLCA)
8. Teaching Service Commission (TSC)
9. Tertiary Education Commission of Sierra Leone (TEC)
10. TVET Coalition of Sierra Leone
11. World Bank
12. UNICEF (as the lead of the 'Education Development Partners' (EDP) collaborating with MEST).

9.2.3 Meetings

The study team will hold meetings with political project partners, stakeholders, implementing partners, and others. During these meetings, the discussions should be open, and structured with guiding questionnaires.

9.2.4 Site visits

Site visits to the Ministry of Education, Science and Technology (MEST), the Ministry of Labour and Social Security (MLSS) the Ministry of Youth Affairs (MOYA), the National Council for Technical, Vocational and other Academic Awards (NCTVA), the Sierra Leone Local Content Agency (SLLCA), the Teaching Service Commission (TSC), the Tertiary Education Commission (TEC), the National Youth Commission (NAYCOM), the World Bank offices, and the UNICEF offices.

9.3. Research area 1 framework: issues (questions from the ToR) and findings

9.3.1. Which acts are relevant and what do they say about TVET in Sierra Leone?

We found the acts mentioned below to be the most important regarding the implementation of TVET-related activities by the major actors. These acts feature prominently in almost every report on technical and vocational education and training subjects. Consequently, we are quoting important sections from these acts.

The NCTVA Act of 2001

'*The National Council for Technical, Vocational and other Academic Awards Act (2001) established an independent body whose main functions are to validate and certify awards in technical and vocational education and teacher training; accrediting technical and vocational institutions and advising MEST on TVET and teacher training curriculum areas. It also provides the basis for the conduct of examinations for pupils of the SSSTV pursuing the NVQ-course.'*
(*The Education Sector Plan 2007 – 2015*, p. 10)

'The NCTVA Act 2001 that established the NCTVA body was mandated to accredit and certify TVET institutions. Unfortunately, the mandate was confined to five polytechnics under the first schedule. The government's intention for polytechnics to train TVET instructors and tutors for schools and TVET institutions cannot be achieved as the existing polytechnics lack technical and vocational capacity and the NCTVA examining system is academic excellence focused.'
(*The TVET Situational Analysis*, 2015, p. IX)

The Polytechnics Act of 2001

'*This Act established polytechnic institutions and the Polytechnics Councils. Among its functions are control and supervision of polytechnic institutions; provision of instruction for learning, research and documentation of knowledge. It also grants diplomas and certificates through the NCTVA; it determines the content of instruction, manages student admission and staff employment.'*
(The Education Sector Plan 2007 – 2015, p. 10)

Tertiary Education Commission Act (2001)

'*This act established the Tertiary Education Commission (TEC) for the development of tertiary education. Its functions include: advising the Government on tertiary education; fund-raising for tertiary education; vetting the budgets of tertiary institutions; ensuring relevance of programmes offered; ensuring equity in admissions; recommending modifications in conditions of service and ensuring parity in appointment and promotion of staff.'*
(*The Education Sector Plan 2007 – 2015*, p. 10)

The Education Act of 2004

'*This is the key legislation guiding education in Sierra Leone. It is based on its predecessor the Education Act of 1964. It outlines the structure of the entire education system from pre-primary to tertiary level including education for girls and women as well as special needs education.*

The Act focuses to a great extent on management and control and the role of the various actors in the system including local authorities. Roles will be further clarified as powers are devolved to local authorities and school management committees during the decentralisation process.'
(*The Education Sector Plan 2007 – 2015*, p. 10)

'The Education Act 2004 established NCTVE but to date this body has not been formally constituted. This has led to the proliferation of TVET institutions (especially by the private sector) offering varying quality of courses and unaccredited certification up to diploma and higher diploma level. The absence of the NCTVE also enabled operators of TVET institutions to self-determine their TVET institution's level, even though they lack the capacity in terms of staff, facility and equipment, to provide the expected service at that level. This situation is further compounded by MEST, NCTVA and other institutions co-certifying courses offered by private sector operators of TVET institutions using varying curricular.'
(*The TVET Situational Analysis*, 2015, p. IX)

9.3.2. Based on the National Qualifications Framework (NQF), what are the links between general education and TVET?

According to the report 'Qualifications frameworks and quality assurance of education and training' prepared by Andrea Bateman and Dr Mike Coles in 2013 for the World Bank, Sierra Leone is among the 110 countries worldwide that has established an NQF. However, observations and findings by the study team cannot confirm the actual existence of a National Qualifications Framework within the country. As a result, in our report, we make reference to Sierra Leone's existing education system.

A somewhat complex relationship exists between the different school levels, teacher colleges, polytechnics, TVET, and non-formal programmes.

'The education system is organised into the sub-sectors below:

- *Pre-primary + basic education (primary + junior secondary)*
- *Senior secondary*
- *Technical and vocational education and training (TVET)*
- *Tertiary education (universities, polytechnics, and teacher education)*
- *Non-formal education, that includes literacy programmes.*

The different levels are:

(i) Pre-primary education: The entrance age for a child is theoretically three years old and the programme has a duration of three years. The objective of this programme is to contribute to children's physical, cognitive, emotional, and social development, and to prepare them for primary school.

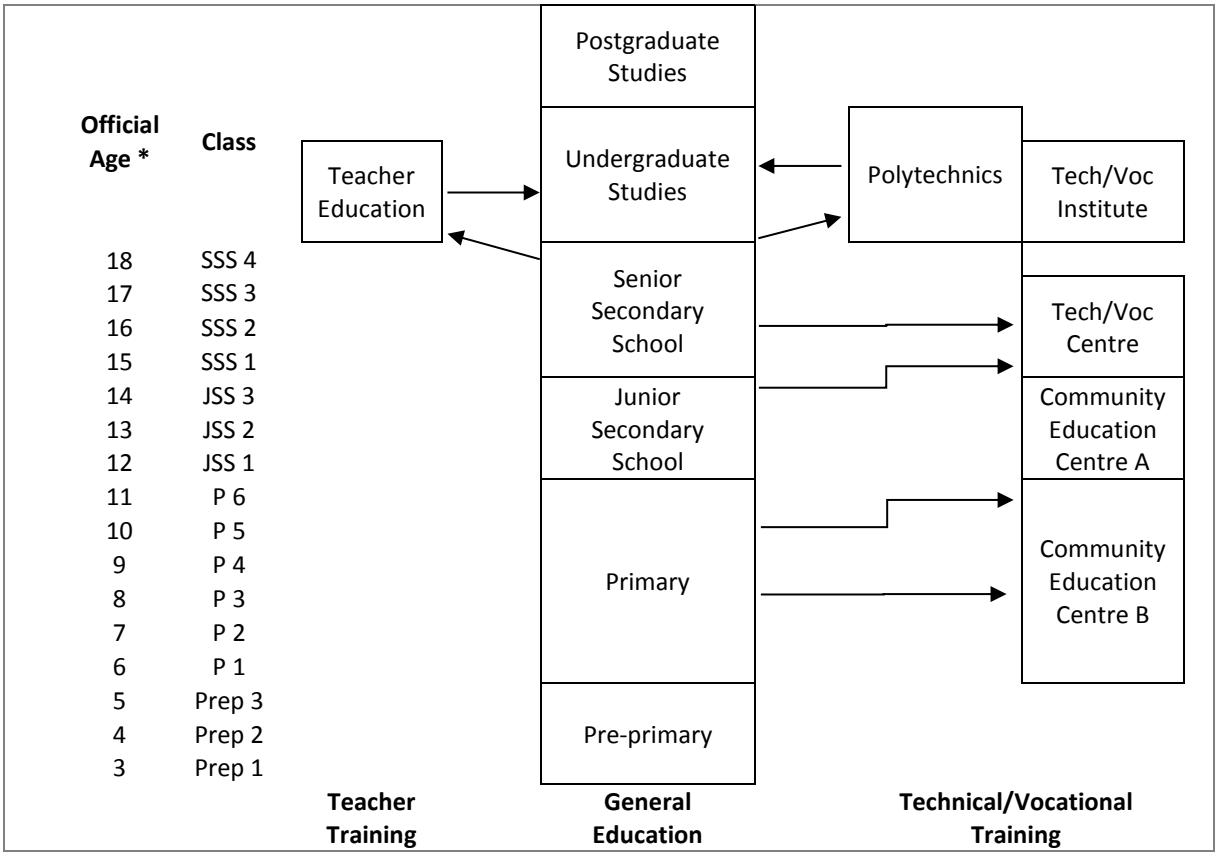
(ii) Primary education: Children are generally six years old when this programme begins, which has a duration of six years. At the end of the last grade, all pupils are required to pass the National Primary School Examination (NPSE) designed by the West African Examinations Council (WAEC) to proceed to secondary education.

(iii) Secondary education, which is divided into: (i) Junior secondary school (JSS), which is the final cycle of basic education, and is validated by the Basic Education Certificate Examination (BECE); and (ii) Senior secondary school (SSS), which is validated by the West Africa Senior School Certificate Examination (WASSCE). Both examinations are administered by the WAEC.

Tertiary education includes: (i) University, leading to bachelor's (four years), master's and doctorate degrees; (ii) Teacher training, leading to the Higher Teacher Certificate (HTC - three years); (iii) Polytechnics, leading to the Higher National Diploma (HND – two years), and other vocational courses.' (*The Education Sector Plan 2018 – 2020 draft version/Annexe IV*, p. XXIX)

The technical and vocational stream offers a variety of programmes and certificates, available at all stages of education. These programmes and certificates either function as an alternative to complete a given cycle or independently from the general stream. TVCs and TVIs are alternatives to further general education for BECE and WASSCE holders, respectively.

The table below provides a graphic representation of the educational structure in Sierra Leone.



** Official school ages apply to general education only*

Figure 6: Educational Structure in Sierra Leone (source: 2013 CSR with author's modification)

The figure above displays the links between general education and TVET by showing the vertical and horizontal mobility within the education system. The above graph demonstrates, for example, the possibility for an individual who has left school at the primary school level to proceed with an education through the TVET stream. Contrary to popular belief, TVET is not just an option for individuals who have stopped pursuing the general education stream; TVET provides an avenue towards the acquisition of skills – skills that are in demand by the current economy. WASSCE (West African Senior Secondary School Certificate Examination) is equivalent to general schooling; the NVC (National Vocational Certificate) is equivalent to TVCs. Therefore, the WASSCE and the NVC should be viewed and treated on equivalent terms in respect to TVET entry requirements.

9.3.3. Which occupational areas already contain curricula? How can the quality of the curricula be assessed?

According to a statement from the director of the NCTVA, there are curricula for all the major engineering fields as well as for the tourism and hospitality fields. These curricula comply with ECOWAS standards and were initially developed in Nigeria with the assistance of UNESCO in 2004.

The following list of existing curricula could be obtained from the NCTVA.

Programme Title	NVC	ANVC	NTC	ND	HND
1. Accounting and Finance				X	X
2. Agriculture	X	X	X	X	
3. Agricultural Science					
4. Arts and Crafts	X				
5. Automobile (Auto Mechanics Technology)	X	X	X		
6. Automobile Engineering				X	X
7. Automobile Technology			X		
8. Architectural Technology				X	
9. Banking and Finance				X	
10. Building and Construction (Civil Engineering)		X		X	X
11. Business Studies	X				
12. Business Management and Administration					
13. Carpentry and Joinery (Woodwork)	X	X	X		
14. Catering	X				
15. Community Development Studies			X	X	
16. CDS (Agriculture)				X	X
17. CDS (Health)				X	X
18. CDS (Catering)				X	
19. Commercial Fishing Technology					
20. Computer Hardware				X	
21. Computer Studies (Science)			X	X	X
22. Construction Technology		X	X		
23. Cosmetology			X		
24. Development Communication					
25. Dressmaking and Design				X	
26. Educational Administration				X	
27. Electrical and Electronics (Engineering)	X			X	X
28. Electrical and Electronics Technology			X		
29. Environmental Water and Sanitation					
30. Fisheries Technology			X		

Programme Title	NVC	ANVC	NTC	ND	HND
31. Fish Processing Technology				X	
32. Food and Beverage Production (Catering)				X	
33. Front Office and Housekeeping				X	
34. Hotel and Tourism				X	
35. Hotel Management					X
36. Human Resources Management				X	X
37. Insurance				X	
38. International Relations				X	
39. Islamic Studies					X
40. Laboratory Technician				X	
41. Library Science				X	
42. Marine Engineering				X	
43. Marine Mechanical Technology			X		
44. Marketing				X	X
45. Marketing Management					
46. Masonry	X		X		
47. Mass Communication				X	
48. Measurement and Evaluation				X	
49. Mechanical					
50. Mechanical Engineering				X	X
51. Mechanical Technology					
52. Medical and Laboratory Technology				X	
53. Metal Works		X			
54. Metal Work Technology					
55. Modern Language					X
56. Nautical Science			X	X	
57. Painting Technology			X		
58. Peace and Conflict				X	X
59. Plumbing			X		
60. Plumbing Technology					
61. Population and Family Life Education			X		
62. Practical Arts				X	
63. Procurement				X	
64. Project Management and Design				X	X
65. Public Health					
66. Purchasing and Stores Management					
67. Ports and Shipping Administration				X	X
68. Reproductive Health/HIV/AIDS			X	X	
69. Secretarial Studies			X	X	
70. Sport Coaching				X	
71. Social Works				X	
72. Solar P V Technology					
73. Tailoring	X		X		
74. Tailoring (and Dressmaking)				X	
75. Theatre Arts				X	

Programme Title	NVC	ANVC	NTC	ND	HND
76. Tourism Studies			X	X	
77. Tourism Management					X
78. Water Quality and Resource Management					
79. Welding and Forging	X				
80. Wood Work Technology					

Figure 7: Existing curricula according to NCTVA examinations (2015)

Given the existence of the training programmes and NCTVA examinations listed in the above figure, it would appear that curricula for these programmes exist. This would mean that there are approximately 80 curricula for each subject, in addition to sub-groups for the qualification levels listed in the figure. However, a list of training programmes (without a valid date), which requires assessment and certification by the NCTVA, indicates approximately 94 different training programmes. There are conflicting statements on this subject, such as:

'... the fact that no curricular exists for teaching and training of technical and vocational courses. Rather, some TVET institutions use an adaptation of the NCTVA curricula. ...'
(*The TVET Situational Analysis*, 2015, p. XXXI)

From the findings, it appears as though the quality of existing curricula is primarily assessed by the training providers themselves. The providers assess changes that need to be made to curricula following suggestions communicated by students or by private sector companies with whom the providers may be cooperating. As a result, training institutions implement these revisions and modernise curricula according to current industry needs without the approval of MEST and/or NCTVA. Therefore, a variety of curricula for similar occupational skills programmes are used by various institutions. This leads to a disconnect between the contents of curricula taught and the contents of curricula assessed through NCTVA in the students' final examination – this is problematic. TVIs are now revising and modernising curricula independently, and will present their results to the NCTVA for approval. For the past five years, the Curriculum Development Department of the Ministry (MEST) has not been in operation. The ESP 2018-2020 states that there is presently no expert in charge of curriculum development currently employed by MEST. The ESP requests the 'revitalisation' of this curriculum development unit, and advocates for the assumption of responsibility for the coordination of curriculum review and its implementation.

For the quality assessment (and relevance) of TVET curricula, as a general rule the following applies:

- an international comparison (especially with countries in the region, in this case, ECOWAS)
- regular periods of time allotted for review and modernisation
- the involvement of partners (MDAs, industry, and the private sector)
- adapting to local and regional contexts

Here are two statements from the United Kingdom and Botswana discussing review procedures, relevance, and modernisation of TVET curricula:

'Standards for vocational qualifications are generally reviewed at three- to five-yearly intervals. Curricula must be based upon the standards, and VET providers ensure that curricula are kept up-to-date in line with industry requirements. In practice, training tends to follow, rather than lead, innovative practices in industry.
In the UK, … (TVET curricula) …are largely based on National Occupational Standards, or statements of the outcomes to be achieved to meet the requirements for certification. These are mainly developed by the Sector Skills Councils, which are employer-led bodies and normally include representatives of trade unions and relevant professional bodies and training organisations.'
(*CEDEFOP Panorama Vocational education and training in the United Kingdom*, 2005, p. 50 ff)

'There is need in Botswana for educated multi-skilled technicians. This can be achieved by the technical vocational education curriculum to the industries or to the appropriate employer's needs (UNESCO/ILO, 2010). Technical vocational education can reduce unemployment by the skilled generating self-employment and employing others (In Botswana graduates – those with academic subjects, are walking the streets without jobs).
Technical education suggests hands-on skills. It is primarily work-centred where the focus is on enabling students to become operation by acquiring relevant skills and to be analytic in approach to problem solving. Technical education is identified as an important tool in addressing two main challenges namely; youth unemployment, skills geared towards projected economic opportunities (Crouch, Finegold and Sako, 1999). In German, technical education curriculum is determined by industrial sectors. There is no admission into German vocational training centres without a job offer (Dolgow, 2012).
Periodic review of technical courses curricula is vital for maintaining the quality and currency of programmes (Carew and Cooper, 2006). Currency means that the programme has to keep pace with the needs of the industry, the rapid changes of technology; shifting social expectations; shifts in legislation and regulation of different fields; the changing expectations of the regulators and participants in higher education (students, academics, government and accrediting bodies).'
(*An Evaluation of Botswana Technical Colleges' Curriculum and Its Enhancement of Graduate Employability*, 2015, p. 108 ff)

9.3.4. Do the curricula correspond to industry demands?

Curricula were originally developed in 2004 with the assistance of UNESCO in Nigeria with input from Nigerian industries and the private sector. The curricula were modified to meet ECOWAS's standard format. Multipliers were qualified to do this work in recipient countries. Training was implemented in Sierra Leone in 2011 and 2012, ending in 2013. During this multiplier training, the curricula's relevance to industry demands should have been verified, but it was not. The quote below addresses the issue of curricula adaptation. This quote originates from the TVET Situational Analysis of the Islamic Development Bank in 2015.

'The Sierra Leone Education Plan 2007-2015 report dealt extensively with TVET, looking at literacy and quality of skills training in terms of appropriateness and demand orientation to fulfil the needs of the labour market. ... They further highlighted that there was an urgent need to have a National Curriculum Research and Development Centre (NCRDC) exclusively for TVET or to set-up a national training authority to act as the agency for developing and monitoring the TVET curriculum ...'
(The TVET Situational Analysis, 2015, p. 21)

The current ESP 2018–2020, on page 57 under 'Intervention 2.1b: Undertake curriculum revision/updating and reform as necessary' states:

'A TVET policy has also been launched, and the TVET curricula will be revised to include programmes offered at the formal and non-formal areas including an apprenticeship system and on-the-job and off-the-job training.'

'Intervention 2.1d on page 58: Undertake studies in assessment, performance and employability of learners' states:

'MEST will clarify and define the relationship between the curriculum, assessment and performance of learners at the various school grades, from pre-primary to SSS and at the Learning Centres and Community Centres. At the HEIs and TVET levels, MEST will empower researchers to conduct tracer studies on the relevance of the curricula to the aspirations of students and the realities of the labour market ...'

It remains to be seen whether MEST will implement the aforementioned interventions.

A final remark: the low quality of TVET in Sierra Leone is not only the result of the quality of the curricula used in technical and vocational institutes – the quality of the actual teaching and training must also be considered. Consequently, emphasis must be placed on this (see in-service teacher training), as well as on the teaching and training environment (see infrastructure, tools, and equipment).

9.3.5. Are practical units (internships) included in the curricula?

From our observations and findings, there are provisions made for practical units and internships, especially if curricula are revised by training providers. The reason for this is that internships in companies and industries benefit training providers because they provide students with practical work experience and exposure to work environments, which training institutions are unable to offer. However, TVIs in principle do not provide internships for their students. This is mainly because it is difficult for TVIs to organise these internships.

The study team finds the following statements somewhat alarming:

'... Only 30% of the institutions surveyed indicated that they used student interns. Interviews reveal that not many are interested in using interns as they do not believe that internships are beneficial to them particularly in recruiting permanent staff. Furthermore, managers were not convinced of good performance of students. On the contrary, it was mentioned that lack of commitment and unrealistic expectations of the market place by interns did not usually augur well with management ...'
(*Skills Gap Analysis*, 2012, p. 47)

'The survey revealed that employers were not enthusiastic to take on apprentices and interns for practical experience. The dialogue between the training institutions and employers needs to be strengthened, structured and formalised.'
(*Skills Gap Analysis*, 2012, p. 47)

However, the findings in the Research area 2 (Demand side) section of this study do not verify nor endorse the above statements.

9.3.6. Are there training possibilities for in-company trainers?

At first glance, it appears that training possibilities for in-company trainers exist in Sierra Leone. However, various internationally active companies and organisations actually do organise Training of Trainers (ToT) programmes in order to generate a pool of trainers for their own in-house staff training efforts.

An example of this is KPMG which holds an annual ToT programme organised through their global and regional office. The International Finance Corporation (IFC) and the International Labour Organisation (ILO) organise ToT measures, and they invite various organisations and trainers within these organisations to attend their training programmes.

The Sierra Leonean National Revenue Authority (NRA) has benefitted from a ToT, which was organised through the UK-based consultancy firm Adam Smith International.

9.3.7. What kind of relevant literature exists for TVET in Sierra Leone?

There is a substantial amount of literature available for TVET in Sierra Leone. However, the policies, strategies, and recommendations featured in these documents have not been sufficiently implemented.

The study team examined all the documents listed below.

1. 'The Agenda for Prosperity (2013–2018) – Road to Middle Income Status' (2013), The Government of Sierra Leone
2. 'National Policy for TVET' (2014), The Government of Sierra Leone, Ministry of Education Science and Technology in collaboration with UNESCO

3. 'Situational Analysis Study of Technical Vocational Education and Training (TVET) in Sierra Leone' (2015), The Government of Sierra Leone, Ministry of Education Science and Technology and Islamic Development Bank
4. 'Skills Gap Analysis for Private Sector Development in Sierra Leone' (2012), African Development Bank
5. 'Market and Economic Survey and Mapping of Training Providers and Supportive Structures in Sierra Leone' (2013), GOAL, IBIS and Save the Children
6. 'Sierra Leone 2014 Labour Force Survey Report' (2015), Statistics Sierra Leone, World Bank and International Labour Organisation
7. 'Findings from the 2014 Labour Force Survey in Sierra Leone' (2016), World Bank
8. 'Labour Market Profile 2015 – Sierra Leone' (2015), Danish Trade Council for International Development and Cooperation
9. 'Education Sector Plan 2014–2018' (2013), The Government of Sierra Leone, Ministry of Education Science and Technology
10. 'Education Sector Implementation Plan for the Years 2014–2016' (2013), The Government of Sierra Leone, Ministry of Education Science and Technology
11. 'Sierra Leone Education Sector Plan: A Road Map to a better Future 2007–2015' (2007), The Government of Sierra Leone, Ministry of Education Science and Technology
12. 'Employment Survey Report 2013' (2014), Statistics Sierra Leone
13. 'A Blue Print for Youth Development: Sierra Leone's National Youth Programme 2014–2018' (2014), The Government of Sierra Leone, Ministry of Youth Affairs
14. 'Sierra Leone 2015 Population and Housing Census' (2015), Statistics Sierra Leone
15. 'Lessons for Developing Countries from Experience with Technical and Vocational Education and Training' (2012), Kingombe, Christian, International Growth Centre
16. 'TVET Scoping and Advisory Mission to Sierra Leone 2012' (2012) Diagnostic Report, Carton, Michel and Christian Kingombe, International Growth Centre
17. 'Vocational Training in Post-war Sierra Leone and Liberia' (2009), Greene Jr., Andrew Benson; in Maclean, Ruppert and David Wilson (eds.); International Handbook of Education for the Changing World of Work: Bridging Academic and Vocational Learning (pp.827-834), Volume 1, Springer
18. 'Education Sector Plan 2018–2020' (2017), The Government of Sierra Leone, Ministry of Education Science and Technology
19. 'NCTVA Manual', ca. 2004
20. 'NCTVA Handbook', ca. 2004
21. 'Sierra Leone Country Strategy Paper 2013–2017' (2013), The African Development Bank
22. 'ECOWAS Technical and Vocational Education and Training (TVET) Strategy, ETSSIE 2017–2026' (2017)
23. 'Professional Standards' for Teachers and School Leaders in Sierra Leone (2017), Sierra Leone Teaching Service Commission
24. 'World Bank Report on Tertiary and Higher Education in Sierra Leone' (2013), World Bank
25. 'Qualifications frameworks and quality assurance of education and training' (2013), Bateman, Andrea and Mike Coles, Prepared for the World Bank
26. 'Global National Qualifications Framework Inventory' (2013), prepared for ASEM Education Ministers Conference, Kuala Lumpur
27. 'Sierra Leone, Education Sector Capacity Development Strategy, 2012–2016' (2011), Government of Sierra Leone
28. 'Education Profile of Sierra Leone' (2014), The World Bank, Poverty Reduction and Economic Management Unit Africa Region.

In addition to the documents listed above, the study team examined the following acts, which are relevant to TVET:

a) National Council for Technical Vocational and other Academic Awards Act 2001
b) Polytechnics Act 2001
c) Education Act 2004
d) Mines and Minerals Act 2009
e) Sierra Leone Teaching Service Commission Act 2011
f) Sierra Leone Local Content Agency Act 2016.

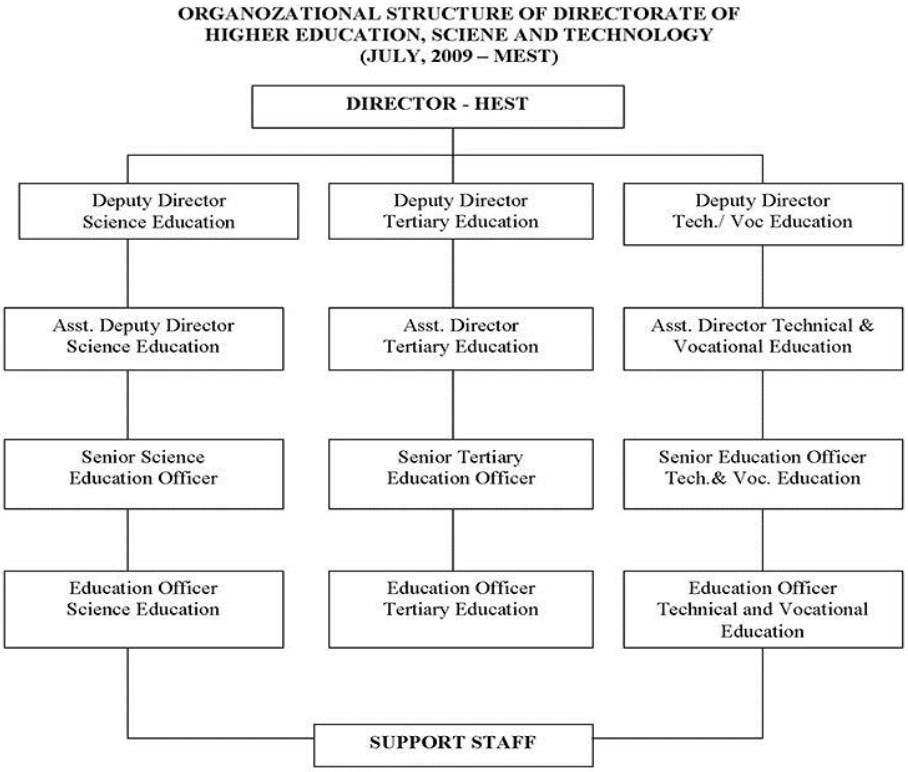
9.3.8. How is TVET embedded within the Government of Sierra Leone? Who is primarily responsible for TVET? What is TVET's organisational structure?

A draft of the National TVET Policy 2010 addresses these questions:

'Currently TVET is nationally coordinated by the Directorate of Higher Education Science and Technology HEST supported by the Deputy Director of TVET. At the Institutional level, (including Technical Institutes and Vocational Community Education Centres) TVET is under the respective Heads of Institutions/Centres and supervised by the respective Board of Governors and School Management committees respectively as provided for in the Education Act 2004. There is also a TVET Advisory Body, the National Council for Technical and Vocational Education (NCTVE), which was created by the Education Act 2004 Section 9. The Monitoring and Inspection of TVET Institutions are being done by the MEYS Inspectorate Division.
Consequently, the overall framework for the management and organisation of TVET in Sierra Leone is characterised by too many functional authority categories with lack of clarity and specificity of roles and responsibilities.'
(*National TVET Policy, which is at present unapproved by the government,* 2010, p. 11)

This passage from the National TVET Policy (draft) document must be understood within the context of the time in which it was written – 2009/2010. At that time, the first draft of the policy was being developed. This policy was further developed and finally presented in 2014. The TVET advisory body, the National Council for Technical and Vocational Education (NCTVE), never came into existence. Efforts are being made to establish and institutionalise this body – this is highlighted in the ESP 2018-2020 draft. This topic shall be further examined in Section 4 'Synergies: recommendations'.

According to a graphic from MEST's website (http://www.education.gov.sl/content/ministry; consulted in November 2017), TVET has a clear organisational structure within the Government of Sierra Leone. There is a Deputy Director TVET under the Director HEST and support staff.



The 'Deputy Director Tech./Voc. Education' is the Head of the TVET Unit. Since the retirement of the Deputy Director in 2014, the TVET Unit is unstaffed.

Figure 8: Organisational structure Directorate of Higher Education, Science and Technology, MEST

9.3.9. Which percentage of the overall education budget is allocated to TVET? How are these TVET funds distributed?

Funding the TVET sector (within MEST's sphere of responsibility) is a critical issue, one that requires special attention. The following excerpt from a study of the TV sector titled 'Situational Analysis Study' was conducted by the Islamic Development Bank-assisted TVET project. This excerpt offers a summary of the situation:

'Government funding to government and government assisted (Associations and Mission/faith) TVET institutions is comparatively low compared to funding to mainstream schools. This has resulted in the following;

- *Deteriorating and dilapidated TVET physical infrastructure.*
- *Relatively poor-quality instructors and tutors, many of whom lack the experience to provide the requisite practical skills training.*
- *Poorly equipped TVET institutions without modern teaching and learning tools and equipment.*
- *Poorly managed TVET institutions.*
- *Relative poor quality of graduates, who, at the best of time are unemployable'*

(The TVET Situational Analysis, 2015, p. ix)

The following table 'Public Education Expenditures' reflects the financing of TVET over three years, from 2008-2010. The decline observed has continued, with very little changes to date. Currently the public expenditure figure for TVET in Sierra Leone hovers at around 2% of the entire education budget.

	2008	2009	2010
Education	$11.996 mn	$16.3 mn	$17.457 mn
TVET	$505,975	$359,483	$393,425
TVET	4.2%	2.1%	2.2%

(*Lessons for Developing Countries from Experience with Technical and Vocational Education and Training*, 2012, p. 71)

Figure 9: Public Education Expenditures, 2008-2010

This 2% is solely used for the salaries of teachers, trainers, and other staff members. There is no government funding forthcoming for the infrastructure of TVET institutes, and for equipment and its maintenance. To counteract funding gaps, a suggestion is made in the ESIP 2014-2016:

'Intervention 1.5a: Encourage and support public-private partnerships (PPPs) to operationalise TVET centres across the country'
(*Education Sector Implementation Plan 2014 – 2018*, p. 6)

However, MEST is prepared to provide this type intervention, but did not specify an amount. The information below can be found in the current ESP 2018-2020 (draft version), on page 118, Section 'Costing of the ESP'.

Intervention cost breakdown (USD budget)					
#	**Activity**	**Cost 2018 ($)**	**Cost 2019 ($)**	**Cost 2020 ($)**	**Total ($)**
12	Intervention 1.7a: develop an implementation plan for the TVET policy	100,000	0	0	100,000
13	Intervention 1.7b: formal constitution and operationalisation of NCTVE	200,000	250,000	250,000	700,000
14	Intervention 1.7c: strengthen and streamline Public/Private Partnership for the provision of TVET	100,000	0	0	100,000
15	Intervention 1.8a: develop a higher education strategy/framework to consolidate the policies for addressing equitable growth, quality, and relevance	100,000	0	0	100,000

Figure 10: ESP Intervention Costing, 2018-2020 in US Dollars

9.3.10. Who has the overall responsibility for the certification of TVET graduates in Sierra Leone?

What does the organisational structure look like, and how do the responsible institutions implement their mandate? Where are the possible challenges?

The overall responsibility remains with the National Council for Technical, Vocational and other Academic Awards (NCTVA). Based on the NCTVA Act of 2001 and developed over time, certification services are currently being offered at the following levels:

Teacher Education:

i. Teachers' Certificate Lower Primary (TC Lower)

ii. Teachers' Certificate (TC);
iii. Higher Teacher Certificate (HTC Primary and Secondary);
iv. Certificate in Education
v. Diploma in Education

Technical Vocational Education and Training (TVET):

i. National Technical Certificate (NTC)
ii. National Vocational Certificate (NVC)
iii. Advanced National Vocational Certificate (ANVC)
iv. (National) Diploma
v. Higher (National) Diploma

The following quote provides an insight into the current situation of skills certification:

'The NCTVA conducts examination and certification services for students in the technical and non-technical programs offered in tertiary institutions, including teaching certificates. The NCTVA has extended its mandate quite substantially from that of providing examination and certification services for 'certain specialised and professional programs' in tertiary education to providing these services to all manner of programs (including arts, international relations) in tertiary and non-tertiary institutions. NCTVA's assessment exams are currently limited to pen-and-paper exams as they do not have the capacity to test whether a candidate has acquired the necessary practical skills.'
(*World Bank Report on Tertiary and Higher Education Policy*, 2013, p. 21 ff)

At present the NCTVA does not possess the necessary financial resources and/or human capacities to conduct practical skills assessment and the certification thereof. If and where practical assessment does take place, it is the training institution that conducts the practical assessment. The assessment of practical skills competencies and their respective certification thus remains a major challenge. The EU/GIZ's 'Support to TVET in Sierra Leone' TA team envisages the creation of a skills certification programme, which entails two main segments:

- the development of certification requirements in at least three core occupational areas;
- the implementation of this skills certification scheme.

As a result of malpractices, which occurred within its own sphere of responsibilities, NCTVA did not issue certificates to graduates for quite a number of years, although students wrote the final (NCTVA) examinations. Reasons behind this decision included the overwhelming amount of forgery and students giving incorrect names. These factors resulted in a non-recognition (or minimal recognition) of NCTVA certificates.

The reasons outlined above coupled with the fact that NCTVA has not received government funding since 2012, has resulted in NCTVA charging fees for their services. These services, however, are not rendered to the satisfaction of NCTVA's clients, and thus leaves a very bad impression on NCTVA.

Another challenge that NCTVA and its staff face is the ever-increasing number of TVET-providing institutions requesting assessments and certification. In 2009, there were approximately 33 TVET institutions, however, there are now well above 390 registered with MEST.

9.3.11. Who has the overall responsibility for training TVET teachers in Sierra Leone? How is the organisational structure? How do the responsible institutions implement their mandate? Where are the possible challenges?

According to the findings of this study, organised and institutionalised competency-based TVET teacher training does not exist. Technically qualified individuals can register at a Teacher Training Institution (TTI) at their own discretion. They can also supplement their technical expertise with ped-

agogy and didactics as these subjects are taught in general teacher training within a period of one to two years.

General teacher training takes place at universities, polytechnics, and TTIs. Through the Teaching Service Commission (TSC), it was discovered that the pass mark – the mark needed to obtain a teachers' certificate – is 25%. This extremely low percentage can be increased, in part, through a stringent, well-structured, and quality-oriented in-service teacher training programme. This particular subject shall be further discussed in the section 'Recommendations for in-service teacher training'.

The current ESP 2014-2018, on page 28 points out the following:

'Intervention 1.5b: Train TVET teachers/instructors:
Very few institutions in Sierra Leone presently train TVET teachers/instructors. The consequence is that qualified, able and competent TVET instructors are very few. During the lifetime of this plan more and improved training programmes/courses for TVET instructors will be started. Additionally, opportunities for the training of TVET instructors in other friendly countries, especially those in the sub-region and Commonwealth, will be pursued.'
(*The Education Sector Plan 2014 – 2018*, p. 28)

The current ESP update formulates the following, which in principle applies to all teachers and trainers:

'Many teachers still lack the relevant qualifications for the levels in which they are teaching. More important than the qualifications for teachers are for them to become teachers with quality to help their students learn. Quality teachers should have the requisite subject matter knowledge, pedagogical skills and attitudes for effective teaching, a strong understanding of (learners) development, effective communication skills, a strong sense of ethics, and a capacity for renewal and ongoing learning. In-service training should include training in all of these and other critical areas.'
(*The Education Sector Plan Draft 2018 – 2020*, p. 62)

9.3.12. Does in-service teacher training exist?

There is no formalised in-service teacher training in Sierra Leone. The responsibility for further education for teachers lies with TVIs or with the teachers themselves. However, most TVIs lack the funds to offer training and teachers have little interest to invest in capacity development if their efforts are not appreciated by employers and if they cannot expect an increase in salary. However, there is a great need for training as many TVET lecturers are skilled engineers but lack training and qualifications as teachers. Furthermore, most of teachers are not aware of the latest technical standards within companies such as modern technologies, business processes, etc.

There are a few exceptions in regard to TVET teacher training opportunities. These opportunities are primarily implemented by NGOs operating in the education sector:

'... There are very few trained and qualified teachers/instructors. They must be increased. Those already in the system should be provided with continuous upgrading of training skills to meet with the complex demands of technical and vocational skills ...'
(*The Education Sector Plan 2007 – 2015*, p. 62)

The director of 'Teachers Professional Development and Performance' at TSC has communicated that the commission plans to establish in-service teacher training in Sierra Leone with the technical assistance of GIZ.

However, in-service teacher training via distance education has become an increasingly interesting option to address the large number of untrained and unqualified teachers. It is proving to be an attractive method because teachers can remain employed while pursuing further education. Each year, stakeholders of the education sector in Sierra Leone (such as Catholic Relief Services, UNICEF, the

International Rescue Committee, Plan International, Concern Worldwide, Oxfam, Action Aid, World Vision, Save the Children, and others) support hundreds of teachers to pursue in-service training. The training takes place over a period of three years via distance learning and students graduate with a teacher's certificate general. It could be worth investigating if this kind of approach could also benefit TVET teachers and their upgrading.[1]

9.3.13. Who ensures the quality of TTIs, TVIs, and polytechnics? Is there an accreditation system?

Normally, quality assessment and quality assurance should take place at two levels. Firstly, at the institutional level through regular tests. Secondly, through continuous assessment during the course of the training period as well as at the end of the training period through the final assessment of the trainee/student.

The quality assessment at the end of the training period is the mandate – and thus the responsibility – of NCTVA. Detailed information concerning quality assurance at TVIs is very difficult to come by. Theoretically, the running and upkeep of an institution should be monitored and regularly evaluated by the TVET inspectorate in MEST. However, MEST does not entirely fulfil its mandate.[2]

There is an accreditation system, which in theory should work as follows:

- training programmes, and their implementation at selected institutions should be registered and accredited by the NCTVA, whereas;
- training institutions (providers) should be registered and accredited by the Tertiary Education Commission (TEC).

A certain degree of quality supervision is exercised by the officer responsible for TVIs in the District Education Offices. These officers are supposed to observe activities of TVIs and to follow up on any complaints and issues. However, there is a mismatch between theory and practice as expressed in the following quote, which adequately expresses what many individuals observe:

'Accreditation is a process by which judgement is made about whether a particular institution or program meets a standard of quality, and both the TEC and the NCTVA are authorised to accredit institutions providing TVET as well as institutions of higher education.
There is some ambiguity over the role of the two institutions in this regard. The TEC Regulations Act of 2006 says that any tertiary institution can apply to the TEC for accreditation after three years of registration. The NCTVA Act says that one of the functions of the NCTVA is to 'provide accreditation for institutions at which courses for awards validated by the Council are offered' (Government of Sierra Leone 2001). In practice, what seems to happen is that TEC focuses on accreditation of universities, whereas NCTVA accredits other tertiary institutions. But, there is still a further confusion about whether NCTVA accredits institutions or programs within institutions. While there is clear evidence of the implementation of activities around registration and licensing of new institutions, there is less clarity around the accreditation process. …
… The TEC wants to move towards accreditation of academic programs, and has written a proposal to MEST for establishment of minimum academic standards (MAS). The funding requested for the implementation of such standards for accreditation has not been realised. The MAS would allow TEC to improve on its accreditation functions, and it is envisioned that TEC will liaise with industry, professional bodies, and tertiary institutions to define the skills, knowledge and attitudes that graduates of particular programs should have.

1 This point shall be further explored in the document below, under 'Recommendations' in Chapter 9.4.

2 More information on this is provided in Chapter 11 on Research area 3: supply.

The NCTVA's accreditation process is to determine whether the institutions are qualified to offer programs that would be assessed by NCTVA. While there is some overlap between the list of NCTVA-accredited institutions and the list of TEC-recognised institutions, they are not the same. NCTVA also accredits post-secondary, non-tertiary institutions. In the appendix, we provide a list of the institutions accredited by NCTVA (2011).'
(*World Bank report on Tertiary and Higher Education in Sierra Leone*, 2013, p. 20)

9.4 Research area 1 framework: recommendations

9.4.1. R1: In order to strengthen TVET in Sierra Leone, which key factors need improvement?

The following are key factors that were almost unanimously identified and mentioned by respondents at the national institutions:

- The finalisation and approval of the National TVET Policy.
- The subsequent development and passing of a TVET Act.
- Elaboration of a regulatory yet enabling framework for TVET. An enabling framework could be a framework that involves stakeholders from all sectors, especially the private sector and that provides a refinancing (entrepreneurial) structure for training purposes. Further elaborations on this topic and recommendations can be found in Section 3 (Research area 'Supply side' in Chapter 11.3. and 11.4).
- Working out a TVET policy implementation strategy.
- Improving/changing the current TVET image in Sierra Leone through activities. For example, image campaigns with TVET/job/employment fairs. We recommend that such events should be coordinated and organised with the National Youth Commission, MOYA, MEST, and MLSS in close collaboration with the private sector (including Employers Federation and Sierra Leone Chamber of Commerce, Industry and Agriculture). First and foremost, the perception that TVET is the education path for school dropouts must be changed.
- We recommend establishing an additional Directorate for TVET at MEST with its own budget, **and** an independent National Training Authority (similar to envisaged NCTVE) to facilitate, coordinate, and regulate TVET activities in Sierra Leone, which has its own refinancing structure through, for example, a TVET fund.
- TVET schools at the secondary level (leading to NVQ) need to be properly equipped to ensure that young people with basic skills and competencies continue their education at TVET institutions at the tertiary level.

It is worth noting that the ESP 2018-2020 prepares for, and envisages, the following:

'Intervention 1.7a: Develop an implementation plan for the TVET policy
MEST, aware of the challenges in the TVET sub-sector enacted The Education Act of 2004, which established the National Council for Technical and Vocational Education (NCTVE) to coordinate TVET and advise government on TVET activities. In 2013, a TVET policy was developed and in 2015 a situational analysis of the sub-sector was carried out.
The TVET department of the MEST will provide leadership in the development of a plan for the revisitation and subsequent implementation of the policy, incorporating into the plan the recommendations from the situational analyses carried out by GIZ, with the full involvement of MEST, under the EU-financed project, as well that carried out by the IDB project. Potential bureaucratic hurdles may slow down the process, but could be mitigated through early discussions and agreement on processes and procedures.

Intervention 1.7b: Formal constitution and operationalisation of NCTVE
The current TVET sub-sector is facing issues in terms of fragmentation, lack of coordination and unregulated systems, this limits its effectiveness and potential.
To resolve the current inefficiencies and myriad challenges, MEST will constitute and operationalise the National Council for Technical and Vocational Education (NCTVE) as per the recommendations resulting from the collaborative work with GIZ and the IDB project.
The TVET department of MEST will take leadership in ensuring the operationalisation of NCTVE as per earlier mentioned recommendations. Risk of not reaching agreements on the structures, composition, roles and hosting of the multi-ministerial unit, but could be mitigated through involvement of organs like the State House in facilitating early discussions.
Intervention 1.7c: Strengthen and streamline Public/Private Partnership in provision of TVET
Leveraging public/private partnerships is critical for the development of TVET sub-sector, and especially in a country with serious manpower gaps in growing sectors such as mining, agriculture and even the service sector.
With the private sector being a big consumer of the skills acquired from the TVET sub-sector, it will be critical to have a well-defined framework of partnership for it to contribute to growth and a functioning tertiary education system. This will form part of the discussions with GIZ.
This process will be led by the TVET department in MEST, working in close partnership with GIZ. Risks could be difficulties in making the partnerships work and sustaining them, but will be mitigated through the ways agreements are managed.'
(*The Education Sector Plan Draft 2018 – 2020*, p. 102)

To summarise the above quote, the main elements should comprise the following:

- Improved collaboration between industry and TVET institutions (PPPs), this is further addressed under the section 'recommendations: Synergy';
- Entrepreneurial (refinancing) TVET activities in order to demonstrate the institutes' ability to deliver high-quality products and services;
- Consistent in-service teacher training to upgrade existing training and pre-service training to qualify new teaching staff.

9.4.2. R2: How can TVET become more practice-oriented?

This can primarily be achieved through an envisaged close cooperation/collaboration between TVIs and industries/private sector. This approach may be most suitable in regions/locations where TVET institutes and industries are in close proximity.

The ESP 2014-2018 notions the following:

Intervention 1.5a:
'Encourage and support public-private partnerships (PPPs) to operationalise TVET centres across the country The GOSL has constructed a number of TVET institutions around the country. Ensuring that the structures and equipment are properly utilised and that programmes of quality are offered has been a challenge. In order to address this challenge, the MEST has amongst other things, encouraged public-private partnerships. Mining companies such as London Mining and African Mineral are already participating in such partnerships by supporting programmes in TVET institutions. Other entities in and out of Sierra Leone have shown interest in participating in TVET public-private partnerships with the GOSL. During the lifetime of this plan even more encouragement will be provided to private enterprises and individuals to invest in skills training / TVET so that Sierra Leone can obtain its needed middle level manpower.'
(*The Education Sector Plan 2014 – 2018*, p. 28)

GIZ's 'PPP Fund for Mano River Union Countries' is an example of a tool that encourages partnerships between the private sector and training providers. The PPP Fund was created to initiate development

partnerships with the private sector in Côte d'Ivoire, Guinea, Liberia, and Sierra Leone. A PPP combines business interests with development objectives in order to promote economic growth and social recovery in the four countries. It also aims to foster decent employment, increase income, and improve working conditions for the local population.

An entrepreneurial approach could be another possibility. This would simultaneously address the issue of revenue generation: teaching and training in a TVI could produce marketable (saleable) products and services, for example, garments resulting from textile training, small furniture resulting from carpentry training, food items (such as fruit preserves, jam, and fruit juices) resulting from food-processing training, etc. However, public institutes are presently not aware of the opportunities that they have to provide these commercial activities. An entrepreneurial approach could assist in generating revenue, which could be utilised in the recurrent budget (for facility development, equipment, replacement items, and maintenance).

The feasibility of these approaches needs to be further investigated. Examples of comparable past ventures have been carried out by the 'Women's Vocational Training Centre' (King Harman Road/Brookfields, Freetown). These ventures should be examined for inspiration.

10. Research area 2: demand side (industry, private sector)

10.1. General overview / Introduction

According to the 2014 Labour Force Survey, over 65% of Sierra Leone's working-age population participates in the labour market – 59.2% of employed individuals aged 15-64 work in agricultural self-employment and 31.3% in non-agricultural self-employment. Within this working-age population, 2.8% were unemployed. After the agricultural sector, the service sector is the second-largest employer (33%). Personal networks are important for the labour market, as the majority of the workforce – especially those with lower educational attainment – seek and obtain their jobs through family and friends.

The SL Skills Gap Analysis for AfDB reported that dynamics within the Sierra Leone labour market indicate that there is a huge skills gap between the labour requirements of the private sector and the output from the education and training institutions, as few people appear to possess marketable skills and professional work experience.

This study revealed that even though certain employers maintain relationships with TVIs, the majority of employers are unaware of the course content for the qualifications relevant to their operations. Employers cannot differentiate between staff who do not have formal training and TVET graduates.

There is willingness on the demand side to provide the supply side with information regarding skills required. There is also willingness to assist in the process of developing curriculum, and providing internships, apprenticeships, and giving lectures, to ensure that the quality of TVET graduates improves.

Employers also expressed concern about the quality of intakes at TVIs. This can only be improved through the education system and through improving the general perception of TVET education.

The importance of a working TVET system cannot be emphasised enough – it is integral to the development of the private sector. Without a sufficient number of high-quality skilled workers, it is impossible for the private sector to grow.

10.2. Methodology

The study team conducted a desk study of relevant documents, such as reports and legal documents (acts) as stipulated in the Terms of Reference, as well as other documents, which are identified during the study. This process was complemented by further research using the internet.

A questionnaire (see Annex 4) was designed to gather information from employers within the agriculture, mining, construction, manufacturing/fabrication, tourism/hospitality, and energy (including renewable energy) sectors. The questionnaire included an assessment of the skills of workers with TVET qualifications, as well as occupational/skills areas in which recruitment has proved difficult, and recommendations as to processes in which labour and supply could work together to improve the quality of TVET graduates. Another questionnaire (see Annex 3) was designed for same-sector bodies and associations to provide information as to whether the skills demand was being met as well as to offer insight on the future plans of these sectors. Forty-three organisations were asked to participate and respondents were given the option of completing the questionnaire alone or having a meeting to complete it.

The study team received responses and/or held meetings with four employers from the agriculture sector, two from the construction sector, five from the energy sector, three from manufacturing sector, one from the mining sector, and four from the tourism/hospitality sectors. The study team also held meetings with four institutions working in all the sectors.

10.3. Research area 2 demand side: issues (questions from the ToR) and findings

10.3.1 Focus on the most important economic sectors: agriculture, mining, construction, manufacturing/fabrication, tourism/hospitality, and energy (including renewable energy)

The study team addressed this focus, requested by the ToR, through its selection of the responding companies, in the analysis of economic perspectives, and through addressing the issue of development of labour markets.

10.3.2. Who are the most important players in these sectors?

10.3.2.1. Agriculture

- **The Sierra Leone Agribusiness Development Fund (SLADF)** is a component of the Smallholder Commercialisation Agricultural Development Project (SCADeP), which is a USD$55 million project currently in implementation by the Government of Sierra Leone, with a credit funding of USD$40 million from the International Development Association (IDA) of the World Bank, and a grant of USD$15 million from the UK Department of International Development (DfID) to support the feeder roads component. The project targets main commodity value-chains – rice, cocoa, oil palm, and poultry – and other value chains that demonstrate commercial viability and integrate smallholder farmers in the intervention areas. In addition to financing, the project will support advisory services or technical assistance to support priority non-financing constraints identified by value chain actors (source: www.sladf.org).
- **Socfin Agricultural Company** began work in 2011 by planting 12,500 hectares of palm groves. The first palm fruit bunches were harvested in 2015. Socfin's aim is to be the leading palm oil supplier in Sierra Leone and among the country's largest employers.
- **Sunbird Energy** and a consortium of investors recently acquired a majority stake in Addax Bioenergy Sierra Leone. Addax Bioenergy Sierra Leone is a renewable energy and agricultural operation that produces bio-ethanol from sugarcane for export and domestic use, and generates 'green' electricity for Sierra Leone's national grid. The estate currently leases 23,000 hectares of land for the production of sugarcane and cassava.
- **Goldtree** is a large-scale, commercial palm oil plantation and milling company, which has been in operation since 2007.
- **Sierra Leone Produce Marketing Company** owned by the Government of Sierra Leone, buys and sells agricultural commodities. It was set up to help with quality improvement, ensure better prices for farmers, and supervise the re-establishment of relationships with international commodity organisations.
- **West African Rice Company**, established in 2011, is Sierra Leone's largest commercial production training farm cultivating rice, maize, and soya beans. It manages over 3,000 hectares of an agricultural production area in the Bonthe District. The company uses modern technologies to manage environmental risk and generate conscious economic growth.

10.3.2.2. Mining

- **National Minerals Agency (NMA)** was established in 2012 by an act of parliament for the day-to-day implementation of the Mines and Minerals Act 2009 and other mining acts and related regulations. It has a responsibility for mineral rights management, collecting and disseminating geological information, and regulating the trading of precious minerals.
- **Sierra Rutile Limited (SRL)**, owned by Titanium Resources Group, which was recently acquired by Iluka Resources, was incorporated in 1971 and is the largest mineral sands company and mining employer in Sierra Leone.
- **Sierra Minerals**, which has been part of the international industrial and investment group Vimetco NV since 2008, is the only bauxite mine and second largest mining employer in Sierra Leone.

- **Shandong Steel Sierra Leone**, an iron ore mining company, is part of the Shandong Iron and Steel Group Co Ltd based in China. It acquired a majority stake in African Minerals.
- **Koidu Limited**, the largest diamond mining company, which is focused on hard rock kimberlite operations, was incorporated in 2003 and is owned by BSG Resources through its subsidiary Octea Limited.

10.3.2.3. Construction

- **Nimo Construction** has provided engineering and construction services in Sierra Leone since 1990.
- **EACON's** international's area of expertise is turn-key contracting, in which they provide pre-project planning and feasibility studies, schematic architectural designs, design development, building and managing construction, and furniture if required.
- **Compagnie Sahelienne D'Entreprises** specialises in building road networks in West Africa and is the leading road construction company in Sierra Leone.
- **Sierra Construction Systems**, a private engineering construction company, has been operating in Sierra Leone since 1983.
- **Shapoorji Pallonji**, part of a global group and owned by its parent company in India, entered the market to construct the Cape Sierra Hilton Hotel in Sierra Leone.
- **Gento Group** is made up of an estate company, a civil engineering construction company, and a quarry providing haulage services. In the last four years, it has managed various road projects across Freetown.

10.3.2.4. Manufacturing/Fabrication

- **Sierra Leone Bottling Company (SLBC),** owned by Equatorial Bottling Company in Spain, bottles Coca Cola products and imports other non-alcoholic beverages. It was incorporated in 1949 and restructured in 2008.
- **Sierra Leone Brewery Limited (SLBL)** was established in 1961. Its majority shareholder is Heineken Holding NV. The company sources sorghum from local farmers to produce various brands of beer. It also produces a malt drink and imports other beer brands as well as Guinness stout.
- **G. Shankerdas and Sons** is a family business founded in 1939. It manufactures alcoholic and non-alcoholic beverages and plastic products.

10.3.2.5. Hospitality/Tourism

- **National Tourist Board** is perhaps the most important player in the sector. Its responsibility is to market Sierra Leone with the aim of optimising the economic and social benefits of tourism for the country.
- **Hotel and Tourism Association of Sierra Leone** is an association of employers within the hotel and tourism sector.
- **Visit Sierra Leone (VSL) Travel** provides travel and tourism services and relevant information for visitors to Sierra Leone.
- **National Social Security and Investment Trust, NASSIT**, a trust set up to administer the country's national pension scheme, is the largest investor in the hospitality and tourism sector, with stakes in Radisson Blu Mammy Yoko Hotel, Cape Sierra Hilton Hotel, Golden Tulip Kimbima Hotel, and Bintumani Conference Centre.

10.3.2.6. Energy

- **Sierra Leone Electricity and Water Regulatory Commission** was established in 2011 by an Act of Parliament to issue and monitor licenses, provide guidelines on rates chargeable for the provision of electricity and water services, monitor standards of performance for the provision of water and electricity services, etc.

- **Electricity Distribution and Supply Authority (EDSA),** owned by the government of Sierra Leone, is the largest player in the energy sector. It distributes, purchases, and supplies electricity across the country.
- **Electricity Generation and Transmission Company (EGTC),** owned by the government of Sierra Leone, currently generates electricity from thermal power plants and supplies the bulk of substations. It owns a training school that provides Electrician General and Mechanic General certificates.
- **Salini Impreglio** is the operator and maintenance contractor of Bumbuna hydropower plant, which transmits between 15MW and 50MW of electricity to EGTC, depending on the season.
- **United Nations Office of Project Services (UNOPS)** is currently implementing the Rural Renewable Energy Project in cooperation with the Ministry of Energy and with funding from UK Aid. The four-year project will see the installation of at least 90 renewable energy mini-grids, thereby benefitting half a million people.
- **Power for All** is working with the government, private sector, and civil society to support energy policy and planning, strengthen the decentralised renewables sector, design a transformative energy revolution initiative, and raise awareness about the benefits of distributed energy.

10.3.3. What is the development potential of each sector?

10.3.3.1. Agriculture

Agriculture is a critical economic driver for Sierra Leone, contributing to more than 50% of the GDP and to two-thirds of the country's labour force. Agricultural productivity across Sierra Leone is significantly limited by poor availability, access, and usage of inputs. There are shortages of good-quality fertiliser, and an absence of good-quality, locally appropriate seeds and crop protection inputs. Furthermore, there is a very limited availability of information and advice for farmers tailored to their particular local conditions and crops. These factors all limit production (source: Sierra Leone Opportunities for Business Action (SOBA) Case Study & Results Presentation August 2017).

According to the Sierra Leone Skills Gap Analysis carried out for AfDB, there are five sub-sectors in the industry: (i) Oil palm and sugar cane plantations; (ii) Cocoa and rubber plantations; (iii) Grains and tuber; (iv) Livestock / Animal husbandry; (v) Value chain smallholder commercialisation. As more players enter the sector and existing ones seek growth, the focus is on increasing crop production and to add value for export. This is achieved through supporting farmers with the necessary resources, such as technologies and modern methods, including mechanisation. Skills development will contribute largely towards the sector's growth. While certain companies rely on expatriate staff to provide on-the-job training, WARC will continue to expand its training farm and smaller satellite farms throughout the country. WARC also operates a hybrid out-grower model in which trainees are provided with high-quality inputs and extension services and are required to select a household member to work a plot of land.

10.3.3.2. Mining

Whereas the mining sector is composed of many companies, there are few large-scale mines and the industry's contribution to Sierra Leone's GDP is not as significant as it once was. According to BMI Research, iron ore prices will be average towards the end of 2017 and in 2018, which could put any investment into iron ore at risk. Despite this, Shandong Steel's operations continue and Gerald Metals is preparing SL Mining (previously London Mining and Timis Mining Corporation) for operations.

Sierra Rutile is scaling up its expansion projects. This will require an increased workforce and will result in increased production tonnage.

The country will receive a USD$20 million International Development Association (IDA) grant to help strengthen governance, increase geological knowledge, and support the artisanal mining sector.

10.3.3.3. Construction

The increased need for infrastructure development in Sierra Leone means that there is a huge demand for skilled construction workers for road works, concrete and steel building works, construction of residential and commercial buildings, etc. This construction traverses various sectors – mining, hospitality/tourism, energy, manufacturing/ fabrication, and telecommunications – and will bring about new employment opportunities.

10.3.3.4. Manufacturing/Fabrication

This sector has a few important, long-standing players, but has not seen much large-scale growth in the past few years. However, with expansion plans in the pipeline for companies like Sierra Leone Bottling Company and Vitafoam, there is potential for growth within the sector. Sierra Leone Brewery Limited continues to expand its production capacity and it is currently embarking on an expansion project that includes a Brew House Upgrade and installation of seven massive fermentation storage tanks.

It is important to note that within the large sector of small and medium enterprises (SME), many of these SMEs are small family-based enterprises, and most of them are, in all likelihood, operating in the economy's so-called 'informal sector', notably in the areas of woodwork and metalwork.

10.3.3.5. Hospitality/Tourism

The National Tourist Board has increased its marketing of the country over the last few years, and this has seen a growth in visitors, which has resulted in an increase in the number of hotels and guesthouses across the country. The sector is becoming one of the highest employers in the country, with a need for more hotel/bar workers and managers, multilingual tour guides, travel agents, event managers, real estate managers, etc.

Recently, the international brands Radisson Blu and Golden Tulip entered the market, and Hilton Hotel will take over operations of a new hotel in 2018. There has been an increase in water transportation from the airport to the city and across the seas to various beaches and islands.

Hotel expansion projects are ongoing, with more digitalised systems, eco-friendly initiatives, and facilities such as conference rooms and swimming pools.

There are also VTI activities, such as Conforti Girls Empowerment VTI, which is aimed toward self-employment prospects for young women students in the catering training.

10.3.3.6. Energy

The Electricity Sector Reform Roadmap has mapped out an implementation of reform activities over a thirteen-year period:

- Recovery period (up to mid-2018) – completion of the implementation of the Electricity Act and the EWRC Act, development of a procurement framework, development of off-grid licenses, and a review of procedures for collecting revenue and managing electricity theft within EDSA.
- Transition period (mid-2018 to 2020) – sector prepares for financial stability, but continues to operate under an incomplete commercial framework and without an adequate financial flow from contractual agreements. Decisions must be taken regarding the necessary qualifications of individuals before they are entrusted with the following: the construction, erection, repair, or alteration of any installation or apparatus; the responsibility of any installation; the operational control of an apparatus; the development of a mini-grid regulation to create an enabling environment for off-grid energy production.

- Delivery period – mid-term (2021-2025) sector policy objectives are delivered. The sector's institutional and organisational structure prepares itself to deliver the long-term (2026-2030) objective for universal access to electricity. One of the key conditions to effectively deliver this vision is to focus on raising awareness and building capacity among the institutional players in the electricity sector.

During this period, the sector will start new projects and continue to implement projects such as:

- The Bumbuna Phase II hydropower project, which involves constructing an extension to the existing 50MW facility in order to provide a minimum of 80MW affordable, reliable, year-round electricity.
- The UNOPS rural renewable energy project, which involves building over 90 solar mini-grids
- The West African Power Pool 225kV Cote d'Ivoire – Liberia – Sierra Leone – Guinea Interconnection project.
- Capacity development of engineers and project management staff for the Ministry of Energy.
- The Energy Access Project for the rehabilitation of the primary distribution network, reduction of loss, and the improvement of EDSA's operational and commercial performance, rural electrification, and project implementation management.

10.3.5. Which occupational areas most lack qualified personnel (by sector)?

The important occupational areas required for performance within an organisation occasionally differ even within the same sector, depending on the product/service, methods, and processes.

	Agriculture	Mining	Construction	Fabrication/ Manufacturing	Tourism/ Hospitality	Energy	**Total (number of sectors)**
Electrical Engineering	2	3		1	2	1	**9 (5)**
Plumbing		2	2		2	1	**7 (4)**
Carpentry			2		2	1	**5 (3)**
Masonry			2		2	1	**5 (3)**
Mechanical Engineering	1	2		2			**5 (3)**
Front Office			1		2	1	**4 (3)**
Machine / Heavy Equipment Operation	1	2		1			**4 (3)**
Civil Engineering			3			1	**4 (2)**
Sales and Marketing				2	2		**4 (2)**
Heavy Goods Vehicle Driver		2	1				**3 (2)**
Welding	1	2					**3 (2)**
Food and Beverage					3		**3 (1)**
Housekeeping					3		**3 (1)**
Refrigeration and Air Conditioning		1				1	**2 (2)**
Store Management			1	1			**2 (2)**
Plant Operator		2					**2 (1)**
Accounting					1		**1 (1)**
Agronomy	1						**1 (1)**
Boiler Making		1					**1 (1)**
Business Administration				1			**1 (1)**
Instrumentation		1					**1 (1)**
Laboratory Technician	1						**1 (1)**
Marine Engineering		1					**1 (1)**

Figure 11: Occupational areas that employers lack qualified personnel

The occupational areas in highest demand are electrical engineering (9 indications from 5 sectors) followed by plumbing (7/4), carpentry, masonry and mechanical engineering (5/3), front office and machine / heavy equipment operation (4/3) and civil engineering and sales and marketing (4/2).

Additionally, respondents from the surveyed companies mentioned that their staff presently lacks the following skills (outlined by sector):

10.3.5.1. Agriculture

- Crop management
- Water supply and irrigation
- Integrity
- Good agricultural practices for livestock production
- Quality management
- Processing and marketing of agricultural commodities
- Relationship management
- Supply chain management

10.3.5.2. Mining

- Industrial fitting mechanic
- High-pressure plumbing

10.3.5.3. Construction

- Health and safety
- Problem solving
- Communication
- Critical thinking
- Project management

10.3.5.4. Manufacturing/Fabrication

- Biological and chemical sciences
- Troubleshooting
- Critical thinking
- Relationship management
- Health and safety
- Quality management

10.3.5.5. Tourism/Hospitality

- Advanced knowledge in accounting concepts
- Data organisation and reporting
- Computer literacy in accounting software and systems
- Communication
- Initiative and problem-solving capability
- Organisation, multitasking, and dependability
- Digital marketing trends
- Content and technology management
- Enthusiasm and creativity
- Time management
- English-language skills

10.3.5.6. Energy

- Heavy current electrical installation

10.3.6 Can potential employers absorb TVET graduates?

The study team examined two main segments/questions:

1. The absorption capacity of the economic actors (employers) – are they able to annually absorb approximately 4,000 TVET graduates?
2. Are they able, and willing, to absorb the quality (skills, expertise, and attitude) of these graduates?

According to NCTVA's examination figures, there are approximately 4,000 TVET students graduating annually. There is no evidence to confirm that employers have the capacity to employ all these graduates. However, based on the 70% youth unemployment rate (UNDP figures) and the size of the private sector, it is safe to assume that employers will not be able to employ all TVET graduates.

Seventy percent of employers responded that TVET graduates possessed the necessary technical skills to perform their jobs well, and 50% of employers responded that TVET graduates possessed the necessary soft skills to perform their jobs well. However, 62.5% of respondents thought TVET graduates struggled to apply the skills and knowledge that they had acquired. Sixty-seven percent of employers interviewed already accept interns, and those who do not, expressed a willingness to do so. Employers must train staff to their standards regardless of where staff are recruited.

10.3.7 Based on long-time forecasts, in which occupational areas does the industry see employment potential?

10.3.7.1. Agriculture

- Crop management
- Pest control
- Water engineering and irrigation
- Mechanical engineering, specifically repairs of engines, transmissions, and specialist machinery/ equipment for agriculture
- Welding/fabricating
- Electrical engineering
- Packaging and labelling
- Agronomy for crops and livestock production
- Agro-processing
- Supply chain management

10.3.7.2. Mining

- Mining engineering
- Heavy equipment operation
- Haulage / truck driving
- Security
- Welding

10.3.7.3. Construction

- Solar-related skills
- General foreman
- Health and safety
- Project management
- Supply chain management
- Building technology
- Mechanical technician

- Electrical technician
- Plumbing
- Bookkeeping

10.3.7.4. Manufacturing/Fabrication

- Marketing
- Factory management
- Relationship management
- Electrical technician
- Mechanical technician
- Bookkeeping
- Quality, environment, and occupational health and safety

10.3.7.5. Tourism/Hospitality

- Front office
- Accounting and bookkeeping
- Construction and maintenance
- Housekeeping
- Linguist
- Cooking
- Basic information technology
- Food and beverage

10.3.7.6. Energy (incl. Renewable Energy)

- Electrical engineering
- Transmission technician
- Solar technician
- Basic information technology
- Project management
- Database management
- Geographic information system mapping
- Energy financing
- Electrical technician
- Mechanical technician
- Bookkeeping

10.3.8 How do potential employers recruit personnel? What is the application process?

Application processes were generally similar for respondents:

- candidates are recruited through word of mouth, newspapers, online advertisements, via recruiters, or internally;
- candidates are required to complete tests to assess technical and soft skills, and those who pass these tests are interviewed;
- the candidate who scores the highest marks on the interview tests is hired;
- the head of the organisation gives the final approval to recruit the candidate.

Eighty percent of respondents ranked the following traits in candidates as most desirable:

- Technical skills relevant to the job
- Workplace skills (e.g. commitment, time management, leadership, teamwork, communication, critical thinking, problem solving, etc.)

- Level and authenticity of qualifications
- Institution attended.

10.3.9 How do potential employers value national certificates and how do they assess candidates from TVIs and polytechnics?

Respondents ranked 'Qualification level and authenticity' third when questioned on the traits that they found most desirable when assessing candidates. Employers placed greater value on candidate's technical skills – not necessarily acquired through formal education – and workplace skills. Employers will test the skills of candidates to see how they perform in the workplace, regardless of the candidate's certificate.

When asked if TVET graduates generally lack the technical skills required to perform in the workplace, 70% of the respondents stated 'FALSE' and 30% of respondents stated 'TRUE'.

When asked if TVET graduates generally lack the soft skills required to perform in the workplace, 50% of the respondents stated 'TRUE'.

When asked if TVET graduates were unable to apply certain of the skills and knowledge obtained from their training, 62.5% of the respondents stated 'TRUE'.

Sixty percent of respondents did not know if the skills of TVET graduates were generally better or worse depending on the institution in which they studied.

10.4. Research area 2 demand side: recommendations

10.4.1. Stakeholder map 1: Where are the identified stakeholders (1) located (by sector)?

The GIZ TA team plans to set up an online platform at a later stage. It will be a place where stakeholders, potential students, and the public will be able to find all relevant data on the TVET sector. On the platform, certain parts of the data will be displayed in the form of maps in order to show the allocation of TVIs and companies, for example. This will enable prospective students to identify opportunities for TVET in their region and will assist graduates in their job search.

For this purpose, the study team proposes to process relevant data through the QGIS software, which is very effectively used by the GIZ EPP project to present data on target groups (farmers and small businesses). In order to demonstrate the usefulness of this approach, the data have been transferred to QGIS and can be presented within this environment. To present basic data about employers, the following data fields have been selected.

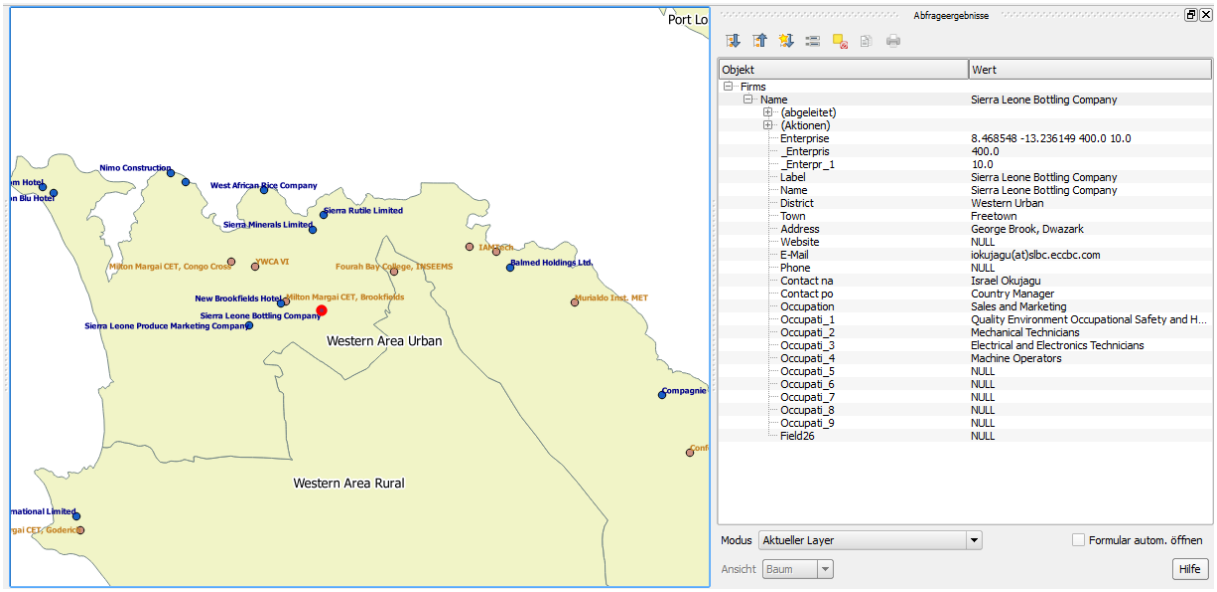
No.	**F001**
GPS	
Name	Hotel
District	Western Urban
Town	Freetown
Address	
Website	
E-Mail	
Phone number	
Contact name	
Contact position	Assistant manager
Main business lines	Hotels, restaurants, bars, conferences, events

Occupation 1	Sales and marketing
Occupation 2	Front office
Occupation 3	Housekeeping
Occupation 4	Food and beverage
Occupation 5	Accountants
Occupation 6	Plumbers
Occupation 7	Masons
Occupation 8	Carpenters
Occupation 9	Electrical technicians
Occupation 10	
Remarks	

Figure 12: Data field sample only (QGIS, presentation of basic data on employers)

At a later stage, the developer of the TVET sector online platform will need to integrate this data into the online application. The study team thinks that it would be useful to program the application in such a way that users can search for particular data fields. For example an electrical engineering graduate can search for all companies that provide employment to electricians and thus focus their job search on those establishments.

Below is the first printout of the mapped data detailing companies:



* The personal data of the test subjects is not presented in the table.

Figure 13: Mapped data for companies

In the right section, the basic data of the research subject were removed to observe data privacy.

10.4.2. R1: According to the results from questions 2 to 9, which occupational areas are eligible for assistance (a minimum of three)?

The table below shows the occupational areas that employers and sector organisations deemed as relevant. This selection takes into consideration the skills/occupational areas that lack qualified personnel and employment opportunities as stated by employers and other sector players. Within these occupational areas, several were selected and prioritised for potential support. These selected occupational areas are in bold and underlined. The following table is a first draft – the final selection is

planned to be created with consideration to the occupational areas that have courses available within the schools analysed (see Chapter 11).

No.	Economic sector	Occupational (skills) area	
1.	**Agriculture**	**Agro-processing**, **livestock production**, agronomy, crop management, pest control, water supply and irrigation	
2.	**Mining**	**Plumbing (high pressure-)**, **mining engineering**	
3.	**Construction**	**Plumbing**, welding, fabrication, carpentry, building technology, boiler making	
4.	**Manufacturing/ Fabrication**	**Mechanical engineering, machine operation, electrical engineering (high power)***	
5.	**Tourism/ Hospitality**	**Catering,** front office and housekeeping	
6.	**Energy**	**Electrical engineering**, **solar/PV technician**	
	Others (cross-cutting):	Sales and marketing	Sales, marketing, digital marketing
		Health and safety	Occupational health & safety
		Computer literacy	Microsoft Office, basic database management
		Entrepreneurial / workplace Skills	Bookkeeping, communication skills, supervisory skills, integrity, organisation skills, problem solving, critical thinking, relationship management
		Mechanical engineering	Engine, automobile, transmission, instrumentation, industrial fitting

* Indicates a new (recommended) occupational skills area

Figure 14: Occupational areas that have been prioritised for assistance.

Please note: The above occupational skills areas were mentioned by potential employers. These employers placed much emphasis on interweaving (soft) skills, such as communication, problem solving, critical thinking, marketing, etc. Additionally, employers emphasised the importance of personality traits, such as professional appearance, attitudes, behaviours, etc.

Employers noted the lack of skills and the low-quality of graduates' competences within occupational areas where, on first glance, there seemed to be sufficient training leading to many TVET graduates. For example, auto mechanics, electricians and welders are readily available, but the quality of their skills is low. Therefore, employers are requesting an emphasis on the quality of training for graduates over the quantity of graduates trained.

10.4.3. R2: How can the industry be better involved in TVET in Sierra Leone, and which incentives can be set?

1. The Sierra Leone Employer's Federation (SLEF) and the Sierra Leone Chamber of Commerce Industry and Agriculture (SLCCIA) have member organisations from all sectors. Sector representatives should be part of curriculum development processes.
2. Organisations and institutions databases should be developed. They should contain links between relevant parties, and these links should be shared among all stakeholders.
3. NCTVA, in conjunction with the Ministry of Labour (MLSS) and the SLEF, should design an apprenticeship programme.

4. Regular studies should be carried out by NCTVA in order to update sector demand requirements.
5. Structured internship programmes should be designed between organisations and institutions to determine learning outcomes.
6. External incentives should not be required because companies receive immediate benefits: better skilled graduates, direct recruitment.

11. Research area 3: supply side (training providers)

11.1. General overview / Introduction

In the above chapters, we analysed in detail the legal and regulatory framework of the TVET sector as well as the labour market, which is intended to absorb TVET graduates. This chapter is devoted to the set of institutions, which link the framework with the labour market, namely the institutes that provide training to young individuals in the TVET area. The quality of training and the level of employability are manifested solely in this area. Students invest several years in acquiring a TVET education. Their ability to use the skills obtained to earn an appropriate income is chiefly determined by the quality of the education that they receive. The factors determining this quality is the how well TVIs perform, primarily concerning the quality of their management and teaching staff.

The information contained in this chapter is largely based on one-day visits to 17 institutions, comprising of 13 Technical Vocational Institutes (TVI) and four Teacher Training Institutes (TTI). During these visits, intensive discussions were held with a total of nearly two hundred school managers, lecturers, and students. The contents of this chapter incorporate their issues, recommendations, and aspirations. These visits also provided the study team with the opportunity to appreciate the way in which the groups of respective school communities (management, lecturers, students) interact with each other. It is important to note that these school communities in general function very well, given the challenging conditions faced.

11.2. Methodology

The methodology of the research in the analytical area 3 'Supply side' follows the general approach, which has been laid out above (see 8). For this research area, the following methods and analytical tools were applied:

1. Desk study of relevant acts, laws, regulations, etc.;
2. Identification of research objects (TVI and TTI);
3. Elaboration of research methods and tools for analysis of the selected research objects;
4. Data analysis of the study team's observations and of the feedback obtained from respondents in the research objects;
5. Formulation of issues and findings pertaining to research area 3 'Supply side';
6. Formulation of recommendations pertaining to research area 3 'Supply side';
7. Identification of links and correlations to findings, recommendations in other research areas, and contributions to conclusions in research area 4 (matching of demand and supply as well as cooperation between actors);
8. Contributions to the draft final report and the final report;
9. Contributions to the validation workshop with GIZ TA team, stakeholders, and respondents.

Step 1: Desk study

The study team reviewed and analysed relevant acts, laws, regulations, reports, and literature, which deal with the legal, policy, and regulatory framework conditions of TVI and TTI in Sierra Leone. The following relevant documents are important, principally for research area 3 'Supply side':

1. 'Market and Economic Survey and Mapping of Training Providers and Supportive Structures in Sierra Leone' (2013), GOAL, IBIS and Save the Children
2. 'Education Sector Plan 2018-2020' (2017), The Government of Sierra Leone, Ministry of Education Science and Technology
3. 'NCTVA Manual', ca. 2004
4. 'NCTVA Handbook', ca. 2004

5. 'Professional Standards' for Teachers and School Leaders in Sierra Leone (2017), The Government of Sierra Leone, Teaching Service Commission
6. 'World Bank Report on Tertiary and Higher Education in Sierra Leone', World Bank, 2013
7. 'Qualifications frameworks and quality assurance of education and training' (2013), Bateman, Andrea and Mike Coles, Prepared for the World Bank
8. 'Sierra Leone, Education Sector Capacity Development Strategy, 2012-2016' (2011), Government of Sierra Leone
9. 'Education Profile of Sierra Leone' (2014), The World Bank, Poverty Reduction and Economic Management Unit Africa Region
10. National Council for Technical Vocational and other Academic Awards Act 2001
11. Polytechnics Act 2001
12. Education Act 2004
13. Sierra Leone Teaching Service Commission Act 2011.

Some of the results from this analysis have already been reported in Chapter 9 (Research area 1). We are listing the relevant documents again for the benefit of readers who only read this chapter.

Step 2: Identification of research objects and respondents (TVIs and TTIs)
In order to identify the research objects (TVI and TTI) and respondents (persons) for the analysis in research area 3 'Supply side' the following data sources were identified and used.

The TVET stakeholder map, which has been developed by NCTVA in 2016, was used as a basis for this exercise.

The study team obtained a list of TVIs in Freetown and in certain districts from MEST. However, the list was compiled a few years ago (around 2010) and the data regarding institutes' names and phone numbers are largely outdated. Moreover, recently established institutes are not featured on the list.

The study team obtained a list from the NCTVA. The list contains TVIs with candidates for NCTVA examinations in 2016 (see Annex 6).

TVIs and TTIs were identified on the basis of the following criteria:

The Tertiary Education Commission (TEC) presents on its website tertiary TVIs and TTIs that are registered and accredited by the TEC. This list contains about 30 TVIs and TTIs in various categories (universities, polytechnics, TVIs, TTIs) (see Annex 7):

1. On the institutional level, only universities, colleges, and polytechnics were considered. This is in accordance to the ToR.
2. In regard to districts, only TVIs or TTIs whose administrative seat or subsidiary unit was located in one of the five selected target districts of the TVET project (Western Urban, Port Loko, Bombali, Bo, and Kenema) were considered. These five districts constitute the intervention region of the 11th European Development Fund National Indicative Programme for Sierra Leone. Two institutes with administrative seats outside of the target region were included, as these institutes do not have subsidiary units within the target region.
3. In regard to the six economic sectors selected, only TVIs that offer courses in any of the economic sectors defined in the ToR (agriculture, mining, construction, manufacturing, energy, tourism, and hospitality) were considered.

The list of TVIs and TTIs for research area 3 'Supply side' was compiled on the basis of the above-mentioned criteria. In the following list, only the names of institutions and their functions as TVI or TTI are presented.

Identified research objects in area 3 'Supply side'

No.	Institute name	District	TVI	TTI
1	Conforti Girls Empowerment Vocational Institute, Calaba Town/Freetown [Remark 1]	Western Urban	√	
2	Eastern Polytechnic (EP), Kenema	Kenema	√	
3	Ernest Bai Koroma University of Science and Technology (EBKUST), University College, Makeni	Bombali	√	
4	Ernest Bai Koroma University of Science and Technology (EBKUST), GTI, Magburaka	Tonkolilli	√	
5	Fourah Bay College and University (FBC), Freetown	Western Urban		√
6	Freetown Teachers College (FTC), Freetown	Wester Rural		√
7	Government Technical Institute (GTI), Kissy Dockyard/Freetown	Wester Urban	√	
8	IAMTECH Institute of Advanced Management and Technology, Freetown [Remark 2]	Western Urban	√	
9	Milton Margai College of Education and Technology (MMCET), Brookfields Campus, Freetown	Western Urban	√	
10	Milton Margai College of Education and Technology (MMCET), Congo Cross Campus, Freetown	Western Urban	√	
11	Milton Margai College of Education and Technology (MMCET), Goderich Campus, Freetown	Western Rural		√
12	Murialdo Vocational Institute, Kissy/Freetown	Wester Urban	√	
13	Njala University, School of Agriculture, at Njala Campus	Moyamba	√	
14	Njala University, School of Education, at Bo Campus	Bo		√
15	St. Joseph's Vocational Institute, Lunsar	Port Loko	√	
16	University of Makeni (UNIMAK), Makeni	Bombali	√	
17	YWCA Vocational Institute, Brookfields/Freetown	Western Urban	√	
	Total		**13**	**4**

Figure 15: Identified research objects in research area 3 'Supply'

A total of 17 institutions were selected and analysed, of which 13 are TVIs and four are TTIs.

Remark 1: The study team selected to research the Conforti Girls Empowerment Vocational Institute. The reasons for this choice are the following: the institute offers NVC courses accredited by NCTVA and the institute intends on upgrading to the level of a TVI.

Remark 2: IAMTECH does not offer courses accredited by NCTVA. However, IAMTECH was selected because it is the only institution with specific training courses in the area of mining.

The study team selected individual respondents from each TVI and TTI through its contacts within these institutes.

Step 3: Elaboration of methods and tools for the analysis of TVIs and TTIs
For the research area 3 'Supply side', the study team developed and applied the following research methods and tools for the field research.

1. Personal interviews, conducted via a questionnaire, with individuals from the selected TVIs and TTIs.
   This method was chosen because it provided the most intensive form of interaction with the individuals and permitted the study team to gain direct insight into the facilities and infrastructure of the institutes. The interviews were mainly conducted with the principals, vice principals, registrars, deans of campus, deans of faculty, and heads of departments.
   The questionnaire comprised relevant issues and recommendations contained in the ToR. It also incorporated criteria related to TVI quality, which were defined by the TVET Coalition of Sierra Leone in 2016. These criteria for quality encompass five areas: 1) context; 2) input; 3) process; 4) output; 5) outcome.
   The first draft of the questionnaire was tested in a TVI in order to determine if the questions were appropriate, adequate, and well understood.
   The data were recorded in an MS Excel sheet.
   The questionnaire for research area 3 can be found in the attachments (see Annex 5).
2. Inspection of the premises, facilities, and equipment of the selected TVI and TTI.
   This served the purpose of assessing the TVET's capacity to effectively implement the quantity (sufficient amount of equipment) as well as quality (condition of the equipment). The availability of hand tools and materials for the practical training was also examined. The relevant infrastructures and equipment as well as the state of their usability was documented through photographs.
3. Participatory meeting with the TVI community.
   The immediate beneficiaries of TVET are students. TVET teachers also represent a stakeholder group that is directly concerned. Therefore, the analysis of TVIs was not confined to the interview with the institute management, but it integrated the school community. Each visit concluded with a final meeting with three groups of participants: management (principal, registrar, bursar, dean of campus, dean of faculty); teachers (heads of departments, lecturers, and teachers offering courses relevant to the study); and students. The student representatives were preferably from the Board of the Students Union, school prefects, class prefects, or senior students in relevant training courses.
   These meetings comprised the following agenda: (i) presentation of the GIZ TA team's objectives and of the purpose of the diagnostic study; (ii) selection of a training course or training department for analysis; (iii) SWOT analysis of the selected training course or department (in many cases, the analysis was conducted separately between the group of management/teachers and the group of students); (iv) presentation and discussion of the SWOT analysis' results and drawing of conclusions; (v) formulation of a vision and of concrete objectives for the further development of the relevant training course or department.

These analytical methods were tested at the beginning of the research period in one TVI. The study team found the methods to be feasible, effective, and practical. The participants appreciated the 'meeting with the school community' research tool. They appreciated this opportunity to discuss their institute's situation and to jointly create a vision as well as objectives. This method was especially effective when these discussions were conducted in separate working groups: a group for managements/lecturers and a group for students. The information obtained from both groups was generally similar. However, it was particularly interesting to note the opportunities and threats, which were discussed by the students. The SWOT analysis and the visioning exercise were unfamiliar to most participants. Most participants have little experience in envisioning the future development of a particular training course or department, and then operationalising this development by setting concrete objectives. Nevertheless, the SWOT analysis and visioning process, which are simple but effective analytical tools, were immediately understood and carried out successfully by all participants.

The final meeting not only provided additional information on the situation of each institute, but also indicated how well the stakeholders were able to use analytical and planning tools. This was demonstrated in the methods used to communicate between management, lecturers, and students. Planning skills as well as the degree of cohesion among the groups in the school community are important indicators of the ability of TVIs and TTIs to cooperate with the TVET project and to benefit from it.

The study team proposes to include these methods and other analytical and planning tools in the proposed in-service teacher training and training for TVIs and TTIs management staff. This will allow the institutes to conduct similar and regular participatory meetings in order to analyse, plan, and monitor their continued development.

Step 4: Data analysis and documentation
The information obtained through personal interviews gained from the standardised questionnaires was compiled in an MS Excel spreadsheet. The answers to each respondent's questions were summarised in a quantitative and/or qualitative manner depending on the particular question. The results from the SWOT analysis and the visioning exercise were documented and structured.

The information and results obtained from each TVI were documented in an individual and detailed report, which was arranged under the following topics: 1. Basic facts 2. Structure and activities 3. Results from questionnaire 4. Best practices 5. Results of SWOT analysis 6. Vision and objectives 7. Photo documentation of facilities and equipment 8. Conclusions and recommendations to potentially participate in 'Support to the TVET sector in Sierra Leone', which is implemented by GIZ.

Step 5: Formulation of findings and of recommendations, and identification of synergies
The findings and recommendations in area 3 were linked with the results featured in the two other research areas. Relationships between these items were identified by the members of the study team in joint working sessions. Based on these relationships, the study team formulated conclusions for research area 4 'Synergies between demand and supply as well as cooperation between actors'.

Step 6: Validation workshop and reporting
The study team presented the results of the research in area 3 'Supply side' and the relevant findings and recommendations at the validation workshop. The study team incorporated the input of attendants into the study.

11.3. Research questions and findings

11.3.1 How many institutions (TTI, TVI, polytechnics) exist in the selected districts, and where are these institutions located?

The study team obtained a list of TVIs from the NCTVA. This list presented candidates for NCTVA examinations (see Annex 6). According to the council, the list was written in 2016. Therefore, the data are considered relatively up to date.

The following table shows a summary of the information taken from the NCTVA list. The table only includes institutions with courses and examinations accredited by NCTVA.

District	Location	Total	Number of TVIs	Number of TTIs	Number of TVI/ TTI combined
Bo	Bo	7	5	1	1
Bombali	Makeni	2	1	0	1
Kenema	Kenema	4	3	0	1

District	Location	Total	Number of TVIs	Number of TTIs	Number of TVI/ TTI combined
Kono	Kono	3	1	2	0
Moyamba	Mile 91	2	1	1	0
Port Loko	Lunsar	6	5	1	0
Tonkolilli	Magburaka	3	2	0	1
Western Urban	Freetown	34	33	1	0
Subtotal		**61**	**51**	**6**	**4**
Bonthe	Mattru	1	0	1	0
Kailahun	Kailahun	3	1	2	0
Kambia	Kambia	2	1	1	0
Koinadugu	Kabala	1	0	1	0
Pujehun	Pujehun	1	0	1	0
Western Rural	Jui, Grafton, Goderich	5	3	1	1
	Sub total	**13**	**5**	**7**	**1**
Total		***74***	***56***	***13***	***5***

Figure 16: TVIs and TTIs in each district

Within the 74 institutions, 56 are TVIs, 13 are TTIs, and five are combined TVI/TTI. Thirty-four institutions are located in Western Urban (Freetown), representing 46% of all institutes. Bo, Kenema, Port Loko, and Western Rural are the only areas comprising over three institutions; all other districts feature a maximum of three TVIs or TTIs. Western Urban features 46% of all institutes, but only four TTIs. This percentage also includes FTC and MMCET, which are actually located in Western Rural and FBC, and are not included on the NCTVA list. Sixty percent of all TVIs – but only 30% of all TTIs – are located in Freetown.

The upper part of the table contains districts, which were included in the study team's research. These seven districts feature a total of 61 TVIs and TTIs. Therefore, the diagnostic study covers districts composed of 82% of existing TVIs and TTIs, and 91% of all TVIs. However, only those TVIs and TTIs were analysed that fulfil the criteria for this research. The selection procedure that resulted in a final set of 17 analysed TVIs and TTIs was explained above (see 11.2).

11.3.2. How many teachers (by gender) are employed by the institutions?

The following table shows the total number of lecturers at each surveyed TVI and TTI as well as the lecturer's gender. The table also points out if the presented numbers refer to the entire institute or only certain units, such as a faculty or department. In line with ToR requirements, the numbers only include lecturers and exclude TVI and TTI management and staff. In three cases (two TTIs and one TVI), there was no data available.

No.	Institute name	District	Scope of data	Total	Male	Female
1	Conforti Girls Empowerment Vocational Institute, Calaba Town/Freetown [Remark 1]	Western Urban	All faculties	14	8	6

No.	Institute name	District	Scope of data	Total	Male	Female
2	Eastern Polytechnic (EP), Kenema	Kenema	All faculties	153	118	35
3	Ernest Bai Koroma University of Science and Technology (EBKUST), University College, Makeni	Bombali	Faculty of Agriculture	19	19	0
4	Ernest Bai Koroma University of Science and Technology (EBKUST), GTI, Magburaka	Tonkolilli	All faculties	16	16	0
5	Fourah Bay College and University (FBC), Freetown	Wester Urban	Institute INSEEM	17	12	5
6	Freetown Teachers College (FTC), Freetown	Western Rural	No data available			
7	Government Technical Institute (GTI), Kissy Dockyard/Freetown	Western Urban	All faculties	67	61	6
8	IAMTECH Institute of Advanced Management and Technology, Freetown [Remark 2]	Western Urban	Department of Mining	7	7	0
9	Milton Margai College of Education and Technology (MMCET), Brookfields Campus, Freetown	Western Rural	No data available			
10	Milton Margai College of Education and Technology (MMCET), Congo Cross Campus, Freetown	Western Urban	All faculties	26	17	9
11	Milton Margai College of Education and Technology (MMCET), Goderich Campus, Freetown	Western Urban	Faculty of Engineering	27	27	0
12	Murialdo Vocational Institute, Kissy/Freetown	Western Urban	All faculties	37	28	9
13	Njala University, School of Agriculture, at Njala Campus	Moyamba	No data available			
14	Njala University, School of Education, at Bo Campus	Bo	School of Education	30	27	3
15	St. Joseph's Vocational Institute, Lunsar	Port Loko	All faculties	23	23	0
16	University of Makeni (UNIMAK), Makeni	Bombali	All faculties	42	34	8
17	YWCA Vocational Institute, Brookfields/Freetown	Western Urban	All faculties	21	4	17
	Total			**499**	**401**	**98**

Figure 17: Number of lecturers at the surveyed TVIs and TTIs, and composition by gender

According to the data, obtained from 14 of the 17 selected TVIs and TTIs, there is a total number of 499 lecturers employed by the institutions. Of these 499 lecturers, 401 are men and 98 are women. The gender composition is therefore 80% male and 20% female. There is a considerable gender gap, which is particularly demonstrated by the fact that certain TVIs include very few women lecturers, sometimes none at all. This is very unfortunate as a larger percentage of women lecturers would undoubtedly attract a greater number of young women TVET students.

The TVIs and TTIs are quite disparate in terms of total number of lecturers – certain small institutes employ around 20 lecturers, while larger ones employ 150 lecturers. In order to correctly interpret this information, the number of lecturers must be examined in relation to the number of students (see below).

Universities and polytechnics employ their lecturers directly. In general, lecturers are working on full-time contracts. If a TVI wishes to employ additional lecturers, the TVI is either awarded a higher subvention or it must pay these additional salaries from tuition fees or other sources. In these cases, lecturers receive part-time contracts or contracts for limited periods of time. A number of lecturers are also self-employed and have additional incomes.

GTIs and government-assisted private TVIs use full-time lecturers who are employed and paid by MEST. If a lecturer retires, they are not replaced by MEST. If additional lecturers are required, they must be employed by the TVI and usually work under part-time or temporary contracts during the time it takes for the TVI to request MEST's approval for public employment. However, TVIs reported that in many cases their requests were not approved by MEST for a period of several years and that lecturers continue to work under part-time and temporary conditions.

As a consequence of this situation, within GTIs and government-assisted private TVIs, only 50%-70% of lecturers are employed on a full-time basis. The remaining 30%-50% are employed on a part-time basis. The status of these two groups of lecturers is very different. Full-time lecturers are on the payroll of MEST or of the TVI, and receive a regular income throughout their period of employment. Part-time or temporary teachers work less hours but only receive a small allowance, which is paid by the TVI primarily from tuition fees. In most cases, this allowance amounts to about 400,000 SLL/month. Some lecturers do not receive a monthly allowance, but are paid at a rate of 10,000 SLL/teaching unit. During busy periods, this amount results in an income of approximately 300,000 SLL/month. In the case of illness and during holiday, these lecturers do not receive an income. There is a risk that the most qualified part-time lecturers may transfer to more gainful employment in the private sector if the opportunity presents itself.

Many government-assisted TVIs report that no or very few lecturers have been employed by MEST in the last three to five years, even though applications for these positions have been placed. This phenomenon has led to an increase in part-time lecturers, especially among younger TVI lecturers who join TVIs. Because lecturers employed by MEST who retire are seldom replaced by young teachers employed by the government, the share of part-time lecturers who are paid by TVIs will likely increase. This provides greater insecurity in regard to the employment and income of both lecturers and TVIs. This may also become an obstacle for the planned TVET in-service teacher training, as teachers who face unstable employment perspectives are less likely to invest in their own development.

The study team proposes that the image of the profession of TVET teachers must be fundamentally improved in order to attract capable and skilled young professionals to TVIs and TTIs.

11.3.3. How many students (by gender) are registered in the institutions?

The following table contains the total number and gender of students featured in each surveyed TVI and TTI. In the third column of the table, it is indicated if the numbers refer to the entire institute or only to certain units, such as a faculty or department. In a few cases, there was no data available.

No.	Institute name	Scope	All	Male	Female
1	Conforti Girls Empowerment Vocational Institute, Calaba Town/Freetown [Remark 1]	All faculties	158	0	158
2	Eastern Polytechnic (EP), Kenema	All faculties and distance learning	3.294	2.013	1.281
3	Ernest Bai Koroma University of Science and Technology (EBKUST), University College, Makeni	All faculties	50	10	40
4	Ernest Bai Koroma University of Science and Technology (EBKUST), GTI, Magburaka	No data available			

No.	Institute name	Scope	All	Male	Female
5	Fourah Bay College and University (FBC), Freetown	No data available			
6	Freetown Teachers College (FTC), Freetown	No data available			
7	Government Technical Institute (GTI), Kissy Dockyard/Freetown	All faculties	545	476	69
8	IAMTECH Institute of Advanced Management and Technology, Freetown [Remark 2]	No data available			
9	Milton Margai College of Education and Technology (MMCET), Brookfields Campus, Freetown	All faculties	94	34	60
10	Milton Margai College of Education and Technology (MMCET), Congo Cross Campus, Freetown	Faculty of Engineering	478	425	53
11	Milton Margai College of Education and Technology (MMCET), Goderich Campus, Freetown	All faculties	1198	798	400
12	Murialdo Vocational Institute, Kissy/Freetown	All faculties	586	338	248
13	Njala University, School of Agriculture, at Njala Campus	No data available			
14	Njala University, School of Education, at Bo Campus	No data available			
15	St. Joseph's Vocational Institute, Lunsar	All faculties	243	216	27
16	University of Makeni (UNIMAK), Makeni	All faculties	1.618	973	645
17	YWCA Vocational Institute, Brookfields/Freetown	All faculties	276	0	276
	Total		**8.540**	**5.283**	**3.257**

Figure 18: Number of students at surveyed TVIs and TTIs and composition by gender

According to the data, which could be obtained from eleven of the selected 17 TVIs and TTI, the total number of students is 8,540 students, of which 5,283 are men and 3,257 are women. The gender composition is therefore 62% men and 38% women. However, these numbers do not specify that in the engineering departments there are very few women students. An exception to this is within the Solar Photovoltaic Installation training programme at Eastern Polytechnic, GTI Magburaka, and GTI Kissy. These programmes include 85 women students (among approximately 95 students). The high enrolment rate of women students in this course was supported by European Union, Oxfam/IBIS, Welthungerhilfe, and other organisations through sponsored tuition fees aimed at young women students.

In the following table, when the data was available, the number of students is set in relation to the number of teachers within TVIs and TTIs

No.	Institute name	Scope	Lecturers	Students	Ratio students/lecturer
1	Conforti Girls Empowerment Vocational Institute, Calaba Town/Freetown [Remark 1]	All faculties	14	158	11
2	Eastern Polytechnic (EP), Kenema	All faculties and distance learning	153	3.294	21
3	Ernest Bai Koroma University of Science and Technology (EBKUST), University College, Makeni	All faculties	16	50	3
4	Ernest Bai Koroma University of	No data available			

No.	Institute name	Scope	Lecturers	Students	Ratio students/lecturer
	Science and Technology (EB-KUST), GTI, Magburaka				
5	Fourah Bay College and University (FBC), Freetown	No data available			
6	Freetown Teachers College (FTC), Freetown	No data available			
7	Government Technical Institute (GTI), Kissy Dockyard/Freetown	All faculties	67	545	8
8	IAMTECH Institute of Advanced Management and Technology, Freetown [Remark 2]	No data available			
9	Milton Margai College of Education and Technology (MMCET), Brookfields Campus, Freetown	All faculties	26	94	4
10	Milton Margai College of Education and Technology (MMCET), Congo Cross Campus, Freetown	Faculty of Engineering	27	478	17
11	Milton Margai College of Education and Technology (MMCET), Goderich Campus, Freetown	No data available			
12	Murialdo Vocational Institute, Kissy/Freetown	All faculties	37	586	16
13	Njala University, School of Agriculture, at Njala Campus	No data available			
14	Njala University, School of Education, at Bo Campus	No data available			
15	St. Joseph's Vocational Institute, Lunsar	All faculties	23	243	11
16	University of Makeni (UNIMAK), Makeni	All faculties	42	1.618	38
17	YWCA Vocational Institute, Brookfields/Freetown	All faculties	21	276	13
	Total	**Total**	**426**	**7.342**	**17**

Figure 19: Student – teacher – relation in surveyed TVIs and TTIs

The data in this above shows an average ratio of 17 students per lecturer. This is a good number for training within classrooms. However, for practical training in workshops, this ratio is considered to be quite high during individual exercises. Due to the higher number of students and the lack of usable equipment, hand tools, and materials, individual exercises performed by each student are often replaced by demonstrations conducted by the lecturer for the entire group.

However, there are several public TVIs whose student/teacher ratios are less than ten (in certain cases as low as three). In these cases, consideration should be given to increasing the number of students or decreasing the number of lecturers to a more appropriate and economical student/teacher ratio. A student/teacher ration that is too low may have an effect on the sustainability of these TVIs.

11.3.4. Which courses are offered by the institutions, and at which level?

The study team analysed a wide variety of TVIs and TTIs, ranging from smaller TVIs to large GTIs, colleges, polytechnics, and universities. Some institutes offer examinations only at the NTC, diploma,

and higher diploma level, while others offer degree programmes at the bachelor, master, and post-graduate level. In regard to the scope of training, some institutes primarily cover technical fields of training, while others also provide training in business management, humanities, health, etc. Consequently, the spectre of courses offered is very diverse within the TVIs and TTIs analysed.

The following table provides an overview of the programmes offered within these TVIs and TTIs and the various study levels: NVC, NTC, ND, HND, TC, HTC P(rimary), HTC S(econdary), and degree levels. For certain TVIs and TTIs that offer a larger number of programmes, a selection has been made for the sake of this presentation focusing on the technical areas.

Name, location, district	Selection of offered qualifications (area and levels)				
Conforti Girls Empowerment VTI, Freetown, Western Urban	Catering (NVC)	Tailoring (NVC)	Cosmetology (NVC)		
Eastern Polytechnic, Kenema	Education (B.Ed., TC, HTC P, HTC S)	Mechanical Engineering (B.Eng., ND, HND, NTC, NVC)	Basic and applied sciences (B.Sc., ND, HND, NTC)	Nursing and Medical Laboratory Sciences (ND, NTC, S.R.N., S.E.C.H.N.)	Electrical and Electronic Engineering (B.Eng., ND, HND, NTC, NVC)
	Carpentry (ND, HND, NTC, NVC)	Building and construction incl. plumbing (ND, HND, NTC, NVC)	Solar Photovoltaic Installation (NTC)		
EBKUST, Government Technical Institute, Magburaka, Tonkolilli	Renewable Energy (NTC)	Building Technology (NTC)	Electrical Engineering (NTC)	Mechanical Engineering (NTC)	Welding and Fabrication (NTC)
EBKUST, Makeni University College, Bombali	Animal Health and Production (HND)	Basic Health Science	Faculty of Agric. and Natural Resources Management	Business Man. and Entrepreneurship	Community Development Studies in Agriculture (ND, HND)
Fourah Bay College, Institute of Educational and Extra-Mural Studies (INSEEMS), Freetown, Western Urban	B.Ed.	B.Eng.		Postgraduate Diploma in Education	B.Sc.
Freetown Teachers College, Western Rural	TC	HTC P, HTC S			
Government Technical Institute Freetown, Western Urban	Refrigeration and Air Conditioning (NTC)	Building and Construction (NTC)	Renewable Energy (NTC)	Plumbing (NTC)	Automobile (NTC)
	Mechanical Engineering (NTC)	Computer Hardware (ND)	Electrical and Electronics (NTC)		

Name, location, district	Selection of offered qualifications (area and levels)				
IAMTECH Institute of Advanced Management and Technology, Freetown, Western Urban	Logistics and Procurement Management (NTC, ND, HND)	Computer Networking (NTC, ND, HND)	Information Systems (NTC, ND, HND)	Computer Science (NTC, ND, HND)	Computer Studies (NTC, ND, HND)
	Mining Management (ND, HND)				
Milton Margai College of Education and Technology, Goderich Campus, Western Rural	B.Ed.	Community Development Studies (B.Ed., ND)	Guidance and Counselling (B.Ed., ND, NTC)	Social Sciences (B.Ed., HTC S)	Commercial Studies (B.Ed., HTC S)
	Environmental Sciences (HTC S)	Integrated Science (B.Sc., HTC S)	Home Economics (B.Ed., HTC S)	Language Education (HTC S)	
Milton Margai College of Education and Technology , Brookfields Campus, Western Urban	Hotel Management (NTC, ND, HND)	Tourism Management (NTC, ND, HND)	Hospitality Innovation (NTC)	Public Health (NTC, ND)	
Milton Margai College of Education and Technology , Congo Cross Campus, Western Urban	Electrical and Electronic Engineering (NTC, ND, HND)	Mechanical Engineering (NTC, ND, HND)	Building Technology (NTC)	Automobile Engineering (NTC, ND, HND)	Building and Civil Engineering (ND, HND)
	Marine Engineering (ND)	Architectural Technology (ND)	Business Studies (NTC, ND, HND)	Secretarial Studies (NTC, ND, HND)	Cooperative Studies (NTC, ND)
Murialdo Institute of Management, Entrepreneurship and Technology, Freetown, Western Urban	Computer Science (NTC)	Business Studies (NTC)	Building Technology/Engineering (NTC, ND, HND)	Electrical Technology/ Engineering (NTC, ND, HND)	Mechanical Technology/ Engineering (NTC, ND, HND)
	Food Production and Services (NTC, ND)	Accounting and Finance (ND)	Secretarial Studies (ND)	Business Administration (ND)	Computer Hardware Engineering (ND, HND
Njala University, Bo Campus, Bo	B.Ed.	HTC P, HTC S	TC		
Njala University, Njala Campus, Moyamba	Industrial Technology (ND, HND)	Computer Hardware and Electronics (ND, HND)	Data processing and Information Technology (ND, HND)	General Agriculture (NTC, ND)	Agriculture: Agronomy, Forestry or Livestock (HND)
	Environmental Management and Quality Control (ND)	Forestry (NTC, ND, HND)	Horticulture (NTC, ND, HND)	Aquaculture and Fisheries Management (NTC, ND)	

Name, location, district	Selection of offered qualifications (area and levels)				
St. Joseph Vocational Institute, Lunsar, Port Loko	Agriculture (NTC)	Auto Mechanics (NTC)	Building and Construction (NTC)	Electrical Installation (NTC)	General Metal Work (NTC)
	Wood Work (NTC)				
UNIMAK University of Makeni, Bombali	Accounting and Finance (NTC, ND, B.Sc.)	Banking and Finance (NTC, ND, B.Sc.)	Business Administration (NTC, ND, B.Sc.)	Agriculture and Food Science Technology (B.Sc.)	Paralegal Studies (ND)
	Public Administration (NTC, ND, B. Arts)	Information Technology (NTC, ND, HND, B.Sc.)	Higher Teachers Certificate (HTC S)		
YWCA Vocational Institute, Freetown, Western Urban	Secretarial Studies (NTC)	Business Studies (NTC)	Catering (NVC)	Housekeeping (NVC)	Dressmaking, Arts and Craft (NVC)

Figure 20: Overview of programmes offered at analysed TVIs and TTIs.

The above information on the courses offered by TVIs and TTIs has been entered into the mapping system for the purpose of presenting the results of this diagnostic study. Details on this tool can be found below (see 11.4.1).

When the study team discussed these courses and their respective entry requirements with managers and lecturers of TVIs, the latter expressed their concern that certain entry requirements, such as two, three, or four WASSCE credits, were obstacles for students' enrolment in TVET courses. It can be argued that young individuals with technical talents wishing to pursue a TVET education are required to prove primarily non-technical abilities through the WASSCE examination. Due to the factual absence of a NQF (National Qualifications Framework) and flexibility in the education system, there is a bias towards non-technical abilities. This bias discriminates against young individuals with technical talents wishing to pursue a TVET education.

There are several arguments against WASSCE as the sole entry requirement. Respondents argued for the existence of an entry point to TVET for young individuals who miss or fail the public WASSCE. They also argued that private WASSCE training is unaffordable for many young individuals, but for many TVET courses this level of general educational knowledge (provided through WASSCE training) is seemingly required. The study team noted that the majority of respondents in the analysed TVIs proposed to expand entry level requirements to TVET courses at the NTC and diploma beyond WASSCE. The respondents recommended that requirements allow prospective students to compensate a lack of WASSCE certification with other educational achievements such as NVQ or with work accomplishments equivalent to the 'recognition of prior learning' or RPL.

The study team observed that this possibility already exists at the IAMTECH College. Their published entry requirements for the diploma in Mining Management are: 3 credits WASSCE; or NCTVA NVQ with Unit 1-5 passes in related subjects; or level 3 certificate from a TVI; mature candidates over 35 years of age can join without any certificate, but must have 10 years of relevant work experience. Furthermore, IAMTECH accepts students for the HND with either four credits WASSCE or a diploma in addition to two years of relevant work experience.

IAMTECH's approach, for example, has the advantage that it provides various alternative entry avenues to potential TVET students. However, the study team noted that private TVI's entry require-

ments for the diploma level are more flexible than the entry requirements for many public TVIs for the lower NTC level. If all private and public TVIs apply the flexible approach outlined above, this would result in a more uniform TVET system. These changes would most likely lead to a greater number of students entering the TVET path of education and lead to an increase in TVI enrolment for students who wish to attend TVIs or who cannot afford a university education.

It would be beneficial for a uniform and flexible TVET system if all private and public TVIs apply the same, more flexible approach outlined above. This will open more ways for prospective students to enter the TVET path of education and is expected to increase the enrolment in TVIs by those young people who desire this form of education or who cannot afford a university education.

11.3.5. How are certain institutions' (random sample) classrooms, workshops, laboratories, equipment, IT equipment, and sanitation facilities equipped?

The following criteria were assessed in the inspection of TVI equipment:

1. Buildings with classrooms, workshops, laboratories, sanitation, and other facilities.
2. Equipment and hand tools in workshops and laboratories, especially those required for practical training sessions.
3. Materials used for practical training within production and processing activities (such as metal, wood, cables, building materials, etc.).

All TVIs visited are located in large compounds. The reason behind this is that these TVIs were established several decades ago. These compounds provide ample space for buildings containing classrooms, workshops, and administrative structures. In many cases, these buildings are as old as the TVIs themselves. Very few TVIs expanded their infrastructure within the last few decades. In many cases, the available classroom capacity matched the initial demand when TVIs were established. However, these buildings are insufficient given the increasing number of TVET students. This increase is due to the improved image of TVET education and to the higher number of training courses offered. This lack of space is an obstacle to the further increase in enrolment in TVIs. However, with more effective classroom management, shortages in this area can be mostly overcome. Therefore, this lack of physical space is not a major obstacle for the future development of TVIs.

The space required for workshops and laboratories is generally sufficient. However, the layout of many workshops is poor, and these workshops are used as storage rooms for old, defective equipment and old production materials (metal scrap, wood cuts, cables, etc.). This hinders free movement within the space, leaving little room for practical training.

Recommendation 11.1: *By removing old, unusable equipment and unnecessary production materials, the utilisation of workshops and laboratories could be greatly improved. In many TVIs, this relatively simple task could increase the effectiveness of practical training without needing to invest in re-building the infrastructure.*

The quantity and quality of equipment in workshops and laboratories differ between TVIs. In general, there is sufficient IT equipment available, especially personal computers. However, there are certain TVIs that have little or no IT equipment at their disposal. In many cases these differences in instrumentation are the result of different levels of TVI access to sponsor donations or projects. Most TVIs do not have reliable internet access, claiming that they are unable to finance the regular subscription costs. A few TVIs, especially those at the university and polytechnic level, have reliable internet connections, which they allow their students to access through WIFI access at the library. The lack of internet access in most TVIs is not only a serious obstacle for lecturers and students to public knowledge, but it is also an obstacle to the envisaged wide utilisation of the TVET online information and communication platform, which is planned by the project.

As stated, certain TVIs have been able to obtain equipment from public or private donors, such as the Government of Egypt, the Mechanical Engineering department of the MMCET Congo Cross campus, London Mining, and the Mechanical and Electrical Engineering Department at St. Joseph's VI in Lunsar. Unfortunately, some TVIs, such as EBKUST's GTI Mechanical Engineering and Carpentry departments in Magburaka, have a severe lack in equipment. The main obstacle to counter this lack is the extremely high cost of equipment, for example turning lathes, the purchase of which exceeds TVIs' budgets. With the exception of extraordinary donations (see above), the equipment in workshops and laboratories is very old, technically outdated, only partly usable, and with little or no relevance for the technical skills demanded by the industry.

Most of the TVIs visited also lack the materials required for practical training in nearly all skills training areas. For example: food items for catering training; cable and fittings for electrical installation training; metal parts for mechanical engineering training; wood for carpentry training; and bricks and cement for construction training. The main reason behind this major deficit is the lack of budgetary provisions to purchase materials. Available budgets in TVIs are exhausted after paying teacher salaries as well as operating expenses. Materials and hand tools suffer from this lack of funding. This situation is aggravated by the lack of capacity of TVI management, especially in public TVIs, to optimise the use of the available resources and to acquire additional resources from third parties (private sector, development projects, etc.). However, capacities can be strengthened through appropriate qualifications (see below).

11.3.6. Is the available equipment sufficient to train students according to the curricula (particularly equipment for practical training)?

The available equipment, as addressed in the question, pertains to both quantity and quality, namely: Is the equipment sufficient for the number of students, and is equipment usable and compatible with technologies used in the private sector? As noted in 11.3.5., most TVIs have a limited provision of equipment, tools, and materials in their workshops. This deficit is more or less preventing TVIs to enable their students to undertake practical training as required within the curricula. An example that illustrates the seriousness of the situation is the following: For the training of housekeeping students within hotel management departments, approximately 20 students must share a single bed and bathroom, which are necessary tools to train students in bed-making and cleaning. Even when practical training sessions are increased, students do not have sufficient time to practice this training. In such cases, lecturers demonstrate these tasks to the entire student group, instead of allowing each student to practice these tasks.

In response to these challenges, TVIs and lecturers apply one of the following strategies. These strategies demonstrate the ingenuity (or desperation) of lecturers to offer practical training in the absence of necessary resources.

1. Students are required to purchase materials themselves – this applies mainly to catering programmes. In many cases, these costs are equal to tuition fees, which students are also responsible for paying. This is a major burden, especially for students from lower-income homes. Often, students who cannot afford purchasing food items necessary for catering programmes are unable to participate in the practical training part (cooking), and must observe their more affluent classmates partake.
2. Frequently, when practical training cannot be carried out as required, lecturers conduct what they refer to as the 'practical test' method. This test involves simulating the operation of the machine or production/processing activities without the use of actual machines and materials. This method is sometimes implemented in the classroom, and clearly contains very little value in providing students with practical skills.

3. Some lecturers are able to attract orders from third parties for equipment, furniture, or fittings, which are then produced in the workshop with materials provided by the customers. This is widely used in metal-working, welding, carpentry, joinery, and automobile training. This method of acquiring needed goods is limited to materials that are required for specific orders. Many orders are repeat orders (such as school furniture) and thus only enable the acquisition of limited practical skills.
4. Some lecturers are able to attract orders from third parties. This means that they bring their students outside of the campus to learn on-site practical skills. This method is widely used in construction training and electrical installation training, and provides students with valuable insight into the practical work carried out on construction sites. However, such activities feature considerable risks, for example, possible accidents at construction sites. It is doubtful if TVIs express the consequences of these risks to lecturers. This results in lecturers personally bearing these risks even though these off-campus activities are an important and useful part of practical training for students. It can be argued that lecturers also receive income from these external commercial activities – however the risks and costs related to potential accidents may exceed the potential profits.
5. A few TVIs have acted in response to this dilemma and established private companies. These companies act as commercial entities in the market, and include construction companies, producers of building materials, or agricultural products. In such cases, TVIs can retain potential profits, and occupational risks can be covered through public or private organisations. However, this avenue is mainly open to private TVIs. Public TVIs claim that their regulatory framework prevent them from establishing commercial enterprises.

Recommendation 11.2: *The study team proposes to examine the regulatory framework for public TVIs in order to discern possible obstacles to the establishment of commercial enterprises. The outcome intended is for all TVIs to be able to establish and use commercial entities in an optimal manner. The establishment of commercial enterprises is under the premise that the latter can provide opportunities for practical training for students and that profits can be used by TVIs for investments in the equipment, tools, and materials required for practical training.*

Recommendation 11.3: *The study team proposes to TVIs to consider concluding agreements with existing enterprises in the community or region, which allow the regular involvement of students in their commercial activities. This would enable students to gain familiarity with the execution of on-site orders of modern materials as well as with business operations. In this situation, the responsibility in the event of occupational accidents must be clearly regulated. It should rest with the owner of the respective business.*

Recommendation 11.4: *The study team proposes to consider the establishment of non-formalised companies or cooperatives by students (school companies or school cooperatives). These act as training establishments and can engage in appropriate commercial activities. This approach allows students to experience not only technical production activities, but also the entire management of a business and to understand regulatory responsibilities (taxation, NASSIT, reporting).*

Some TVIs have available equipment and tools for practical training. However, this is the exception to the rule. The laboratories and plants that have been set up for the solar photovoltaic installation training at GTI Kissy, GTI Magburaka, and Eastern Polytechnic are an example of facilities containing modern and comprehensive equipment. These facilities were sponsored by an Oxfam/IBIS project, which aims to train young women to become solar photovoltaic installation technicians. This high-

lights the need for TVIs to cooperate with third parties (e.g. private sector, development projects, etc.) and to receive income from commercial activities to obtain the much-needed equipment, tools, and materials. This need is heightened by revisions in curricula, as emphasis is increasingly placed on practical training.

11.3.7. Do teachers have the capacity and necessary skills to train students according to the curricula?

The study team observed within the TVIs analysed that teachers generally possess the adequate qualifications related to their field of teaching. In other words, electrical engineering lecturers are in nearly all cases holders of a Higher Diploma (HD) or B.Sc. degree in electrical engineering. However, many of these lecturers have not obtained an additional teacher qualification. This qualification can be acquired through studies, which lead to the Teacher Certificate (TC) or Higher Teacher Certificate (HTC). One of the reasons behind this lack of teaching qualifications is that teachers do not see the purpose of spending the three additional years needed to acquire a teacher certification if this certification is not required to teach and if it is not geared towards the needs of TVET teachers. Furthermore, university graduates do not possess the practical skills required to teach practical lessons. This is due to the fact that university education is theory-oriented and universities are ill-equipped for teaching practical training skills.

The consequence of this situation is that even if many lecturers are skilled technicians they are not necessarily qualified teachers. But it is unfair to expect that engineers also be good teachers if they have not received an appropriate teaching qualification. Therefore, lecturers generally lack skills in modern pedagogy, didactics, teaching methods, coaching, soft skills (work ethics, attitudes, professionalism, time management, etc.) and entrepreneurial skills (motivation, self-confidence, planning, visioning, etc.), etc.

Recommendation 11.5: *In order to solve the problem of the lack of pre-service teacher training for future lecturers at TVIs, the study team recommends the option of offering compact one-year courses leading to the HTC level. This reduced duration of studies may be more convenient for TVET teachers who wish to develop their teaching capacities.*

Recommendation 11.6: *In the case of in-service TVET lecturers, the study team proposes the establishment of a new system of teacher training, which primarily focuses on qualifying teachers in regard to pedagogy, soft and entrepreneurial skills, and coaching. These additional qualifications could have a strong effect in enabling TVET students to become more self-confident, motivated, responsible, professional, and consequently, more entrepreneurial.*

11.3.8. How many TTIs, TVIs, and polytechnics are accredited by MEST and by NCTVA?

According to the regulatory framework, there is a distinction between the registration of tertiary TVIs by the Tertiary Education Commission (TEC) and the accreditation of TVET training programmes from the NVQ level to the Higher Diploma level by the NCTVA.

However, after verifying the eligibility of accreditation programmes, NCTVA also needs to examine the human, material, and professional capacities of each institution. This ambiguity has led to a misunderstanding among certain TVIs who believe that NCTVA accredits not only programmes, but also institutions.

According to data obtained from NCTVA, TVET programmes at 81 TVIs were accredited by NCTVA until 2016 (details can be found in Section 11.3.1).

The TVIs that were registered by the TEC are published on the TEC website (http://tecsl.info/). The TEC has accredited 40 tertiary institutions, namely five public universities (one containing three subsidiary units), two public polytechnics, two public TTIs, two private universities, and four institutions through their affiliation with universities, and 25 TVIs using NCTVA-accredited programmes.

It is noteworthy that TEC has made these data publicly available. This is especially useful for individuals interested in studying at a tertiary institution. However, it would be beneficial if these data could be displayed in a more compact manner.

Recommendation 11.7: *The study team proposes that NCTVA also publish on its website the TVIs that use NCTVA-accredited programmes. Firstly, this would benefit all TVIs that have disbursed considerable costs in the accreditation process. It would also enable all prospective students to be fully informed in regard to individual TVIs and their registration status with TEC, as well as their NCTVA accreditation status. In addition, the study team proposes that these data be published and regularly updated on the planned online platform.*

11.3.9. What are the budgets of these institutions (random sample)? Where do they receive their funds and how do they invest these funds?

In regard to the funding of TVIs, there is a very important difference between public and private institutes. Public institutes are entitled to receive a subvention from MEST as they have a legislative and public mandate to provide TVET education. Private institutes do not have this mandate, but several of these institutes have access to funding through private donors or owners.

Government subvention

Public institutions need to provide annual budgets in order to receive government subventions from MEST through the Ministry of Finance and Economic Development (MoFED). The purpose of the subvention is to contribute to teacher and staff salaries, operational costs, and if needed, investments in facilities and equipment. The institutes receive the subvention in quarterly payments.

However, nearly all public TVIs analysed by the study team reported that for several years they have experienced consistent and often long delays in subvention payments. Consequently, these delays prevent them from punctually paying teacher salaries and operational costs. The responding TVIs state that it is a serious problem when the subvention is delayed beyond a period of three months. This results in teachers not receiving their salaries for a period of four to six months. This is the case at Njala University, where lecturers have resorted to demonstrations, irregular work schedules, and strikes since 2016. On 23 March 2017, students joined their lecturers in demonstrations in Bo and other cities, leading to a fatal incident in which one student was killed. Currently, lecturers at Njala University are still engaged in protests as their situation has not improved. These situations can seriously disrupt academic activities and infringe on the right of students to receive an uninterrupted education, for which they have paid tuition fees.

Within discussions regarding the TVET sector, the funding issues of public TVIs has the potential to obscure the underlying structural and non-financial problems of the sector. In other words, even if the funding issues are resolved, there remain fundamental problems within the TVET sector. However, these funding issues need to be resolved in order to support the smooth running of TVIs, to provide a more secure livelihood for hundreds of TVET lecturers, and to ensure the undisturbed education of thousands of students. GoSL faces the great challenge of adequately financing the TVET sector alongside all competing financial demands in other policy fields.

Student fees

The second primary funding source of public TVIs and the main funding source of private TVIs is the tuition fees of students. Private institutes determine the fees in accordance to the actual costs of

training, but also tend to consider the economic potential of their students and their families. This leads to tuition fees between 500,000 SLL to several million SLL per academic year. The tuition fees of public institutes, however, are determined by decree for each academic year. For example, the non-residential tuition fees of polytechnics in the 2017/2018 academic year are approved by MEST and range from 1,295,000 SLL for the NTC course to 1,695,000 SLL for the HND course. The approved tuition fees for two-year HND courses consist of 3,300,000 SLL, and only 90,000 SLL (or less than 3%) are earmarked to cover practical teaching. TVIs consider this fee far too low to ensure quality practical training for each student in the various programmes.

Certain private TVIs do not receive a public subvention. These TVIs charge only 500,000 SLL fee per year for a NTC course (or 1,000,000 SLL for the ND course), but are nonetheless able to provide an effective TVET education with sufficient practical training for their students. In other words, while tuition fees at public TVIs are higher and these TVIs are entitled to public funding, several of these institutes struggle to cover their expenses. The frequent low student/teacher ratio (ten or lower) in certain public TVIs has already been mentioned (see Section 11.3.3). In several cases, the financial struggles of these TVIs may be aggravated by the large payroll of the administrative staff. This is exemplified by one public TVI, in which 100 students are currently enrolled. This TVI employs approximately 30 lecturers as well as ten officers and 30 employees in its administration. In another example, a TVI employs several cooks to work in its canteen, but it also runs a catering course and could integrate the students into the canteen. This would not only save costs, but also give students practical training experiences.

Recommendation 11.8: *The study team recommends to integrate a one-week school management training within the intended in-service teacher training. This week-long training should cover the financial management of TVIs in order to assist the latter in utilising available resources in an optimal manner (other topics will be addressed such as strategic management, dialogue with the private sector, and human resource development).*

Another issue pertaining to tuition fees is the large number of students (especially within public TVIs) who are late in paying their tuition fees, who do not pay these fees, or who partially pay them. This problem affects the majority of students (and in one case approximately 90% of the students) in most public TVIs. With this financial issue, TVIs find it difficult to maintain regular and effective academic activities. In response to this, TVIs withhold examination results until the outstanding fees have been paid or partly paid. However, it was reported that students find ways to acquire their examination results elsewhere, and in many cases, students do not even collect their results.

Another financial bottleneck facing TVIs is the issue of student grants (so called 'grant in aid'), which are provided by MEST and pledges to pay tuition fees to the respective TVI. However, it was reported that these obligations remain at times unfulfilled and tuition fees remain unpaid, for several years in certain cases. TVIs find it unjust that in these cases they are not allowed to request the outstanding tuition fees from students. It was reported that this problem affects over 10% of all students and greatly reduces the financial capacity of the affected TVIs.

In several TVIs, certain students face the challenge of needing to purchase required materials for practical training. For example, in catering training, it is common practice that students provide the food items used in the practical cooking exercises. While it may be useful for students to purchase training materials themselves – thereby familiarising themselves with current market conditions – it may also be argued that a certain percentage of the tuition fees should have been earmarked for such purposes. However, students are required to provide training materials themselves and when they fail to do so, they cannot participate in training.

Other income sources

In Chapter 11.3.6, the study team noted that TVIs can develop and use other sources of income. These sources include finding orders for goods and services, which are then produced during the practical training, or the establishment of commercial units, which deliver products and services to the market. However, such opportunities are currently mainly used by private TVIs. Therefore, it was proposed to amend the regulatory framework in order for incentives to remain in place for public TVIs to earn their own income. However, it remains to be seen if these income sources can help to contribute to material expenses in practical training or to investments in equipment. It cannot be expected that complementary income streams from commercial activities cover larger portions of teacher salaries and TVI operational costs.

11.3.10. What is the management structure of TTIs, TVIs, and polytechnics? Are the capacities sufficient?

Even though the legal structures of the TVIs and TTIs analysed are different, their management structure are similar. Generally, the management team is composed of the following positions:

1. Board or Council
2. Principal (in Universities Chancellor)
3. Vice Principal (or Vice Chancellor)
4. Registrar (Assistant Registrar if the institute is very large or has more than one campus)
5. Dean of Campus (if the institution has more than one campus)
6. Finance Officer (Deputy Finance Officer if the institution has more than one campus)
7. Examination Officer (Deputy Examination Officers in each campus)
8. Dean of Faculty (one faculty is made up of several departments)
9. Head of Department

In addition, TVIs and TTIs employ lecturers (see above), canteen staff, library staff, security guards, gardeners, cleaners, messengers, etc. Listed below is basic information pertaining to the main tasks of the office-holders.

Board or Council

TVIs are governed by the Board of Directors and its Academic Board or by a Council. They have the responsibility of managing the business, however, all academic affairs including the award of degrees, fall within the authority of the Academic Board. This body has the overall responsibility for upholding academic standards and enhancing student learning opportunities.

Principal

The Principal provides leadership in all internal and external matters. He/she is appointed by the Minister of MEST through the recommendation of the Council or Board of the TVI or TTI. The Principal should be a person of academic stature with a proven record of leadership and administrative experience. He/she has the responsibility of administering the affairs of the institute, and acts on behalf of the Council members in regard to the operational management of the institute. The Principal is responsible for overseeing and upholding policies and for maintaining the intellectual independence and integrity of the institute through exercising academic leadership in both internal and external matters. In particular, the Principal should foster an environment that promotes excellence in teaching and research. As Chair of the Senate and member of the Board of Governors, the Principal has the responsibility to work with and advise these two bodies, which have ultimate authority over the college's affairs. During a period of temporary absence, the Principal is empowered to delegate authority to the Vice Principal, or if the Vice Principal is unavailable, to one of the institutes' other senior academic officers according to a specific order of precedence.

Vice Principal
He/she is the chief academic officer of the institute. Working closely with the principal, he/she leads and supports the efforts of the deans, faculty, and staff to drive academic excellence across the institute. The vice-principal also carries operational and budgetary authority and responsibility for the day-to-day operations of the college. The office is responsible for the following: to provide leadership, which supports all aspects of the college, including academic, financial, and material matters; in conjunction with the Council, the Principal, and the senior management team, to set the academic goals for the institute; to work with the college community to develop, interpret, communicate, and implement long-range academic plans; to set academic priorities and ensure that resources are aligned with those priorities; to act to promote innovation, collaboration, and excellence in research, scholarship, and teaching; and to uphold a culture of transparency, lead development, and oversee implementation of the college operating budget; to encourage continued development and the provision of high-quality programmes and services to students in order that their learning experience be as rewarding as possible; to support faculty deans in recruiting, retaining, developing, and advancing outstanding faculty; to support the affiliated college and polytechnic colleges in their continuing development and delivery of high-quality programmes; and to support the principal in advancing external relationships.

Registrar
The registrar maintains the academic records of lecturers and students, is in charge of student affairs (such as admission), and works as the administrative assistant to the Council/Board.

Dean of Campus
He/she has similar functions to the principal but these functions fall within their respective campus. They act under the supervision of the Principal.

Dean of Faculty
He/she is the faculty's chief academic officer. Working closely with the Principal, he/she leads and supports the efforts of the lecturers and staff to maintain a high level of academic excellence across the faculty. This position is given, on a rotating basis, to lecturers of each faculty. However, when a person is performing very well, he/she may be kept in the position for a longer period of time.

Head of Department
This position is given, on a rotating basis, to lecturers of each department. This position is often undesired by lecturers as it entails more responsibility and work load, but not necessarily a rise in salary. Some TVIs provide an allowance to the Heads of Department, but its value is of a symbolic nature. The Heads of Department are also obliged to supervise lecturers and to report on their performance for every academic year. However, it was observed that in most TVIs, there are no standard procedures for supervision and reporting. It is then left to the initiative of the office-holder if the important function of peer review and coaching will actually be executed – a task that is at the foundation of any meaningful quality management system in a TVI.

In the following table an overview is presented of the size of the management teams in TVIs and TTIs, in which data were made available. It should be noted that only the core management teams are recorded here, excluding Deans of Faculty and Heads of Department.

No.	Institute name	Remark	All	Male	Female
1	Conforti Girls Empowerment Vocational Institute, Calaba Town/Freetown [Remark 1]	Entire institute	3	2	1
2	Eastern Polytechnic (EP), Kenema	Entire institute	23	16	7
3	Ernest Bai Koroma University of Science and Technology (EBKUST), University College,	Entire institute	4	3	1

	Makeni				
4	Ernest Bai Koroma University of Science and Technology (EBKUST), GTI, Magburaka	Entire institute	4	3	1
5	Fourah Bay College and University (FBC), Freetown	No data available			
6	Freetown Teachers College (FTC), Freetown	No data available			
7	Government Technical Institute (GTI), Kissy Dockyard/Freetown	Entire institute	11	8	3
8	IAMTECH Institute of Advanced Management and Technology, Freetown [Remark 2]	No data available			
9	Milton Margai College of Education and Technology (MMCET), Brookfields Campus, Freetown	At campus level	11	5	6
10	Milton Margai College of Education and Technology (MMCET), Congo Cross Campus, Freetown	At campus level	8	7	1
11	Milton Margai College of Education and Technology (MMCET), Goderich Campus, Freetown	No data available			
12	Murialdo Vocational Institute, Kissy/Freetown	Entire institute	5	4	1
13	Njala University, School of Agriculture, at Njala Campus	No data available			
14	Njala University, School of Education, at Bo Campus	No data available			
15	St. Joseph's Vocational Institute, Lunsar	Entire institute	2	2	0
16	University of Makeni (UNIMAK), Makeni	Entire institute	6	4	2
17	YWCA Vocational Institute, Brookfields/Freetown	Entire institute	4	0	4
	Total		**81**	**54**	**27**

Figure 21: Size of the management teams in TVIs and TTIs

A total number of 81 people were employed at the management level in eleven TVIs or TTIs (54 men (66%) and 27 women (34%). The study team found the size of the management teams in all institutes to be sufficient. The study team observed that in the case of public TVIs (underlined in the above table) the size of the management team was generally much larger than in private TVIs, even though they lack funds.

11.3.11. Assessment of TVIs according to quality criteria for TVET institutes of the TVET Coalition

On its website, the TVET Coalition has published a list of quality criteria for TVIs, which covers: context, input, process, output, and outcome. According to the ToR, these criteria were also applied in the analysis of the TVIs. The study team noted that certain criteria cannot be assessed at the level of the individual TVI. They were therefore surveyed in the research area 1 'Framework'. For the remaining 14 quality criteria, three levels of performance have been defined (see Figure 22 below).

No.	Criteria	Low performance	Medium performance	High performance
1	Links with private sector, local administration, and relevant players in the region.	TVI is unaware of benefits that can be derived from these links.	TVI has taken first steps to establish links.	TVI has intensive links and joint activities.
2	Quality Management System (QMS): internal quality assurance system to ensure that all internal activities are effective, efficient, and continuously improving.	TVI is unaware of the benefits that can be derived from a QMS.	TVI has taken first steps towards establishing a QMS.	TVI has an established QMS, which is in use.
3	Performing to standards: students trained according to curricula, theoretical and practical training is well balanced.	TVI is not aware of the curriculum standards and benefits of balanced training.	TVI has taken first steps to fulfil curricula standards and to balance training.	TVI fulfils the curriculum standards and balanced training.
4	Facilities (workshops, classrooms, offices, restrooms, canteen, accommodations, etc.) are sufficient in relation to the number of students.	Facilities are insufficient in relation to the number of students.	Facilities are partly sufficient in relation to the number of students	Facilities are mostly sufficient in relation to the number of students
5	Equipment (quality and quantity of tools, machines, instruments, raw materials, teaching materials, etc.) is sufficient in relation to the number of students.	Equipment is insufficient in relation to the number of students	Equipment is partly sufficient in relation to the number of students	Equipment is mostly sufficient in relation to the number of students
6	An effective financial management is in place (business plan).	TVI only uses annual budget.	TVI uses medium-term budget / projection.	TVI uses financial projection and business plan.
7	Training staff is qualified to conduct practical and theoretical training to fulfil curricula standards.	Training staff is partly qualified.	Training staff is mostly qualified.	Training staff is fully qualified.
8	The level of the drop-out rate is low.	Drop-out rate is high (20% and more).	Drop-out rate is moderate (10%-20%)	Drop-out rate is low (below 10%)
9	Passing rate for examinations is high.	Passing rate is low (80% and below).	Passing rate is moderate (80%-90%)	Passing rate is high (90% –100%).
10	Employment effects: employment rate determined by tracer study is high.	TVI is unaware of the employment rate of its graduates.	TVI takes first steps to assess the employment rate of its graduates.	TVI systematically traces the employment of its graduates.
11	Graduates meet the requirements of the employers: high satisfaction index.	Graduates hardly meet employer requirements.	Graduates partly meet employer requirements.	Graduates mostly meet employer requirements.

Figure 22: Quality criteria and performance levels

The quality criteria mentioned in figure 21 were applied to the analysed TVIs. Each TVI was categorised as performing at a low, medium, or high level in regard to each criteria. Generally, the study team observed that all TVIs fulfilled criteria at the low and medium level. The study team did not find a TVI that appeared to have reached the highest performance level in any of these analysed criteria.

11.4. Recommendations

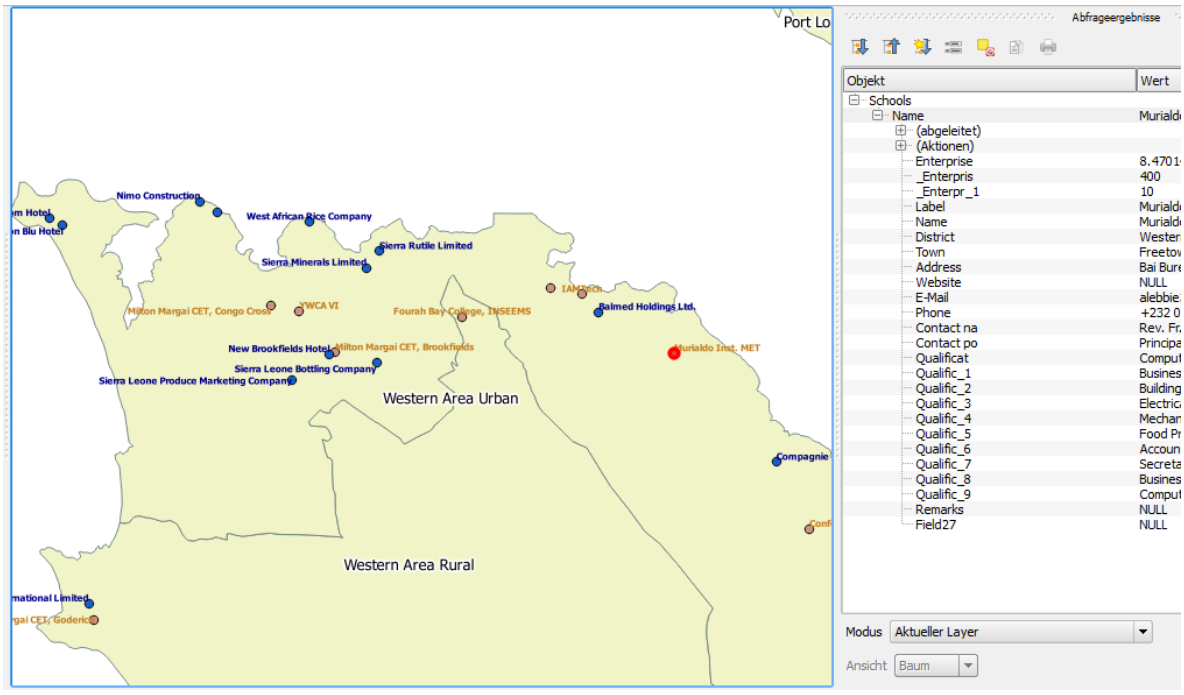
11.4.1. Stakeholder map II: Where are the identified TTIs, TVIs, and polytechnics (11.3.1.) located?

At a later stage, the GIZ TA team will set up an online platform, in which TVET stakeholders, prospective students, and the public can find comprehensive and relevant data on the TVET sector. For example, the platform will feature maps divided by each district and display the allocation of TVIs, TTIs, and companies offering employment. This will enable prospective students to search for TVET offers within their district and for graduates to search for employment opportunities in their region.

For the purpose of this platform, the study team proposes to process relevant data with the QGIS software. QGIS (previously known as Quantum GIS) is a free and open-source cross-platform desktop geographic information system (GIS) application, which supports viewing, editing, and analysis of geospatial data. In order to demonstrate the advantages of this software, data pertaining to TVIs was entered into QGIS and the study team presented these advantages and results during the validation workshop.

At a later stage, the developer of this online platform will integrate these data into the online application. It would be convenient to programme the application so that users can search for particular data fields. For example, a prospective student would be able to search for all TVIs that provide a particular type and level of training (e.g. plumbing at NTC level).

Below is a first printout featuring the data of TVIs, which were mapped with the QGIS software. On the right side, the selected basic data for each TVI is shown. These data are visible when the cursor is moved to the data point of the particular TVI.



* The personal data of the test subjects are not presented in the table.

Figure 23: Data for TVIs, mapped with the QGIS software

12. Research area 4: synergies between demand and supply sides

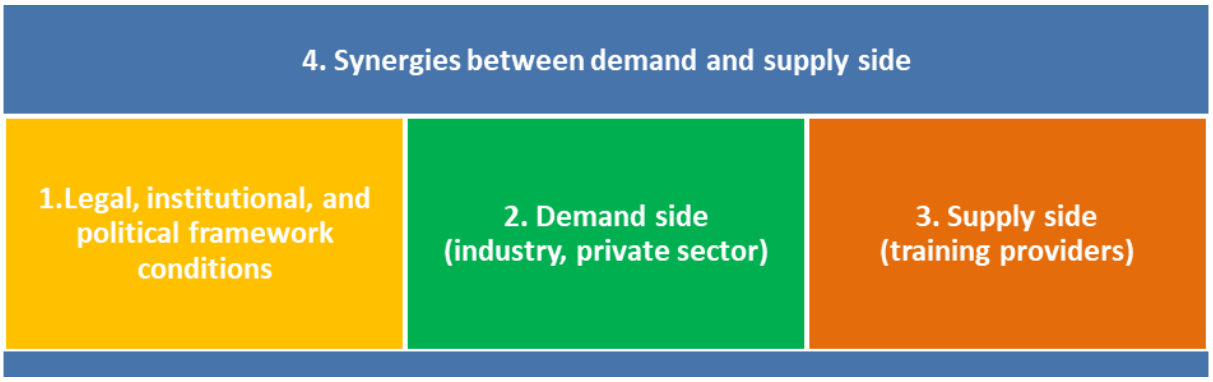


Figure 24: Synergies between demand and supply sides

12.1. General overview / Introduction

We understand synergy as the interaction/cooperation of two or more organisations/agents to produce a combined effect greater than the result of their separate effects. The research area 4 focuses on determining synergies between TVET and labour market structures and other actors.

12.2. Methodology

The methodology of the research in the analytical area 4 'Synergies between demand and supply' follows the general approach, which has been laid out above (see Section 8). The following methods and analytical tools were applied specifically for this research area.

1. Desk Study, review, and the analysis of documents
2. Site visits to institutions and industries
3. Meetings and structured discussions with management personnel of institutions and industries
4. Meetings and structured discussions with associations (i.e., Sierra Leone Chamber of Commerce, Industry and Agriculture (SLCCIA), National Youth Commission (NAYCOM), Teaching Service Commission (TSC), Tertiary Education Commission (TEC), National Council for Technical Vocational and other Academic Awards (NCTVA)).

12.3 Research area 4: synergies between demand and supply sides – issues and findings

12.3.1. What is the correlation between the supply of TVET graduates and the demand for qualified personnel?

'Education is a key determinant of the type of job a person occupies. Nearly 90 percent of employed individuals with tertiary degrees work in wage jobs; none of the interviewed individuals with tertiary degrees were working in agriculture or as unpaid labour. Conversely, only 2.5 percent of the employed who have never attended school work in wage jobs, whereas 69.8 percent work in agricultural self-employment, and an additional 6.5 percent (relative to the total number of employed) are working without pay.'
(*Labour Force Survey in Sierra Leone*, 2014, p. 21)

This statement is highly relevant in respect to the issue of education as a key determinant for gainful employment. However, there is a lack of congruence between supply and demand. Figures taken from the 2015 TVET examinations conducted by NCTVA demonstrate the following:

There were 793 graduates of the National Vocational Certificate, the Advanced NVC, and the National Technical Certificate; 2,833 graduates of the National Diploma; and 349 graduates of the Higher National Diploma. The total number of graduates is 3,995 graduates. Looking into a few selected areas of specialisation the following observations can be made:

Programme:	NVQ	ANVQ	NTC	ND	HND	Total
Business Administration				801	119	920
Business Studies			279			279
	Subtotal for the above					**1.199**
Masonry	26					26
Construction Technology			104			104
Building and Civil Engineering				114	30	144
Electrical and Electronic Engineering	6		75	156	20	257
Subtotal for the above (engineering occupational areas):						**531**

Figure 25: Graduates of selected areas of specialisation (in 2015)

In 2015, 1,199 students graduated in the field of business studies, whereas only 274 students graduated in the field of civil engineering and 257 in the field of electrical and electronic engineering. There is currently a construction boom throughout the country; a boom that requires a qualified workforce not only in civil engineering but also in electrical-, woodwork-, plumbing-, and mechanical engineering. However, there is uncertainty as to where to find these much-needed engineers.

From research carried out pertaining to the demand side and from these findings, the study team notes that the supply of TVET graduates should match the demand for qualified personnel on the labour side. However, this is currently not the case. The requirements of employers are not being taken into consideration when training courses are designed. This can be attributed to the fact that the private sector is largely inattentive to TVET-related activities such as curriculum development, examinations (of practical training), technical teacher training, and up-grading. These are areas in which a joint interest between TVIs and government authorities (such as NCTVA) and the private sector exists in regard to improving the quality of TVET. This interest needs to be translated into structured forms of cooperation.

12.3.2. Which institutions coordinate and regulate the alignment of demand and supply?

There is currently no private or public institution that has for mandate to coordinate and regulate the alignment of the supply of graduates with the demands of the labour market.

However, in the study team's research, an institution was identified that is currently working to help resolve this issue. Since approximately 2010, UNPD has supported the establishment of a career guidance and placement service (CAPS) in cooperation with the NAYCOM and with certain participating TVIs (Eastern Polytechnic, Njala University, EBK University College in Makeni, and Fourah Bay College).

The following introductory remarks about CAPS were obtained from the NAYCOM website (http://www.nationalyouthcommission.sl/CAPS.html):

'CAPS was designed by UNDP to tackle the huge youth unemployment problem. It is geared towards increasing the potentials of students to acquire jobs in study-related areas and to become high-performing employees. Services provided by the CAPS centres are aimed towards increasing employ-

ment prospects of university graduates and alumni, improve pathways from universities to employers and decrease saturation of graduates in no/low growth jobs. The services targets students during their orientation sessions to guide them in choosing course areas that enhances their employability, students towards their graduation, young graduates, alumni, and employers. The services are financially supported by UNDP and provided by NAYCOM through the universities. Plans for the establishment of the new ones are to have the centres located in the regional offices of NAYCOM.

Services to Students

1. *Placement – to place students in suitable internships and to refer qualified students and alumni for job vacancies*
2. *Self-assessment – to ascertain student abilities, interests, personality attributes, and values and to apply these factors in selecting appropriate majors and career fields*
3. *Career exploration and exposure – to facilitate examination of career fields and specific occupations with regards to job duties, working conditions, worker characteristics (abilities, personality attributes, and values), earnings, training requirements, and promotional opportunities.*
4. *Labour market information – to provide local (country and regional) information and projections as to job growth and demand thus enabling students to select training that will lead to viable employment opportunities (and decrease saturation of students in no/low growth fields)*
5. *Employment tools – to provide pragmatic skills in job search, job applications, CVs, and interviewing*
6. *Employability tools – to provide graduates and alumni an 'edge' in getting and keeping a job and growing on the job*
7. *Self-employment tools – to impart entrepreneurship awareness and help graduates and alumni direct academic learning to self-employment opportunities*
8. *Vocational guidance – To assist students and alumni understand themselves in relation to career choice and work-life issues and to provide guidance in vocational planning*
9. *Academic advising – To guide students in selecting academic majors and coursework in line with their career goals*

Services to Employers

1. *Placement – to interact with employers in placing suitable students in internships and to refer qualified graduates and alumni for job vacancies*
2. *Job Fairs – to facilitate employers' participation in job fairs'*

The study team held an intensive discussion with the CAPS team at the Eastern Polytechnic. The intentions of CAPS as described in the above statement were confirmed. However, in reality, very few of these intentions are actually implemented. Career counselling is not conducted on the individual level, but through large events aimed at all graduates of one academic year. This makes it impossible to respond to the needs of the individual student. There is little organised access to data pertaining to the labour market or even to employment opportunities. Contacts to companies are practically non-existent and job fairs have never been organised. The team has also received little training to prepare them for their tasks.

Recommendation 12.1: *The study team concluded that CAPS is a very useful and necessary instrument, but the organisation needs to be further developed to become more effective. Therefore we recommend to include the tasks of career guidance and placement services within the proposed in-service teacher training and school management trainings of the GIZ TA team. The NAYCOM should also be qualified to collect data on labour market and jobs, and to give this information to the local CAPS teams within the TVET institutes. This policy of upgrading CAPS is deemed more efficient than the establishment of an entirely new institution.*

12.3.3. Who is responsible for curriculum development / modernisation in order to meet the demands of potential employers?

According to the 'Handbook of the NCTVA' (2004) this task is the responsibility of NCTVA. The handbook outlines the following (in Chapter 2):

'2.1 **Development and Review of Curricula**
The NCTVA has held a series of workshops to develop syllabuses of the various subjects/vocations. These are under constant review using local and external experts. As a continuous process, the NCTVA shall:
2.1.1 Design/develop curricula for technical/vocational and teacher education programmes …
2.1.2 Review syllabuses of technical/vocational and teacher education courses offered in the Council's accredited institutions as and when necessary.
2.1.3 Provide curricula with an international outlook based on comparison with similar curricula in the West African sub-region and also in some developed countries.
2.1.4 Contact local and international experts to review curricula periodically, based on national advances in education, industry and technology.
2.1.5 Ensure that the curricula fulfil objectives of manpower acquisition and maintenance of an up-to-date and relevant knowledge, understanding and skills for national development.
2.1.6 Ensure advancement and the promotion of quality and available work-related education, developing skills, knowledge and understanding necessary for careers, employment and national interests.'

The study team observed through its research that the above tasks are not being carried out. This is due to the fact that when NCTVA was founded, the issue of curriculum development was handed back to the University of Sierra Leone (Njala), and MEST. The department of the Ministry has been 'locked' for the past five years. There is no staff within this department.

According to the director, NCTVA makes efforts to conduct these reviews as often as possible with the involvement of industry and the private sector. However, the results are below professional expectations.

12.3.4. What is the dialogue between TVIs and polytechnics, and potential employers?

The study team's findings can ascertain that dialogues currently do take place between TVET providers and employers, although this dialogue lacks formal context and institutionalisation. Good examples of these dialogues are MoUs between the Eastern Polytechnic in Kenema and companies. In many instances, such dialogues took place on an 'ad-hoc' basis, especially concerning the issue of the need for student internships. If these dialogues had not taken place, internships would not have been created.

12.3.5. Which technical facilities exist to organise and improve, on a regular basis, the dialogue between training providers and potential employers?

Few TVIs are even aware of the benefits of having strong links to the private sector – they assist in the creation of internships for students and employment placements of graduates. For example, a TVI developed a policy to arrange MoUs between faculties and relevant companies in order to collaborate with them on the above issues.

However, there is not yet a 'technical facility' on a national level, although there is the multi-party forum of the TVET Coalition. This coalition could be the starting point, which could later develop into this facility.

Private-Public-Partnership (PPP schemes) are another example pertaining to institutionalising a dialogue between training providers and potential employers on the short- to medium-term basis. A

potential PPP would need to contain contractual arrangements in order to achieve specific short-term goals as identified by the partners. An example of a PPP could be to qualify in-company trainers through the provision of internal technical expertise of qualified engineers and through external pedagogic (teacher training) expertise. Consequently, a PPP could probably turn into a technical facility on a sectoral (mining) and regional basis (Moyamba and Bonthe districts), as is the case of the envisaged PPP between GIZ, Sierra Rutile Ltd., and the Jackson and Devon Anderson Technical Institute (JADA).

NGOs also act as technical facilities. Here is one example:

- Oxfam-IBIS facilitated the development of the curriculum for a 'Solar/Photovoltaic Installation Technician' through consulting with many small companies that are active in the sector. The resulting curriculum will be presented to NCTVA to receive accreditation.

12.3.6. Which improvements can be made regarding the dialogue between demand and supply sides?

One way of establishing and improving the dialogue is to further consolidate and expand the existing network that is in the process of being established by the TVET Coalition. This network requires a greater degree of institutionalisation and formalisation in order to acknowledge and accept the TVET Coalition as a dialogue forum for TVET. In the section in Chapter 12.4 about recommendations for the research area 4 'Synergies', a larger cooperation structure will be discussed. However, a dialogue at the national level can mostly be viewed as a framework, which provides general standards and directions. In addition, the dialogue must function at the institutional level between TVIs and companies. We give the example in 12.3.5 of a TVI that has already taken the step to engage in MoUs with relevant companies.

12.3.7. Do job centres exist to help place TVET graduates into employment?

The only job centre that exists is within the Ministry of Labour and Social Security (MLSS). However, this job centre is not specifically geared towards TVET graduates and it does not actively place job seekers.

On the topic of job placement/employment, the World Bank report 'Findings from the 2014 Labour Force Survey in Sierra Leone', 2016 states in Chapter 1.2.4 'How the Employed Found Their Current Job?' (page 26):

'The employed tend to find jobs through family and friends, reflecting the importance of these ties in the labour market. Among employed individuals, the majority (62.8 percent) found their jobs through family members, friends, or acquaintances. The second most common way to find a job is to launch or acquire a business. About one-fifth of the employed find jobs in this manner. Women are slightly more likely than men to rely on this channel (22.1 percent vs. 18.3 percent). Finding a job through family and friends and launching a business are more important strategies in rural than in urban areas.'

There are job offers posted on the internet, in newspapers, and in various agencies offering such services. The study has already discussed the recommendation to further develop CAPS at the NAYCOM as well as operational units in certain TVIs so that it can contribute to the placement of graduates. This will most likely lead to a sustainable solution for the benefit of both graduates and companies.

12.3.8. Do potential employers offer internship programmes for TVET students?

According to the findings under Section 2 (demand side) and to discussions held with employers, approximately 67% of respondents stated that they accept interns into their organisations, but do not

have structured internship programmes. One hundred percent of organisations that do not currently accept interns expressed a willingness to start.

Below is a brief summary of findings expressed in the 'Market and Economic Survey and Mapping of Training Providers and Supportive Structures in Sierra Leone', conducted in 2013 on behalf of the NGOs Goal, IBIS, and Save the Children:

'Hotels and guest houses in Freetown expressed willingness to provide internships or apprenticeship for vocational training students. … The proliferation of mining companies in Kono has not resulted in increased apprenticeship or internship opportunities. Interview access to these companies proved to be difficult, indicating that training institutions might also find it difficult to send students on interns/apprenticeships to these companies.
… Kenema has many NGOs, companies, restaurants and hospitality facilities willing to accept interns. Many of the training institutions visited reported to have sent at least one trainee on internship to work with a formal company.'
(*Market and Economic Survey and Mapping of Training Providers and Supportive Structures in Sierra Leone*, 2013, p. 50-51)

From the 'Skills Gap Analysis Report' (2012) of the African Development Bank we quote:

'Only 30% of the institutions surveyed indicated that they used student interns. Interviews reveal that not many are interested in using interns as they do not believe that internships are beneficial to them particularly in recruiting permanent staff. Furthermore, managers were not convinced of good performance of students. On the contrary, it was mentioned that lack of commitment and unrealistic expectations of the market place by interns did not usually augur well with management.'
(*Skills Gap Analysis Report*, 2012, p. 47)

We wish to reiterate the efforts of NAYCOM regarding internship placements of graduates from tertiary institutes through the Graduate Internship Programme at the National Youth Commission. These placements have been implemented with the support of UNDP and taken place in parallel to the activities of CAPS (see Chapter 12.3.4).

12.3.9. How do employers fill possible skills gaps?

Skills gaps identified by employers in their own enterprises are mainly filled through internal skills upgrading schemes. In order to address skills gaps, we distinguish between

- the recruitment of TVET graduates;
- the placement of internships, which lead at times to employment, and;
- the hiring of expatriates, on the job training, internal training, and external training.

In addressing how this skills gap may be reduced in the future, the study team references the 'Skills Needs Assessment' initiated through the TVET Coalition in 2016. In the first stage of the survey, from September to December 2016, approximately 44 companies were identified for analysis. The survey comprised two phases focused on the issue of skills gaps: the first phase targeted the human resource departments of the companies, and the second phase focused on the technical supervisors. Research phase one was carried out by various members of the TVET Coalition. These findings indicated that 'in-house/company-training' was either in the process of being implemented or had been selected. Within the 44 targeted companies in research phase one, 20 (45%) participated in the survey. The final result of the survey is not yet available, as the assessment is still ongoing.

The study team has drawn a preliminary conclusion in regard to in-house / company training: this option has the potential to become the most suitable instrument in addressing the issue of skills gaps within companies.

12.4 Research area 4: synergies between demand and supply sides – recommendations

12.4.1. R1: Which improvements can be made towards increasing dialogues between the demand and the supply sides? Which tool is recommended in order to guarantee equal participation?

From the research, it appears as though a formalised dialogue between the demand and supply sides is fairly non-existent. However, there is presently an increase in interest towards TVET and a wide recognition that a dialogue between partners must be established and improved upon. Paramount to the understanding of this partnership is the interdependency between partners on the demand and supply sides. The demand side, which is comprised of industry and the private sector, needs a qualified and skilled workforce. This workforce should be supplied by (TVET) training providers. In order to meet this demand, all aspects of training need to be oriented towards this demand. Dialogues are needed around the areas of training infrastructure, curriculum development, and teacher qualification and certification. Here are some recent observations within reports.

The 'Skills Gap Analysis Report' (2012) of the African Development Bank points out the following:

'Education institutions and the private sector must work closely to close the skills gap and better manage expectations and performance. Companies should be involved in education boards, guest lecturing and sharing practical knowledge at every opportunity. A forum must be set up to facilitate dialogue and collaboration between training institutions and the private sector.'
(*Skills Gap Analysis*, 2012, p. 48)

This quote stresses the importance of a partnership between the private sector and TVET providers. Thus, the current efforts by Sierra Rutile and GIZ to enter into a Public Private Partnership with Jackson and Devon Anderson Technical Institute (JADA) is a most welcome development. These three partners will engage in a tripartite venture to improve the provision of TVET through the TVI. The aim of the project is to supply the entire job market in Sierra Leone and beyond with skilled and qualified labour. We note the special opportunity that is presented through Sierra Rutile's interest in allowing JADA students to utilise the company's workshops for practical training. Training programmes offered in this context include: electrical and electronics, mechanical engineering, and automobile and civil engineering (building and construction). This opportunity presents a welcome development to enhance the quality and relevance of practical training work towards skills development.

Through this opportunity as well as through the findings of the research, the study team observed that a national dialogue forum, such as a National Consultancy/Advisory/Training Board on Vocational Education and Training could be a relevant tool. The provision for such a body was made in the Education Act of 2004 in the form of a 'National Council for Technical and Vocational Education' (NCTVE) and the body was envisaged to operate under the supervision of the Ministry of Education (MEST).

We suggest the formation of an overarching (umbrella) body, which has a new name in order to not confuse it with NCTVE and NCTVA.

This new structure/body could be co-chaired by the Ministries of Education (MEST) and Labour (MLSS). Representation from the private sector, or chamber or employers' federation could act as secretary. Another option is for the private sector be in the leading position. This is dependent, however, on the political environment and if it would allow for this situation. The starting point for the development of a TVET institutional framework could be the existing TVET Coalition of Sierra Leone, established in 2014. The TVET Coalition is a body composed of members from a variety of sectors, eager to foster the further development of TVET in Sierra Leone and bound together by a memorandum of understanding (MoU).

The aims and objectives of the TVET Coalition are formulated as follows:

- To jointly pursue the objective of supporting the TVET system of Sierra Leone in delivering its mandate with the overarching objective of improving the employability of TVET graduates in Sierra Leone.
- In doing so, the TVET Coalition also intends to create an environment that promotes the development of the private sector in Sierra Leone and positions the country as an attractive investment destination.

The TVET Coalition Workgroup is formed by governmental bodies and institutes, TVIs, private companies, (I)NGOs, and donors acting as a support group to MEST, as well as other governmental institutes who implement their plans to improve TVET quality within the country, to increase the number of qualified students integrating the technical vocational workforce, and to deliver their mandate on TVET.

We strongly recommend the recognition of the TVET Coalition by UNICEF as one of their Education Development Partners (EDP) and its subsequent inclusion in EDP meetings and elaborations. UNICEF is the lead in the EDP collaboration with MEST.

The table below represents the present composition of the TVET Coalition of Sierra Leone and its members (as per Memorandum of Understanding, Nov. 2016):

MDAs	(I)NGOs	Private sector companies	Multilateral and bilateral donors
NCTVA	IBIS	JobSearch (SL) Ltd	GIZ
NAYCOM	Schooling for Life	Afrecruit	British Council
SLLCA	Save the Children	Afriqia HR Solutions	
GTI Kissy	Global Youth Network		
MLSS	Finn Church Aid		
MOYA	WHH		
	The Village People Group		
	Centre for Community Youth Affairs		
	Centre for Career Training		

Figure 26: Present membership composition of TVET Coalition of Sierra Leone (2017) according to the TVET Coalition MoU.

- What is of most importance is that organisations such as the World Bank, the European Union, UNDP, and others support and participate in TVET Coalition activities even though they have not signed the MoU.
- Of equal importance is the observation that the private sector is as of yet not very well represented in the TVET Coalition, and thus not very active. The study team anticipates that this situation will change as other developments within the TVET sub-sector take form, such as the PPP with Sierra Rutile. These developments may assist in convincing employers to be proactive in this area. Certain respondents expressed the view that the TVET Coalition could be more influential if it remained a non-government 'pressure group' or 'alliance' within the overall development of TVET. The study team shares this view and is of the opinion that relationships, especially to line minis-

tries and commissions (TSC, TEC, and NAYCOM), should be institutionalised and formalised (e. g., through contractual arrangements such as a MoU).
- The study team wishes to stress that this type of organisation will not be operationalised by the government.
- Regarding the overarching structure of the envisaged NCTVE (National Training Board / National Training / National Qualifications Authority) we would like to emphasise the following:
  - The board/authority must maintain its independence, but act as a strong advocate. In order for this to take place, the driving force of the authority should be the private sector (representation).

The latest composition of the TVET Coalition of Sierra Leone (January 2018) is as follows:

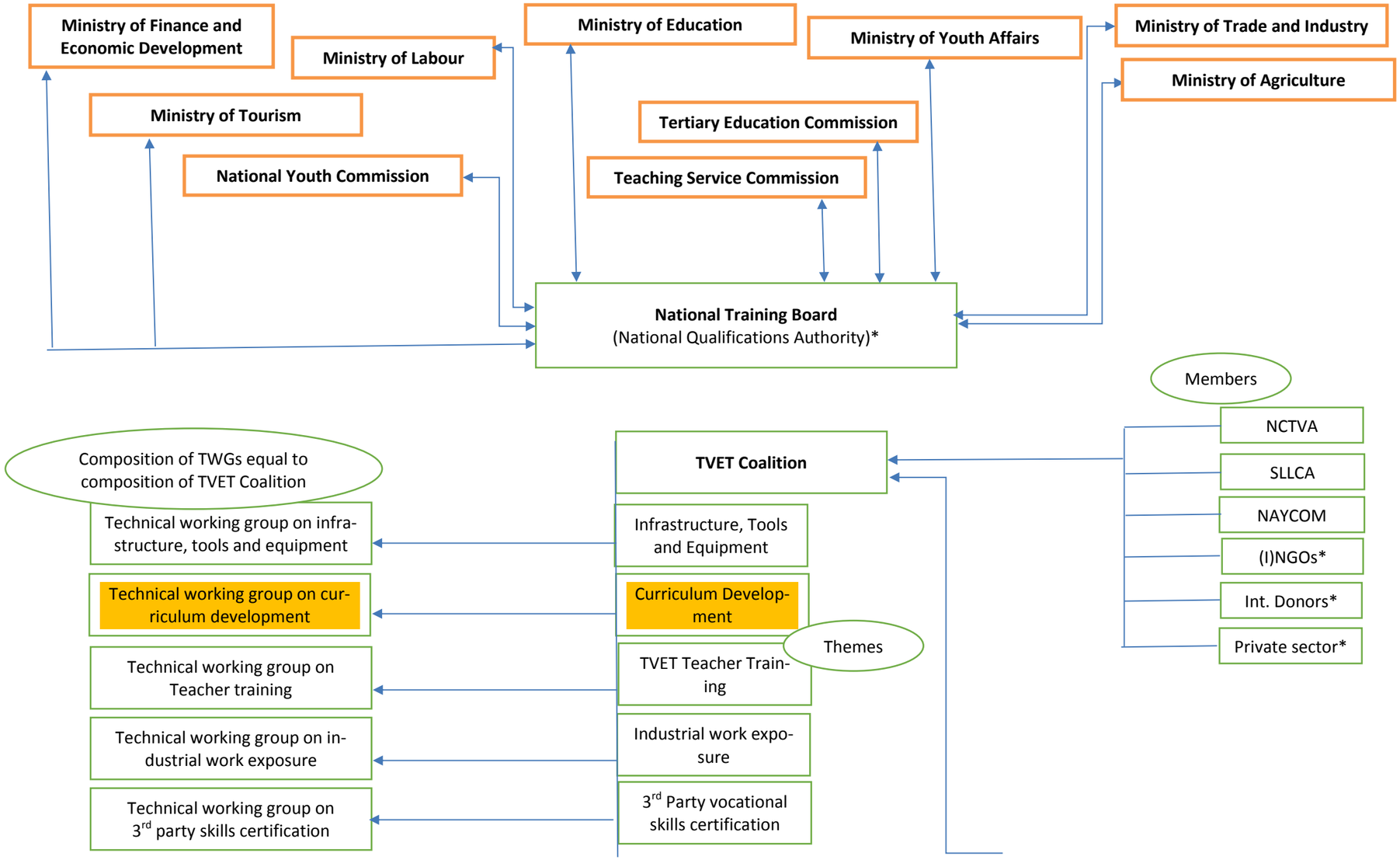
- **Government:** MEST, MLSS, MOYA, NCTVA, NAYCOM, SLLCA, etc.
- **NGOs:** CCYA, Global Youth Network, Oxfam, Save the Children, Schooling for Life, Deutsche Welthungerhilfe (WHH), etc.
- **Private Sector:** Afrecruit, Afriqia HR Solutions, JobSearch, SLCCIA, SLEF etc.
- **Multilateral/bilateral donors:** British Council, EU, GIZ, UNDP, World Bank, etc.
- **Training Providers:** Computech, Conforti, GTI, IMAT, MMCET, YWCA, etc.

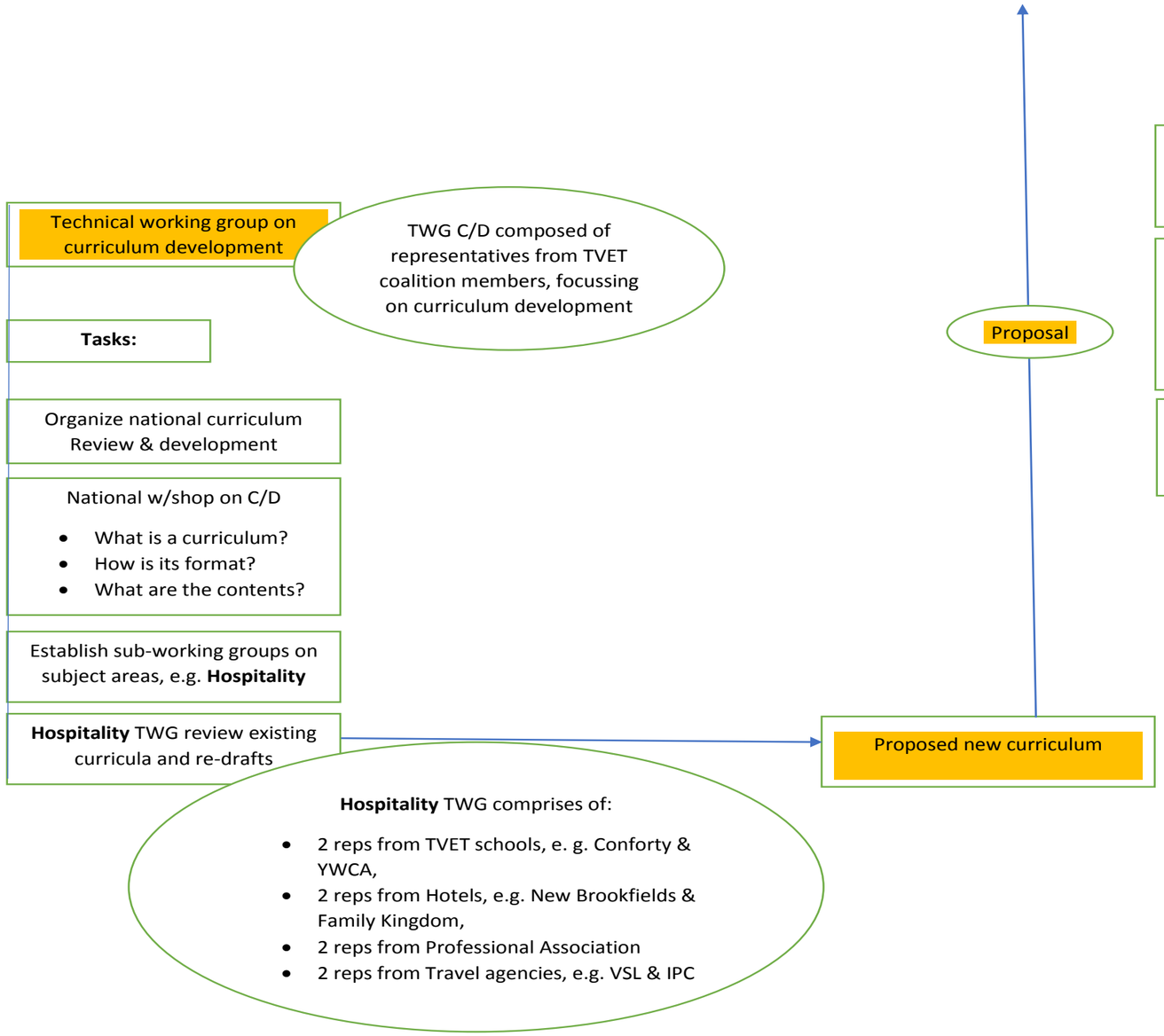
We foresee a number of synergy effects in the short to medium term within this envisaged cooperation between the TVET action, which is co-financed by the EU and BMZ and implemented by GIZ, and the Skills Development Fund (SDF) of the Ministry of Finance and Economic Development (MoFED), which is supported by World Bank. The SDF funds the activities of TVET providers (formal and non-formal). These funded activities pertain to the development of TVET providers' delivery structure aimed at a transparent, skilled, competent, and employable workforce. The SDF funds private sector businesses, which offer apprenticeships, internships, and other methods of skills improvement and development with the aim to create a better-qualified workforce. The TVET project, which is co-financed by the EU and BMZ, could envision playing a major role in assisting in the application process of prospective candidates (both training providers and enterprises) to formulate their own skills development and improvement strategies.

The anticipated TVET communication platform is a practical tool that could assist in expanding this previously addressed dialogue. Purposes of this communication platform include: to provide data and related information on TVET, to make this data and information accessible, and to strengthen communication among stakeholders. The private sector, including HR organisations, recruitment agencies and others will be involved in this process. The development process for the design and outline of the communication platform's structure has already begun.

The communication platform will be web based, and accessible via smartphones, as these phones are increasingly becoming the most utilised means of communication among youth.

Below is the first draft of the envisaged institutionalised TVET cooperation structure. This structure is modelled on earlier findings and conclusions. This draft has already been presented and discussed during a TVET Coalition meeting on the 28 November 2017. All parties understood that this proposal is a long-term project. However, there is current and active interest from the TVET Coalition, and the themes in the cooperation structure are of present and future interest.


Ministry of Finance and Economic Development
Ministry of Labour
Ministry of Education
Ministry of Youth Affairs
Ministry of Trade and Industry
Ministry of Tourism
Ministry of Agriculture
Tertiary Education Commission
National Youth Commission
Teaching Service Commission
National Training Board
(National Qualifications Authority)*
Members
NCTVA
SLLCA
NAYCOM
(I)NGOs*
Int. Donors*
Private sector*
TVET Coalition
Composition of TWGs equal to composition of TVET Coalition
Technical working group on infra-structure, tools and equipment
Infrastructure, Tools and Equipment
Technical working group on cur-riculum development
Curriculum Develop-ment
Themes
Technical working group on Teacher training
TVET Teacher Train-ing
Technical working group on in-dustrial work exposure
Industrial work expo-sure
Technical working group on 3rd party skills certification
3rd Party vocational skills certification


Technical working group on curriculum development
TWG C/D composed of representatives from TVET coalition members, focussing on curriculum development
Tasks:
Organize national curriculum Review & development
National w/shop on C/D
What is a curriculum?
How is its format?
What are the contents?
Establish sub-working groups on subject areas, e.g. Hospitality
Hospitality TWG review existing curricula and re-drafts
Hospitality TWG comprises of:
2 reps from TVET schools, e. g. Conforty & YWCA,
2 reps from Hotels, e.g. New Brookfields & Family Kingdom,
2 reps from Professional Association
2 reps from Travel agencies, e.g. VSL & IPC
Proposal
Proposed new curriculum
(I)NGOs*:
IBIS, Schooling for Life, DWHH…a.o.
Private sector*
Job search SL, James Int., Sierra Rutile, Chamber of Mines, WARC, Shaporji, ADDAX…a.o.
Int. Donors*
GIZ, EU, WB, DFID, AfDB, UNDP…a.o.

12.4.2. R2: Which improvements can be made to the area of curriculum development / modernisation to meet the demands of potential employers?

The quote below is featured in the 'Skills Gap Analysis Report' (2012) of the AfDB:

'The private sector, especially the mining sector must be encouraged to play a major role in providing training for potential and existing workers in the sector. This could be done through partnership arrangements with TVETs institutions and mining companies. The role of the mining companies in such arrangement will include the provision of quality training facilities, equipment, advice on curriculum development and apprenticeship programmes.'
'The National Tourist Board can be proactive once more by collaborating with MMCET to initiate partnership arrangements with private sector institutions (hotels and restaurants) for the provision of specialised tourism skills.'
National skills development and support to training institutions should be seen as a corporate social responsibility by large corporations doing business in Sierra Leone. Such support could be in capital investments in equipment for training laboratories (MMCET Congo Cross campus, Government Technical Institute at Kissy Dockyard) and in the construction of training facilities. Thus, MEST need to establish formal collaboration with key private sector operators so as to harness the potential training provision opportunities that exists within the private sector.
(*Skills Gap Analysis*, 2012, p. 50-51)

The above suggestion could be followed – a national dialogue forum such as the TVET Coalition could provide the necessary, thematic, and comprehensive platform for this to take place. According to the MoU, the TVET Coalition focuses on five areas, which are:

- Infrastructure, with the aim of improving TVET school buildings, tools, and equipment. With the assistance and support of the coalition, approximately four TVET 'centres of excellence' will emerge.
- Curricula, with the aim of up-dating and/or re-designing curricula to meet the needs of the labour market.
- TVET teacher training, with the aim of up-skilling the existing body of TVET teachers.
- Exposure to the real, formal workplace, with the aim of apprenticeship schemes, internships for students, and internships such as 'job shadowing' for TVET teachers.
- Third party-run vocational skills certification, with the aim of setting up certification facilities for prioritised skills as demanded by private sector/industry partners of the TVET Coalition.

Through the approach outlined above, curricula could be developed by thematically dividing working groups composed of professionals from stakeholders (MEST, NCTVA, TVIs, private sector, and business associations). This process would need to be approved by NCTVA and/or MEST.

The findings from the research area 2 'Demand side' clearly indicate that a majority of the employers who participated in the study are keenly interested in becoming involved in curriculum development and in giving lectures.

12.4.3. R3: How can potential employers involve themselves in the development of a new certification scheme?

A national dialogue forum such as the TVET Coalition could provide the relevant and thematic areas for the platform. Thematic working groups could be established for the purpose of working on specific testing standards, the outline of an envisioned certification scheme, etc.

In collaboration with various partners, the project has already embarked on the development of this scheme. A sustainable skills certification scheme should comprise of, and prescribe the following:

- Examination and assessment standards
- Processes
- Resources

- Responsibilities

The establishment of a Certification Expert Panel (CEP) has already commenced, and we strongly endorse this initiative. The coordinating partner should be the NCTVA, but cooperating partners in the CEP should include TVET providers, the Anti-Corruption Commission, and members of the private sector and industry.

In order to smoothly incorporate the private sector and industries into TVET activities, the proposed strategy includes the following approaches, which work together with the cooperation structure:

1. For TVET to successfully work with the private sector, the latter must be given an important role, for example to lead several activities. The reasoning behind this is the following: Graduates from TVET should be employed by the private sector to work as skilled, competent, and trustworthy labour. As such, the private sector must have an interest in participating in the training of this workforce and in its successful certification process, which will result in this workforce's readiness to receive gainful employment.
2. To generate and stimulate this interest, successful examples must be generated and translated into 'best practices'. We would recommend the participation of the SL Employers Federation in the TVET Coalition, and in subsequent thematic work.
3. A sense of 'ownership' must be developed. The perception that TVET is an issue that 'belongs' to MEST must change. This false perception can be rectified through promoting the idea that TVET concerns a variety of partners and that issues should be addressed in a partnership-based manner. This needs to be discussed with SL Employers Federation.

12.4.4. R4: How can potential employers involve themselves in the development of a new in-service teachers training system?

The study team observed that within the TVET sector there has not been an in-service teacher training in operation for several years. The further qualification of teachers has been left to the initiative of the TVI or to the individual teacher. However, most TVIs cannot provide the necessary funds for this activity and teachers have little interest in investing in their own development if their qualification efforts do not result in an increase in responsibilities and salary. However, there is a great need for this type of training as many TVET lecturers are skilled engineers but are not necessarily qualified teachers. Many of these lecturers are also unaware of what is presently taking place within companies, of new developments in technology, of business processes, etc. Consequently, these lecturers are unable to prepare their students for the present reality of the workplace.

The elaborations and recommendations should be taken into consideration. A national dialogue forum such as the existing TVET Coalition could provide the necessary, thematic, and comprehensive platform for this to take place. Relevant working groups can be established to work on specific approaches. These approaches should be guided by two main elements:

- exposure to real industry workplaces – 'job shadowing' is a key-word;
- additional (vocational) pedagogy, didactics, methods, assessments, and evaluations provided within an institutional learning environment.

Job shadowing has two separate meanings: 1) a master trainer/teacher assesses the performance of the targeted trainee in a workplace; or 2) a student, employee, or intern observes the daily work activities of an employee, who holds a specific and relevant position.

For the enhancement of practical skills in the identified occupational areas, close collaboration to industries is paramount. Therefore, a close cooperation/collaboration with the SL Employers Federation seems mandatory. As explained above, this collaboration may be coordinated through the TVET Coalition. Future master trainers should be learning within industries for a minimum period of four weeks. They should undertake an intensive 'job shadowing'. Industry partners within the TVET Coalition should be approached and show motivation to participate in this scheme.

13. Annexes

Work schedule

GIZ Diagnostic study of the TVET sector in Sierra Leone — Current work schedule

No.	Date	Day	Milestone	As at 14.12.2017 Activity Siegfried Gross	As at 14.12.2017 Activity Carl Krug	As at 14.12.2017 Activity Edleen Elba	As at 14.12.2017 Activity Sahr Sorrie	As at 14.12.2017 Activity Birgit Kraus
1	23.10.2017	Mon						
2	24.10.2017	Tue						
3	25.10.2017	Wed		Study Framework documents (HO)	Meeting with project team; Identify & contact schools (S)			
4	26.10.2017	Thu		Study Framework documents (HO)	Visit S1 (YWCA), visit S2 (GTI)	Make company questionnaire; Source reading for desk review; Prepare list of organisations	Visit S1 (YWCA), visit S2 (GTI)	
5	27.10.2017	Fri		Study Framework documents (HO)	Make school questionnaire; identify & contact schools; meeting with S. Lenz	Desk review; Update company questionnaire	Make school questionnaire; identify & contact schools; meeting with S. Lenz	
6	28.10.2017	Sat						
7	29.10.2017	Sun						
8	30.10.2017	Mon		Study Framework documents (HO)	Team meeting; Visit S1 YWCA	Team meeting; Desk review; Review list of organisations and questionnaire	Team meeting; Visit S1 YWCA	
9	31.10.2017	Tue		Study Framework documents (HO)	Coalition meeting; contact schools	TVET Coalition meeting; Complete questionnaire and start e-mailing to organisations; Update list of organisations with contact details	Contact schools	
10	01.11.2017	Wed		Study Framework documents (HO)	Assessment S1 YWCA; visit S3 MM Brookfield	Continue making appointments for assessment; Pilot assessment; Desk review	Assessment S1 YWCA; visit S3 MM Brookfield	
11	02.11.2017	Thu		Prepare Inception Report (HO)	Visit S6 Murialdo; Visit S8 Fourah Bai College	Desk review; Continue making appointments for assessment; Pilot assessment	Visit S6 Murialdo; Visit S8 Fourah Bai College	
12	03.11.2017	Fri		Prepare Inception Report (HO)	Visit S2 MM Goderich; Make Inception Report; Contact schools in districts	Make Inception Report; Team meeting	Visit S2 MM Goderich; Make Inception Report; Contact schools in districts	
13	04.11.2017	Sat			Make inception report			
14	05.11.2017	Sun		Int. travel Germany - SL	Make inception report			
15	06.11.2017	Mon	Inception R.	Introduction to GIZ TVET team, Initial Team Meeting, finalize Inception Report, hand over Inception Report to GIZ project team	Team Meeting, finalize Inception Report, hand over Inception Report to GIZ project team	Team Meeting, finalize Inception Report, hand over Inception Report to GIZ project team	Team Meeting, finalize Inception Report, hand over Inception Report to GIZ project team	
16	07.11.2017	Tue		Framework analysis (policies, institutions), Meet Dr. Siegfried Berg (GIZ TVET Project Manager), Meet Mr. Ali Mohammed (GIZ TVET Techn. Advisor)	Visit S3 MM Congo Cross, assessment S6 Murialdo Kissy	Assessment labour demand	Visit S3 MM Congo Cross, assessment S6 Murialdo Kissy	
17	08.11.2017	Wed		Framework analysis (policies, institutions), Visit to NCTVA, meet Director NCTVA Mr. Mohammed Jalloh, accompanied by Technical Advisor GIZ TVET, Mr. Ali Mohammed	Visit S7 Freetown Teachers College; Assessment S5 GTI Kissy	Assessment labour demand	Visit S7 Freetown Teachers College; Assessment S5 GTI Kissy	
18	09.11.2017	Thu		Framework analysis	Assessment S3 MM Congo Cross; Assessment S4 MM Brookfields,	Assessment labour demand	Assessment S3 MM Congo Cross; Assessment S4 MM Brookfields,	
19	10.11.2017	Fri		Framework analysis (policies, institutions), visits EU delegation to SL, meet Mr. Giuseppe Paglione, accompanied by GIZ TVET project manager, Dr. Siegfried Berg, visit MEST, meet GIZ consultant Dr. Manfred Winnefeld, meet Mr. Umaru Sesay, former Head of Islamic Development Bank supported TVET project, .	Contact TVET schools in districts; Visit S15 Conforti	Assessment labour demand	Contact TVET schools in districts; Visit S15 Conforti	
20	11.11.2017	Sat						

Questionnaire for framework institutions

GIZ Project "Support to TVET in Sierra Leone"
Diagnostic study of the TVET sector in Sierra Leone
Questionnaire for framework institutions

Institution
Respondent(s)
Date, time

siefried-grossgit-online.de

No.	Question/Issue	Fact 1	Fact 2	Fact 3	Fact 4	Fact 6
1	Acts					
1.1	Which acts are relevant and what do they say about TVET in Sierra Leone?					
1.2	Which relevant literature for TVET in Sierra Leone does exist?					
2	Structure					
2.1	How is TVET embedded within the GoSL? Who has the overall responsibility for TVET in Sierra Leone?					
2.2	How does the organisation structure look like?					
2.3	According to the National Qualifications Framework (NQF), what linkages do exist between general education and TVET?					
3	Accreditation					
3.1	Who ensures the quality of TTIs, TVIs and polytechnics? Is there an accreditation system?					
3.2.	Who has the overall responsibility for the certification of TVET graduates in Sierra Leone.					
3.3	How does the organisation structure look like for the certification of TVET graduates in Sierra Leone					
3.4	How do the responsible institutions implement their mandate? Where are possible challenges?					
3.5	R3: How can the certification of TVET graduates be better organised and which actors should be involved?					
4	Curriculum					
4.1	For which occupational areas do curricula exist and how can the quality of them be assessed?					

GIZ Project "Support to TVET in Sierra Leone"

Diagnostic study of the TVET sector in Sierra Leone

Questionnaire for framework institutions

Institution

Respondent(s)

Date, time

siegfried-gross@t-online.de

No.	Question/Issue	Fact 1	Fact 2	Fact 3	Fact 4	Fact 6
1	Acts					
4.2	Do the curricula correspond to the demands from the industry?					
4.3	Are there practical units (internships) included in the curricula?					
4.4	How can TVET become more practice-oriented?					
5	Finance					
5.1	How is TVET financed (in % of the entire education budget)? How are these funds used?					
6	Teachers					
6.1	Who has the overall responsibility for training of TVET teachers in Sierra Leone,					
6.2	How does the organisation structure for training of TVET teachers look like?					
6.3	How do the responsible institutions implement their mandate for training of TVET teachers? Where are possible challenges?					
6.4	Does in-service teacher training for TVET teachers exist?					
6.5	Are there training possibilities for in-company trainers?					
6.6	R4: Where should in-service teacher training be established in order to guarantee a sustainable in-service teacher training system?					
7	Overall					
7.1	R1: Which are key factors to improve and enhance TVET in Sierra Leone?					
	Other issues					

GIZ Project "Support to TVET in Sierra Leone"

Diagnostic study of the TVET sector in Sierra Leone

Questionnaire for framework institutions

		Institution				siegfried-gross@t-online.de		
		Respondent(s)						
		Date, time						
No.	Question/Issue	Fact 1	Fact 2	Fact 3	Fact 4		Fact 6	
1	Acts							

Questionnaire for labour market (institutions)

Questionnaire for Diagnostic study of TVET in Sierra Leone (Demand: INSTITUTIONS)

1	Name of Institution/organisation/company		
2	Physical & Postal Address:		
3	Year of establishment		
4	Sector		
5	Town		
6	District		
7	Contact person		
8	Designation		
9	E-mail		
10	Telephone number		
11	Web address		

12	What do you do?		
13	Are you familiar with the TVET curriculum for the qualifications that are relevant to your sector?	Yes/No	

14	Are the TVET qualifications provided in Sierra Leone sufficient for your sector?	Yes/No	

15	If no, what do you think is missing?		

16	What suggestions do you have for improving the TVET system?	Yes/No	
	a. Curriculum		
	b. More internships		
	c. More options		
	d. Training of instructors		
	e. Equipped workshops		
	f. Other, please specify		

17	What assistance would you be willing to provide to the TVET system?		
	a. Contribution to curriculum development or amendment		
	b. Internships/ Apprenticeships		
	c. Financial support		
	d. Other, please specify		

18	List 3 skills areas that you see employment potentials in over the next 2 years	
	a.	
	b.	
	c.	

19	Who are the top 3 players in the sector?	
	a.	

	b.	
	c.	

20	What are the sector plans for the next 5 years in terms of innovation, growth and job creation?	

21	Are you familiar with the entrepreneurial skills module in the TVET curriculum?	

22	If so, do you think it is sufficient preparation for self-employment?	

23	Are there trained individuals with the ability to install or operate new equipment and materials you supply?	

Questionnaire for labour market (companies)

Questionnaire for Diagnostic study of TVET in Sierra Leone (Demand: COMPANIES)

1	Name of Institution/organisation/company		
2	Physical & Postal Address:		
3	Year of establishment		
4	Sector		
5	Town		
6	District		
7	Contact person		
8	Designation		
9	E-mail		
10	Telephone number		
11	Web address		

12	What is your company's business?		
13	Do you export or import? (Please indicate Yes or No)	Export	Import

14	How many employees are employed by your organisation?	Female	Male
	Management staff		
	Administrative staff		
	Technical staff		
	Other, please specify……		
	Total		

15	What is the highest level of technical/vocational education that your current individual Technical Staff have achieved	Number of employees	
		Female	Male
	No Certificate (e.g. Apprenticeship, WASSCE, etc)		
	National Vocational Qualification (NVQ)		
	National Vocational Certificate (NVC)		
	Advanced National Vocational Certificate (ANVC)		
	National Technical Certificate (NTC)		
	Ordinary National Diploma (OND)		
	Higher National Diploma (HND)		
	Higher than all of the above		
	Other (e.g. Non-NCTVA Accredited, International Certificates, etc)		
	Total		

16	Do you have a direct relationship with any of the TVET institutions?	Yes/No	

17	If yes, which one(s)?		

18	Are you familiar with the TVET curriculum for the qualifications that are relevant to your operations?	Yes/No	

19	Are the TVET qualifications provided in Sierra Leone sufficient for your operations?	Yes/No	

20	If no, what do you think is missing?		

21	Please indicate True or False	True/False	
	TVET graduates generally lack the technical skills required to perform		
	TVET graduates generally lack the soft skills required to perform (e.g. communication, etiquette, integrity, commitment, time management etc.)		
	TVET graduates are unable to apply some of the skills and knowledge obtained from their training		
	TVET graduates are generally better or worse from one particular institution - please state best/ worst		

22	What are the three most important trades/occupational areas in which TVET skilled/qualified personnel are required (e.g. Plumber, Bookkeeper, Electrician, Receptionist, etc)		
		Are qualified Sierra Leoneans available for this trade/occupational area?	
	a.	Yes/ No	
	b.	Yes/ No	
	c.	Yes/ No	

23	For each of the important occupational areas in Q22, what are the 3 top skills required?		
	a.	a. b. c	
	b.	a. b. c	
	c.	a. b. c	

24	Which 3 of the skills mentioned in Q23 above are mostly lacking in SL TVET graduates?		
	a.		
	b.		
	c.		

25	Please fill in the box below with the six trades/occupational areas that are the most difficult to find/recruit skilled/qualified Sierra Leoneans, and check off your solution for hiring in that area			
		Hire internationally	Train staff	Other
	a.			
	b.			
	c.			
	d.			
	e.			
	f.			

26	How do you develop skills of your staff that are TVET graduates?		
	a. On-the-job training		
	b. Courses from internal trainers		
	c. Courses from external providers		
	d. Other, please specify.....		

27	Do you currently receive interns from institutions?	Yes/No	

28	If no to Q27, would you be willing to start?	Yes/No	

29	What suggestions do you have for improving the quality of TVET graduates?	Yes/No	
	a. Curriculum		
	b. More internships		
	c. More options		
	d. Training of instructors		
	e. Equipped workshops		
	f. Other, please specify		

30	What assistance would you be willing to provide to the TVET system?		
	a. Contribution to curriculum development or amendment		
	b. Internships/ Apprenticeships		
	c. Financial support		
	d. Other, please specify		

31	Who gives the final approval for recruiting staff?		

32	How do you source candidates?		
	a. Word of mouth		
	b. Internal hire		
	c. Newspaper adverts		
	d. Advertise Online		
	e. Recruiter		
	f. Other, please specify		

Questionnaire for Diagnostic study of TVET in Sierra Leone (Demand: COMPANIES)

33	Please rank what you look for in applicants from 1 to 5 (1 being most important and 5 being least important)	
	a. Level and authenticity of qualifications	
	b. Institution attended	
	c. Technical skills relevant to the job	
	d. Workplace skills (e.g. commitment, time management, leadership, teamwork, communication, critical thinking, problem solving etc.)	
	e. Other, please specify	

34	How do you assess candidates?	
	a. Test	
	b. Interview	
	c. Assessment centre	
	d. Other, please specify	

35	List 3 skills areas that you see employment potentials in over the next 2 years	
	a.	
	b.	
	c.	

36	Who are the top 3 players in the sector?	
	a.	
	b.	
	c.	

37	What are your plans for the next 5 years in terms of innovation, growth and job creation?	

38	Are you familiar with the entrepreneurial skills module in the TVET curriculum?	

39	If so, do you think it is sufficient preparation for self-employment?	

Questionnaire for training institutions

GIZ Project "Support to TVET in Sierra Leone"

Diagnostic study of the TVET sector in Sierra Leone

	Questionnaire for training institutions (TTI, TVI and polytechnics)	Institution Respondent(s) Date, time							
1	How many teachers are employed by the institution?	Total		Male		Female		Qualification	List of teachers
2	How are teachers of the institution payed?								List of teachers
3	Do teachers have the capacity and the necessary skills to conduct practical as well as theretical training for students according to the curricula standards?								
4	How many students are registered at the institution?	Total		Male		Female			List of students per subject
5	What percentage of students can graduate, what percentage drops out?	Graduate		Drop out					
6	How many students sit the exams and how many (share) of them do pass? What is the pass rate at NCTVA for particular programmes? In which programmes do students perform better and where weaker?								
7	In the institution are there sufficient facilities in appropriate rate to the number of students (ratio): Classrooms, Workshops, offices, Laboratories, canteen, accomodation; Sanitation facilities								Inventory
8	In the institution is there sufficient equipment (quality and quantity of tools, machines, IT equipment, instruments, raw materials, teaching materials etc.) in appropriate rate to the number of students (ratio) and according to the curricula (esp. practical training)?	Sufficient		Not sufficient					
9	How does the budget of the institution look like? Where does it get funds and how does it invest these funds?								
10	Is there an effective financial management in place (business plan)?								
11	How does the management structure of the institution look like? Are there enough capacities?								List of management
12	Is there an internal quality assurance system in place making sure that all internal activities are carried out effectively, efficiently, and with continuous improvement?								
13	Which particular courses does the institution offer at which level?								List of areas of study
14	Are there competence based and demand-driven curricula or approved standards for the study subjects in place which meet the requirements of the employment market ?								
15	Are students trained according to the curricula and is the equilibrium between theoretical and practical training well balanced?								
16	Is the institution involved in curriculum development/modernisation in order to meet the demands of potential employers?								
17	Is the institution accredited by MEST or by NCTVA?								
18	How does the dialog between institution and potential employers look like?								
19	Which technical facilities do exist to organize and regularly improve the dialog between institution and potential employers?								
20	How many students do find employment after their graduation (employment rate determined by tracer study)? Do they meet the requirements of the employers (satisfaction index)?								
21	Are there job-centres to place TVET graduates into employment?								
22	Do potential employers offer internship programmes for TVET students?								
23	How do employers fill possible skills gaps?								
24	R1: How can the dialog between the demand side and the supply side be improved? Which tool is recommendable in order to guarantee equal participation?								
25	R2: How can curriculum development/modernisation be improved in order to correspond to the demands of potential employers?								
26	R3: How can potential employers be involved in the development of a new certification scheme?								
27	R4: How can potential employers be involved in the development of a new in-service teachers training system?								

List of teachers	Name	Qualification	Institute	Subjects	Salary level

Diagnostic study team c/ o krug@gefak.de

List of TVIs and TTIs with NCTVA certification

INSTITUTIONS FOR NCTVA EXAMINATIONS (as at 2016)				
NO.	NAMES OF INSTITUTIONS	INSTI. CODE	BRANCH CODE	PROGRAME / LEVEL
1	Njala University - Bo Campus	1	0	Tr. Edu.
2	Eastern Polytechnic - Kenema	2	0	All Levels
3	Eastern Polytechnic - Distance	2	1	Tr. Edu.
4	Eastern Polytechnic - Bunumbu	2	2	Tr. Edu.
5	Eastern Polytechnic - Kono	2	6	Tr. Edu.
6	Freetown Teachers College - Jui	3	0	Tr. Edu.
7	Freetown Teachers College - Distance	3	1	Tr. Edu.
8	Freetown Teachers College - Moyamba	3	2	Tr. Edu.
9	Freetown Teachers College - Mattru	3	3	Tr. Edu.
10	Freetown Teachers College - Kailahun	3	4	Tr. Edu.
11	Freetown Teachers College - Kambia	3	5	Tr. Edu.
12	Freetown Teachers College - Kono	3	6	Tr. Edu.
13	Freetown Teachers College - Pujehun	3	7	Tr. Edu.
14	Milton Margai College of Education and Technology - Goderich Campus	4	0	NTC, Dip. & HTC
15	Milton Margai College of Education and Technology - Brookfields Campus	4	1	HD, DIP. & NTC
16	Milton Margai College of Education and Technology - Congo Cross Campus	4	2	HD, DIP.NTC & NVC
17	Milton Margai College of Education and Technology - Jimmy Campus	5	3	Tr. Edu.
18	Northern Polytechnic - Makeni	5	0	All Levels
19	Northern Polytechnic - Magburaka	5	1	Tr. Edu.
20	Northern Polytechnic - Kabala	5	2	Tr. Edu.
21	EMIBEX College of Finance and Management	15	0	HD, DIP.
22	Port Loko Teachers College - Port Loko	6	0	DIP. & Tr. Edu.
23	College Of Business Studies - Wellington, Freeetown	7	0	HD, DIP, NTC & NVC
24	Muriaido Institute - Kissy - Freetown	9	0	HD, DIP. & NTC
25	Saint Joseph's Vocational Institute - Lunsar	10	0	NTC, ANVC & NVC
26	Saint Joseph's Vocational Institute - Kissy	11	0	DIP. & NTC
27	Government Technical Institute - Kissy	12	0	HD, DIP. & NTC
28	College of Health and Environmental Sciences - Freetown	13	0	HD & DIPLOMA
29	Freetown College of Management and Accountancy - Freetown	16	0	HD, DIP. & NTC
30	Freetown College of Management and Accountancy - Bo	16	1	HD, DIP. & NTC
31	Freetown College of Management and Accountancy - Kenema	16	2	HD, DIP. & NTC
32	SAIDAC - Bo	17	0	DIPLOMA. & NTC
33	SAM KAM Institute of Technology - Freetown	18	0	DIPLOMA. & NTC
34	Young Women Christian Association (YWCA - Brookfields) - Freetown	19	0	NTC & NVC
35	International Institute of Islamic Studies Freetown	20	0	HIGHER DIP
36	UCCSAL Business College - Freetown	21	0	DIPLOMA. & NTC
37	Kankaylay Computer Institute - Kissy, Freetown	22	0	DIPLOMA. & NTC
38	ESTU Maritime Institute - Kissy, Freetown	23	0	DIP., NTC & NVC
39	College of Travel and Tourism - Freetown	25	0	DIPLOMA.
40	Institute of Management, Accounting and Tourism (IMAT) - Kingtom, Freetown	26	0	HD, DIP. & NTC
41	East Freetown International College - Kissy, Freetown	27	0	DIPLOMA. & NTC
42	College of Management and Administration - Freetown	28	0	H. DIPLOMA. & DIP
43	College of Management and Administration - Makeni	28	1	H. DIPLOMA. & DIP
44	The Evangelical College of Theology - Freetown	29	0	DIPLOMA
45	Sierra Leone Theological College - Jui	30	0	DIPLOMA
46	Evangelical College - Port Loko	31	0	DIPLOMA
47	College of Accountancy and Public Administration (CAPA) - Freetown	33	0	DIPLOMA
48	Maria Iness - Lunsar	34	0	NTC & NVC
49	ABBAKO College - Port Loko	35	0	H. DIPLOMA. & DIP
50	Jackson and Devon Andersen Technical Institute - Rutile	36	0	DIPLOMA. & NTC
51	Kakajama Technical Vocational Training Centre - Kenema	37	0	DIPLOMA. & NTC
52	Catholic Training and Vocational Institute (CTVI - Kenema)	38	0	DIPLOMA. & NTC
53	College of Professional Studies (CPS) - Tower Hill, Freetown	40	0	DIPLOMA
54	Sulaiha Institute of Computer Studies - Freetown	41	0	DIPLOMA
55	Nabeerrah College of Management, Science and Technology - Freetown	42	0	DIPLOMA & NTC
56	College of Science and Technology (COSTECH) - Magburaka	43	0	DIPLOMA. & NTC
57	Institute of Business Studies and Administration (IBSA) - Freetown	44	0	DIPLOMA
58	UMAR BIN AL-KHATAB - Freetown	45	0	H. DIPLOMA. & DIP
59	REAPS Vocational Institute - Tower Hill, Freetown	46	0	DIPLOMA. & NTC
60	BANTECH - CIRCULAR ROAD	47	0	DIPLOMA
61	ORTHODOX COLLEGE	48	0	HTC- EARLY CHILD.
62	SIERRA LEONE O I C - BO	49	0	DIPLOMA. & NTC
63	College of International Business Management & Technology (CIBMAT)	50	0	DIPLOMA
64	Kambia College of Management and Technology - Kambia	51	0	DIPLOMA
65	MASSTTE Institute of Technology	52	0	DIPLOMA
66	SIERRA LEONE O I C - MAKENI	53	0	DIPLOMA. & NTC
67	ADKAN Institute of Management and Technology	54	0	DIPLOMA. & NTC
68	Anzaru Islamic Collegeof Education & Technology	55	0	DIPLOMA & HTC
69	LUBAN College of Social Science & Technology	56	0	DIPLOMA. & NTC
70	Canadian College of Science & Technology	57	0	DIPLOMA
71	BO Community College - BO	58	0	ON GOING
72	Confort Community Aid Children Organisation - Clabatown	59	0	NVC
73	Educational Centre for the Blind and Visually Impaired - Grafton	60	0	ON GOING
74	SOS International College and Technical Vocational Institute - Goderich	61	0	NTC & Diploma

INSTITUTIONS FOR NCTVA EXAMINATIONS (as at 2016)				
NO.	NAMES OF INSTITUTIONS	INSTI. CODE	BRANCH CODE	PROGRAME / LEVEL
75	Washington College of Management and Technology (WAMTECH) - Earl Street F/town	62	0	Diploma
76	Washington College of Management and Technology (WAMTECH) - Kallahun	62	1	Diploma
77	Government Technical Vocational Institute - Dorma - Kono	63	0	N T C & NVC
78	Commercial College of Management and Accountancy- Panlap, Makeni	64	0	Diploma
79	Global Institute of Leadership & Information Technology - Rotifunk - LUNGI	65	0	Diploma
80	Obasanjo Skills Acquisation & Youth Transformation College - Newton	66	0	Diploma
81	Royal College of Theology & Administration - Bo	67	0	Diploma, & Tr. Edu.

List of tertiary education institutions with TEC accreditation

Institutions with TEC accreditation (as at Nov. 2017)			
No.	Type	Names of institutions	Programme / Level
1	Public institutions	Fourah Bay College (FBC)	Certificate ,Diploma, Undergraduate & Postgraduate Degrees
2	Public institutions	University of Sierra Leone , Institute of Public Administration & Management (IPAM)	Certificate ,Diploma, Undergraduate & Postgraduate Degrees
3	Public institutions	University of Sierra Leone College of Medicine & Allied Health Science	Certificate ,Diploma, Undergraduate & Postgraduate Degrees
4	Public institutions	Njala University NU	Certificate ,Diploma, Undergraduate & Postgraduate Degrees
5	Public institutions	Ernest Bai Koroma University of Science & Technology, University College Makeni (former Northern Polytechnic)	Certificate ,Diploma, Undergraduate & Postgraduate Degrees
6	Public institutions	Ernest Bai Koroma University of Science & Technology, Port Loko Teachers College	
7	Public institutions	Magbouraka Islamic College	
8	Public institutions	Polytechnic: Milton Margai College of Education & Technology	Certificate, Diploma, Higher National Diploma, and certain Undergraduate degrees (Affiliated to Njala University)
9	Public institutions	Eastern Polytechnic	Certificate, Diploma, Higher National Diploma, and certain Undergraduate degrees (Affiliated to the University of Sierra Leone)
10	Public institutions	Freetown Teachers College (Teacher Training College)	Certificate, Ordinary National Diploma, Higher Teachers Certificate, Teachers Certificate
11	Public institutions	Bonthe Technical College (Teacher Training College)	Certificate, Ordinary National Diploma,
12	Private institutions	University of Makeni UNIMAK	Certificate ,Diploma, Undergraduate & Postgraduate Degrees
13	Private institutions	Limkokowing University of Creative Technology	Certificate, Diploma, Higher National Diploma, and Undergraduate degrees
14	Institutions by affiliation	Institute of Advanced Management & Technology(IAMTECH)	Certificate, Diploma, Higher National Diploma, and certain Undergraduate degrees (Affiliated to Njala University)
15	Institutions by affiliation	UCCSAL Business College	Certificate, Diploma, Higher National Diploma, and Undergraduate degrees Programmes (Affiliated to the University of Sierra Leone)
16	Institutions by affiliation	The Evangelical College of Theology	Certificate, Diploma, Higher National Diploma, and Undergraduate degrees Programmes (Affiliated to the University of Sierra Leone)
17	Institutions by affiliation	Sierra Leone Theological College & Church Training Centre	Certificate, Diploma, Higher National Diploma, and certain Undergraduate degrees Programmes (Affiliated to the University of Sierra Leone)
18	Institutions registered with TEC and offering programmes accredited by NCTVA	Canadian College of Modern Technology (CCMT)	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
19	Institutions registered with TEC and offering programmes accredited by NCTVA	Institute of Business Studies & Administration (IBSA)	Certificate, Diploma, Higher National Diploma (Courses accredited by NCTVA and registered by TEC)
20	Institutions registered with TEC and offering programmes accredited by NCTVA	Institute of Business Administration & Technology (IBATECH)	Certificate, Diploma, Higher National Diploma (Courses accredited by NCTVA and registered by TEC)
21	Institutions registered with TEC and offering programmes accredited by NCTVA	College of Travel & Toursim Studies	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
22	Institutions registered with TEC and offering programmes accredited by NCTVA	College of Management and Administration (COMA)	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
23	Institutions registered with TEC and offering programmes accredited by NCTVA	EMIBEX College of Finance & Management	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
24	Institutions registered with TEC and offering programmes accredited by NCTVA	Luban College of Social Science & Technology	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
25	Institutions registered with TEC and offering programmes accredited by NCTVA	Banktec College of Information & Technology	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
26	Institutions registered with TEC and offering programmes accredited by NCTVA	Nabsearrah College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
27	Institutions registered with TEC and offering programmes accredited by NCTVA	Crown Technical College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
28	Institutions registered with TEC and offering programmes accredited by NCTVA	College of Business & Information Technology (COBIT)	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
29	Institutions registered with TEC and offering programmes accredited by NCTVA	College Business Studies	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
30	Institutions registered with TEC and offering programmes accredited by NCTVA	Orthodox College of Education of West Africa	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
31	Institutions registered with TEC and offering programmes accredited by NCTVA	Civil Service Training College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
32	Institutions registered with TEC and offering programmes accredited by NCTVA	IMAT College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
33	Institutions registered with TEC and offering programmes accredited by NCTVA	College of International Business Management Technology	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)

Institutions with TEC accreditation (as at Nov. 2017)			
No.	Type	Names of institutions	Programme / Level
34	Institutions registered with TEC and offering programmes accredited by NCTVA	Institute of Electoral Administration and Civic Education	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
35	Institutions registered with TEC and offering programmes accredited by NCTVA	Hamile College of Commerce & Technology	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
36	Institutions registered with TEC and offering programmes accredited by NCTVA	Christian Leadership College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
37	Institutions registered with TEC and offering programmes accredited by NCTVA	Every Nation College of Administration	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
38	Institutions registered with TEC and offering programmes accredited by NCTVA	ABBAKO Technical College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
39	Institutions registered with TEC and offering programmes accredited by NCTVA	Magburaka Islamic College	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
40	Institutions registered with TEC and offering programmes accredited by NCTVA	Tonkilili District College of Health Sciences	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
41	Institutions registered with TEC and offering programmes accredited by NCTVA	MASTEE College of Technology	Certificate and Diploma, (Courses accredited by NCTVA and registered by TEC)
42	Institutions registered with TEC and offering programmes accredited by NCTVA	Washington College	Certificate and Diploma, (Courses accredited by NCTVA)