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Towards Quality Assurance of Technical and Vocational Education and Training

Towards Quality Assurance of

Technical and Vocational

Education and Training

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Contents

Acronyms.....	vi
Foreword.....	vii
Acknowledgements	ix
Executive summary.....	xi
Section 1: Introduction	1
Section 2: Background to Quality Assurance of TVET Qualifications....	5
Section 3: Research and Reporting Frameworks	16
Section 4: The National Contexts for TVET.....	18
Section 5: Overview of TVET Systems and Their Quality Assurance ...	22
Section 6: Governance of Quality Assurance in TVET	37
Section 7: Assessment that Underpins Qualification Arrangements.....	57
Section 8: Participation by Employers, Employees and Civil Society	66
Section 9: National Capacity to Support Quality Assurance of TVET Qualifications.....	75
Section 10: Funding Quality Assurance of TVET Qualifications.....	82
Section 11: Conclusions and Recommendations	86
References.....	98
Appendix 1: Country Contexts that Shape TVET	99
Appendix 2: Country Summaries	110
Appendix 3: Summary of the Proposed Guidelines for the Quality Assurance of TVET Qualifications in the Asia-Pacific Region	219

List of tables

Table 1: Considerations that influence quality assurance of TVET	11
Table 2: Factors that shape TVET in the Asia-Pacific	18
Table 3: Strengths of TVET provision.....	23
Table 4: Weaknesses and challenges in TVET provision.....	24
Table 5: Cambodia National TVET Development Plan (2006-2010)	35
Table 6: Summary of national positions in terms of the typology of governance.....	38
Table 7: Lao PDR Quality Assurance System	51
Table 8: Assessment models	59
Table 9: Samoa – Standards for Quality Assurance Processes	60
Table 10: Committees involved in TVET	70
Table 11: Areas for improvement of quality assurance of TVET.....	86

List of tables - Appendices

Table 1: Overview of the TVET system in Brunei Darussalam.....	118
Table 2: Assessment components and types.....	121
Table 3: Summary of the bodies and procedures for TVET assessment and verification in Indonesia.....	139
Table 4: Conventional exam-based testing methods of NTQ.....	149
Table 5: Standards and criteria relating to assessment and moderation in Samoa.....	186
Table 6: Summary of the principles and indicators	219

List of figures

Figure 1: Population sizes in the 13 participating countries (2016)	19
Figure 2: GDP per capita in the 13 participating countries, USD (2016).....	20
Figure 3: Labour force participation rates in the 13 participating countries (2017).....	20
Figure 4: The TESDA competency-based TVET model	26
Figure 5: Role of the NQF in Indonesia	28
Figure 6: Samoa’s post-secondary education and training quality assurance system	34
Figure 7: Indonesia’s Quality Assurance System	49
Figure 8: Philippines’TVET Quality Assurance System.....	50
Figure 9: Malaysia’s Proposed Revised NQF	52

List of figures - Appendices

Figure 1: The Philippines’TVET quality assurance system.....	173
Figure 2: The Philippines’TVET Competency Assessment and Certification System	175

Acronyms

ASEAN	Association of Southeast Asian Nations
CESP	Committee on Education and Skills Policy
CLC	Community learning centre
ESQAC	Educational Standards and Quality Assurance Centre
IBTE	Institute of Brunei Technical Education
KRIVET	Korea Research Institute for Vocational Education and Training
MOES	Ministry of Education and Sports
MOET	Ministry of Education and Training
MOLISA	Ministry of Labour, Invalids and Social Affairs
MQA	Malaysian Qualifications Agency
NQF	National qualifications framework
NGO	Non-governmental organization
OVEC	Office of the Vocational Education Commission
QA	Quality assurance
RPL	Recognition of prior learning
SQA	Samoa Qualifications Authority
TESDA	Technical Education and Skills Development Authority
TNQAB	Tonga National Qualifications and Accreditation Board
TVET	Technical and vocational education and training
VCCI	Viet Nam Chamber of Commerce and Industry

Foreword

QUALIFICATIONS, official records attesting a person's learning or training achievement, play a fundamental role in today's increasingly interconnected and competitive world. They facilitate entry and movement in the job market and enable people to pursue lifelong learning opportunities, within and across borders.

Quality assurance is fundamental to qualifications. Trust and transparency in qualifications are a requisite for the comparability and recognition of qualifications at both the national and international levels. This is becoming an increasingly urgent priority in Asia-Pacific, particularly among countries in ASEAN, where the free exchange of qualified labour stands to significantly boost economic development. To ensure the validity and trustworthiness of qualifications and certificates, the qualification and certification process needs to be underpinned by reliable and standardized quality assurance arrangements and mechanisms.

Following a recommendation made at the Third International Congress on Technical and Vocational Education and Training, held in Shanghai in 2012, to explore the possibility of developing quality assurance guidelines for the recognition of qualifications based on learning outcomes, and to facilitate the international comparison and recognition of TVET qualifications, UNESCO Bangkok conducted a regional study to examine quality assurance mechanisms supporting the qualification process in 13 countries in the Asia-Pacific region. Exploring the quality assurance mechanisms that underpin the certification and qualification process is especially timely in the region, as more and more national qualifications frameworks are emerging and countries are increasingly working towards linking their qualification systems within a broader regional framework. As national and regional qualification frameworks are being established and

their implementation strategies being devised, attention is increasingly shifting to quality assurance processes, which are essential if qualifications systems are to have transparency and international credibility.

This synthesis report offers insights into issues and challenges in assuring the quality of qualifications in TVET in 13 Asia-Pacific countries. It identifies common areas for improvement and provides recommendations that could lead to enhancements of the quality assurance systems in the region. The report is intended as a resource for policy-makers, assisting them to rethink the policies and practices related to ensuring the quality of TVET qualifications, and to make reforms where required. We at UNESCO hope that the analysis of countries' experiences presented here, and the guidelines proposed, will help Member States optimize the quality assurance mechanisms for TVET qualifications, and respond more effectively to both national and international needs and developments.



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1 Thirteen countries participated in the study, but only 12 reports were completed.

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Executive summary

Rationale

At the Third International Congress on Technical and Vocational Education and Training, held in Shanghai in 2012, a recommendation was made to explore the possibility of developing international guidelines on quality assurance for the recognition of qualifications based on learning outcomes. Developing such guidelines requires a fundamental appraisal of the quality assurance arrangements that are currently in place for TVET qualifications.

Following the recommendation in the Shanghai Consensus and considering the key role TVET plays in advancing the 2030 Agenda for Sustainable Development, particularly in the context of lifelong learning, countries in the Asia-Pacific region were invited to share their approaches to the quality assurance of TVET qualifications and collaborate in the production of regional guidelines on the subject. In relation to the Asia-Pacific region, exploring quality assurance and developing related guidelines is timely. With expanding socio-economic cooperation and integration within and between sub-regions, mechanisms for fair and transparent recognition of qualifications are needed to facilitate learning and labour mobility.

Method

This synthesis report draws on studies from 13 participating countries in the Asia-Pacific region: Afghanistan, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, the Republic of Korea, Samoa, Thailand, Tonga and Viet Nam. Experts and researchers from 12 of these countries prepared reports based on a common research framework.²

2 Thirteen countries participated in the study, but only 12 reports were completed.

The analysis sought to examine the processes and mechanisms for assuring the quality of qualifications in TVET, to explore how the shift in focus towards learning outcomes influences the quality assurance of qualifications processes, to identify issues and challenges in this area, and to develop recommendations and guidelines for designing and implementing effective and efficient quality assurance of TVET qualifications in the Asia-Pacific region.

The focus of the country reports and this synthesis report is on **the quality assurance of qualifications**; beginning with assessment of learning,³ the validation of the outcomes of assessment and the issuance of certificates. In particular, the focus is on quality assuring qualification outcomes rather than on that of inputs.

The participating countries are clearly far from a homogeneous group. This was considered a strength of the study since it means that the quality assurance processes and the TVET structures have been adapted to a wide range of contextual conditions and, consequently, any conclusions drawn on the basis of the experience of this set of countries is more likely to be broadly applicable elsewhere.

Areas of concern

The common areas of concern in relation to quality assurance of TVET qualifications were identified as: fragmentation of governance, the capacity to be able to shift to the learning outcomes approach, the low value placed on TVET and weak data systems (for data collection and for informing decisions for improvement of the TVET system). All of the countries examined under this study are striving to address these concerns, and the extent of these issues cannot be ignored.

Implementing new legislation has been a key driver of reforms in TVET. Many of the 13 participating countries are making efforts to ensure that governance arrangements are in place, through establishing legislation that either deals with the roles, function and powers of a quality assurance agency or focuses on the qualifications system and/or the national qualifications framework.

3 Learning includes knowledge, skills and competences

Almost all of the 13 countries have implemented a qualifications framework as a key tool of quality assuring TVET. In addition, most countries have placed the focus on learning outcomes, which has led to the development of occupational standards and a competency-based approach to learning and assessment. This has, in turn, resulted in a national approach, with ongoing requirements for continuous review of qualifications to ensure their relevance.

The findings of the analysis indicate that changes to governance arrangements are arising as a result of the development of work based standards, more objective-driven curricula and assessment, and transparency of qualifications systems and their quality assurance. Indeed there may be a cyclical effect in place. As new governance arrangements become effective they in turn lead to developments in curricula, assessment, quality assurance and progression pathways in qualifications systems. Indeed, the analysis of the country reports indicates the inter-relatedness of all of these developments.

Quality assurance of qualifications

The country reports indicated that there are various ways to organize quality assurance of qualifications, ranging from a highly centralized approach where one body is responsible for quality assurance, to a diffuse model where several bodies are responsible for quality assurance across their areas of competence.

It is clear that to achieve better coordination of governance and therefore more transparent and reliable systems, strategic leadership is required, along with high-level committees and networks of stakeholders, and qualifications frameworks.

The need for better coordination is of current concern in many of the 13 countries and is receiving attention in TVET reforms. Another concern is the need to improve a seriously weak use of data systems, and many countries wish to see progress in the use of digital systems for TVET enrolment and in the monitoring and quality assurance of TVET provision.

Assessment methods and processes

Assessment models vary between the countries, with two distinct models. In one model the personnel within providing institutions are both the trainers and the assessors, and in the other model there is a level of separation between the training and the assessment decision, and the trainers are not the assessors of their own students. While the countries examined for this study consider it important to shift to a more external form of assessment, this has a cost implication.

Given that most countries are taking a competency-based approach to TVET, there is general consistency in the evidence-gathering tools for assessment (e.g. observations and portfolios) they use.

For most countries, the focus of quality assuring of assessment tended to be on inputs, such as on developing standardized assessment tools or on training assessors. However, for a small number of countries the focus is on the internal and external moderation of assessment and ensuring consistency of standards within and across providers.

Very few country reports referred to the assessment of non-formal learning. These countries indicated that there are significant differences in the assessments of formal and non-formal TVET provision.

In some countries, the specific assessment processes are quality assured but, in general, there is a lack of systematic quality assurance arrangements for ensuring that awards and qualifications are based on nationally-acknowledged learning outcomes levels and content.

Engaging with industry

All country reports recognized the importance of engaging with industry and employers in the various aspects of the TVET system, e.g. identifying occupational skills and standards as the basis for education and training, and inclusion on various boards.

Generally, engagement is easier to achieve for the standard-setting process but much harder to achieve for the operation of qualifications. High-level engagement in national TVET boards and councils was

also reported to be easier to achieve than local engagement in the management processes of TVET providers. New qualifications frameworks are showing potential to engage employers and unions at a national level.

The reports indicate that there is potential in formal reviews of the governance arrangements for TVET to establish a systematic engagement process for civil society organizations. In some cases, the participation in such systems is legally enforced, while in others engagement is offered as a chance to shape the system to better serve employees' interests. However important the engagement, most countries noted a need for further attention to be paid to ensuring ongoing, effective engagement with civil society organizations.

Capacity of assessors

Most country reports focused on the capacity of assessors to undertake assessments of individuals, and did not consider the quality assurance personnel required at the system level, within the quality assurance agency or within the ministry responsible for the TVET system.

A number of countries also considered the capacity of quality assurance agencies and their staff to undertake centralized quality assurance activities. The areas of weakness included a shortage of experts and weak quality assurance processes in assessment centres. This is possibly an area in which future efforts are needed in many countries.

Many countries went beyond the issues affecting assessors and identified issues that impacted on the effectiveness of the assessment, such as consistency within and across providing institutions and adherence to learning outcome/competency benchmarks. This highlights the complexity of providing valid assessments in the TVET system.

Funding models

Funding models for TVET are specific to countries and depend on factors such as governance arrangements, historical precedence, cultural priorities, donor priorities, autonomy of providers and the level of engagement with the private sector. The countries all strive to make sure funding disbursements for quality assurance take into account all of these factors.

In some Asia-Pacific countries there has been a shift towards devolving budgets to local levels, so as to give institutions incentives to seek other sources of funding, such as private enterprises. There was no indication in the country reports that funding is used to incentivize programmes (in high interest areas for the labour market) or that funding is discretionary to promote only the qualifications that are quality assured.

Areas for improvement and recommendations

The country experts reflected on quality assurance of TVET qualifications in the preparation of their national reports and discussed, with experts from other countries, ways of improving provision. The methods they identified as possibly leading to improvement fell into the following categories:

- Clarify governance arrangements
- Link qualifications frameworks to quality assurance
- Improve stakeholder engagement
- Develop a 'quality culture' that is underpinned by strong self-assessment and continuous improvement
- Provide funding and resources
- Establish quality assessment
- Build the capacity of assessors
- Clarify access and pathways of TVET qualifications
- Strengthen data systems to inform QA of TVET qualifications
- Foster regional cooperation and policy learning.

The analysis of the country reports led to the following recommendations:

- **Recommendation 1:** Conduct a strategic review of the structure of governance of quality assurance across TVET, with a focus on strengthening coordination and accountability in all aspects of the qualification process.
- **Recommendation 2:** Ensure qualifications frameworks have a quality assurance dimension and/or are linked to quality assurance frameworks at the national and regional levels.
- **Recommendation 3:** Reflect on the level of engagement of employers, employees and civil society in the quality assurance of TVET qualifications, and proactively design the system to maximize engagement.
- **Recommendation 4:** Consider increasing the transparency of processes, and publishing outcomes of quality assuring activities and research to broaden understanding in the wider community.
- **Recommendation 5:** Develop a process of continuous review of the quality assurance process for TVET, to ensure that it is fit for purpose.
- **Recommendation 6:** Ensure that funding is targeted to quality assuring TVET qualifications.
- **Recommendation 7:** Make greater use of learning outcomes a priority and support current initiatives in this regard.
- **Recommendation 8:** When designing or reviewing a system for quality assuring TVET qualifications, pay attention to the validation and certification aspects of the qualification process.
- **Recommendation 9:** Develop the capacity of assessors.
- **Recommendation 10:** Undertake research into TVET qualifications to explore how they are facilitating access for all, especially for vulnerable groups, and identify pathways, and the extent of recognition of prior learning and credit transfers.
- **Recommendation 11:** Make the development and use of data systems, including labour market information systems, an integral part of the process of quality assurance of TVET qualifications.

- **Recommendation 12:** Participate in further collaboration and the sharing of experience, and create a community of practice that has the potential to inform policy and practice. Instruments to facilitate this include a regional collaboration platform, opportunities to take advantage of the existing cross-national TVET networks, and regional guidelines for the quality assurance of TVET qualifications.
- **Recommendation 13:** Develop regional guidelines on quality assurance for the recognition of qualifications based on learning outcomes. This will strengthen a common understanding of quality assurance systems and provide a basis for enhancing quality assurance systems in the Asia-Pacific region. Refer to Appendix 3 for a summary of the proposed Guidelines for the Quality Assurance of TVET Qualifications in the Asia-Pacific region.

A large green graphic of the number '1' with the word 'Section' written in white inside the top curve of the '1'. To the right of the '1' is the word 'Introduction' in a bold green font.

Section 1 Introduction

AT THE THIRD International Congress on Technical and Vocational Education and Training, held in Shanghai in 2012, a recommendation was made to explore the possibility of developing international guidelines on quality assurance for the recognition of qualifications based on learning outcomes. A key area of this work is the quality assurance arrangements that underpin the qualification process used in TVET with a view to generating trust and supporting the relevance of qualifications for the labour market and for individuals.

This led to the question: How do reforms of qualification systems, and particularly the increasing focus on learning outcomes, influence the quality assurance arrangements of certification? To answer this question, the countries in the Asia-Pacific region were invited to share their approaches to quality assurance of TVET qualifications and collaborate in the production of regional guidelines on the subject.

In the Asia-Pacific region, exploring quality assurance and developing related guidelines is timely. As the region moves towards greater socio-economic integration, mutual recognition of qualifications and their quality assurance is becoming ever more important.

In preparation for this work, a discussion paper was written that explored the developments and issues of quality assuring TVET qualifications (UNESCO, 2016). This discussion paper offers a global view of quality assurance in TVET. The synthesis report presented here was prepared to accompany the discussion paper.

Country researchers from 13 countries in the Asia-Pacific region conducted national studies of the quality assurance of TVET qualifications in their countries. These countries were: Afghanistan, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar,⁴ the Philippines, the Republic of Korea, Samoa, Thailand, Tonga and Viet Nam. The key themes and findings from these reports, together with the outcomes of discussions between country researchers form the basis of this synthesis report. Summaries of the country reports can be seen in Appendix 2.

This work on the quality assurance of TVET qualifications calls for some clarifications. TVET is a broad concept and the nature of quality assurance can be quite diffuse.

In its recommendation concerning technical and vocational education and training (2015), UNESCO defines **TVET** as:

... comprising education, training and skills development relating to a wide range of occupational fields, production, services and livelihoods. TVET, as part of lifelong learning, can take place at secondary, post-secondary and tertiary levels and includes work-based learning and continuing training and professional development which may lead to qualifications. TVET also includes a wide range of skills development opportunities attuned to national and local contexts. Learning to learn, the development of literacy and numeracy skills, transversal skills and citizenship skills are integral components of TVET.

National models of TVET can include:

- technical education, vocational education and vocational training
- on the job training, apprenticeship training
- formal and non-formal learning arrangements
- all modes of delivery, including online, face-to-face, distance
- all types of settings, including schools, colleges, apprenticeship training centres, worksites and private enterprises
- all types of regulators

4 The country report for Myanmar was presented but not finalized.

- all types of providers, including public (e.g. government-funded schools and training centres) and private (e.g. companies, churches, NGOs and private colleges)
- provision at the secondary and post-secondary levels
- provision of initial training, continuing education and training and training for unemployed persons
- training delivered at any length of frequency and time

One of the first issues encountered in discussions with the country experts was regarding the understanding of the term: **qualification**. In particular, whether or not a qualification process includes arrangements for learning. If so, the breadth of quality assurance processes is very wide. After some debate it was agreed that, for this study, the qualification process would begin with **assessment of learning**,⁵ **the validation of the outcomes of assessment and the issuance of certificates**. The key terms are defined in Box 1.

Box 1: Definitions

Assessment

Assessment is the process of judging an individual's knowledge, skills and wider competences against criteria such as learning outcomes or standards of competence.

Validation

Validation is the confirmation that the assessment outcomes of an individual's learning meet predetermined criteria (standards) and that a valid assessment procedure was followed. This means that the assessed outcomes have been quality assured and can be trusted. Sometimes during this process grading of certain standards of assessed outcomes can lead to grades or level of competence being awarded to candidates. Sometimes the validation process is termed verification.⁶

Certification

This is a record of an individual's learning that has been validated. A certificate is usually issued by a body that has public trust, displays competence, and confers official recognition of an individual's value in the labour market and in further education and training.

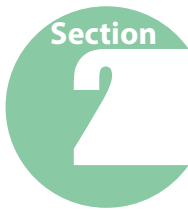
Source: Adapted from Cedefop, 2010.

5 Learning includes knowledge, skills and competences.

6 Moderation is also a term used for a validation process – the terms verification or moderation are generally used when adjustments are made to assessed outcomes to maintain the integrity of the criteria or standards being used in assessments.

Having defined what we mean by the terms TVET and qualifications, it is also necessary to be clear about what we mean by the term quality assurance. In its broadest form, **quality assurance in TVET** refers to planned and systematic processes designed to raise user confidence in the education services, the outcomes achieved and the qualification granted (Bateman et al., 2009).

Quality assurance of the learning, assessment and qualification processes is necessary to ensure **confidence and trust** of stakeholders in the TVET qualifications that are issued. Quality assurance processes focus not only on the consistency of the assessment and qualification processes, so that the qualifications have currency, but also on ensuring that assessments meet the required standards, raising the likelihood that qualifications are **a valid and reliable testament to the qualification outcomes**: learners' knowledge, skills and competences.



Background to Quality Assurance of TVET Qualifications

RECENT EMPIRICAL RESEARCH (Cedefop, 2015) highlights some of the key features for assuring the quality of the TVET qualifications process in terms of its validity, reliability, impartiality and transparency. These features include addressing qualifications as part of formal quality assurance mechanisms, providing clear reference points for assessment, ensuring assessors are well trained, implementing appeal procedures and evaluating quality assurance processes.

Levels of implementation of quality assurance

Quality assurance of TVET provision can be implemented at various levels, including through international initiatives and national approaches, and at the awarding body and individual institution level. In many respects, these various levels are connected, and quite often interrelated at the national and local levels.

International level

Various regions have developed regional quality assurance frameworks. Regional quality assurance frameworks that cover TVET include:

- The European Quality Assurance Reference Framework for VET
- The Pacific Quality Assurance Framework
- The East Asia Summit TVET Quality Assurance Framework
- The ASEAN Quality Assurance Framework.

Broader models of quality assurance frameworks are also in place, such as the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) (ENQA, 2015) and the INQAAHE Guidelines of Good Practice (INQAAHE, 2016).

These frameworks aim to strengthen a culture of quality assurance and improvement within education and training systems, to enhance mutual understanding of quality in qualifications across borders and to promote qualification outcomes.

National level

At the national level, quality assurance in TVET generally focuses on:

- The TVET product through the approval processes of achievement standards.⁷
- The TVET institutions through approval processes based on quality standards or criteria.
- Monitoring processes through the auditing (or review) of provider processes and outcomes, including student learning and employment outcomes, and student and user satisfaction levels.
- The TVET outcomes through control, supervision or monitoring of assessment and graduation procedures and outcomes.
- System-wide evaluations of TVET quality.
- The provision of public information on the performance of providers, such as programme and unit completions, student and employer satisfaction (Bateman et al., 2012).

Countries allocate these functions differently, but it is desirable to have an efficient, cohesive and coordinated system, with clear role descriptions, in order for TVET to be able to meet its goals.

⁷ Achievement standards in education and training are statements approved and formalized by a recognized agency or body, which defines the rules to follow in a given context or the results to be achieved. Achievement standards can take a variety of forms, and include competency, educational (e.g. curriculum), occupational, assessment, validation or certification standards (adapted from CEDEFOP, 2011).

In developing national TVET systems, the focus of quality assurance is generally on institution-based learning and on learning associated with training for the formal labour market, with very little focus on the informal sector, such as learning on the job or learning through experience. In most instances, the quality assurance of learning in the informal sector is not evident, except for the validation of non-formal and informal learning processes (UNESCO, 2016).

The discussion paper (UNESCO, 2016) noted that there is a tendency to articulate quality standards as core building blocks of quality assurance. In general, quality standards are articulated in guidelines or policies (e.g. in New Zealand, Singapore and Malaysia) that may or may not be linked to legislation, or they are described in a legislative instrument (e.g. in Australia). In these countries, quality standards generally relate to the performance of TVET institutions but they can also apply to the performance of quality assurance agencies. In many other countries, the performance of quality assurance agencies (such as qualifications authorities and ministries) is embedded in decrees, regulations or agreed key performance indicators in strategic plans.

The discussion paper indicated that for some countries with well-established quality assurance agencies, the approach to quality assurance is based on a coherent and systematic risk management approach. This means that quality assurance strategies are deployed based on the level of risk of the TVET institution. Most risk-based approaches include a risk rating being assigned to a TVET institution as a result of collated information (such as audit ratings, quality indicator data, compliance history, complaints) and relevant, proportionate compliance responses and/or incentives being applied accordingly.

TVET institution level

Two complementary forces drive internal quality assurance at the TVET institution level: forces related to meeting regulatory requirements (such as institutional standards or criteria) and those related to evaluating whether the needs of industry and students are met.

ATVET institution's internal quality management system is often focused on the inputs, such as taking a systematic approach to provision of assessment and certification of assessors. This generally includes developing assessment tasks, purchasing equipment, ensuring access to fit-for-purpose facilities, developing procedures and certificates for issuing qualifications, and ensuring assessors meet internal or external requirements. However, for some high-performing TVET institutions, a strong internal quality management system also focuses on ensuring a strong review and evaluation of outputs and outcomes. Almost always, high-performing TVET providers implement quality management systems that include a focus on outcomes such as:

- Strong and systematic data collection on key indicators, such as access and participation rates, retention and completion rates, transition or pathway rates, level of investment in assessor continuing professional development, share of companies providing apprenticeship and other types of workplace training.
- Feedback from employers and other stakeholders, focusing on satisfaction of employers with TVET graduates.
- Feedback from candidates, focusing on satisfaction with assessment services and preparedness for work.
- Destination analysis of candidates/graduates.
- Continuing professional development of assessors.

However, the capacity for TVET institutions to meet the expectations of relevant authorities and other stakeholders can be limited. Often, effective quality assurance is reduced because day-to-day issues take precedence, such as large group sizes, limited facilities and equipment, minimal access to consumables, weak administrative systems and a lack of trained TVET assessors. Furthermore, there are competing demands on funds, and many emerging TVET systems are reliant on donor support, which limits long-term sustainability.

Qualifications level

Strong quality assurance of TVET qualifications is underpinned by the ability to meet the expectations of employers, trainees and other

stakeholders. Participation by employers in quality assurance varies. It can include involvement in the development and review of standards, providing feedback to TVET providers on the preparedness for work of graduates, providing assessment contexts for work simulations, providing access to equipment and specialist workers, providing advice on assessment, and participating in evidence collection for assessment purposes. For trainees, participation in quality assurance of the TVET qualifications generally involves providing feedback about the assessment services received and the provider's role in ensuring graduates' preparedness for work.

Standards in education and training

Standards take a variety of forms, including competency standards, education (curriculum) standards, assessment standards and occupational or certification standards (adapted from Cedefop, 2011). The discussion paper (UNESCO, 2016) notes that, given the desired links with industry, TVET is often strongly associated with using competency standards or occupational standards to inform training and assessment. A critical aspect in the development of competency standards and occupational standards is ensuring that they are fit for purpose, relevant and meet current and emerging labour market needs.

Non-formal and informal learning

The quality assurance processes related to assessing, validating and certifying learning gained outside the formal system are essentially the same as those applied in the formal system. However, three elements of validating these kinds of learning for qualifications are different.

First, because evidence of learning is likely to be more varied (in form, created over a longer time, less coherently organized, supported by third parties), the assessment of the evidence needs to pay particular attention to assessing the validity and authenticity of the evidence.

Second, the standards against which the evidence of learning is compared should be directly comparable, preferably identical, to the

standards applied in the formal settings for the qualification. Care needs to be paid to ensuring that these standards are comparable and have been fairly interpreted.

Third, it is necessary to take into account the candidates' circumstances, the access they have to reliable information, and advice and guidance throughout the assessment process. The standards that they must meet, the ways their learning is evidenced, the assessment process and the way assessed evidence is validated should all be clear to the candidate if the outcome of the process is to be fair and trusted.

The importance of good data systems and quality indicators

Quality assurance in TVET also includes the ongoing review and evaluation of TVET provision. This form of quality assurance is elaborated by external data, such as information on the prior attainments of candidates, information on additional features of candidates (such as age, ethnicity and social background), information on provider performance history and so on. However, this is only possible in systems that maintain relatively complex, linked national data.

The diversity of workplace performance-focused vocational assessment means that points of comparison of data are few and are hardly usable for deployment of many contemporary standardized tools and approaches. If these limitations are combined with issues of poor intrinsic motivation among assessors (because of incentives and drivers, such as funding models, which encourage compromised assessment), then the conditions are adverse for dependable assessment.

Factors influencing quality assurance processes in TVET

Developing quality assurance in TVET is more than just a technical process. Political, economic, social, cultural and financial considerations, as well as institutional structures and legal frameworks, shape the criteria

and processes that underpin TVET quality assurance. See Table 1 for a summary.

Table 1: Considerations that influence quality assurance of TVET

Considerations	Comments
Political	<p>National and regional policies shape TVET and have a direct effect on the qualification system. For example, these policies determine whether the national approach is centralized (in a single qualification body) or devolved to sectoral agencies or to providing institutions.</p> <p>In many countries, the qualification system plays a key role in social functioning. For example, policies for social engagement may lead to qualification processes being designed to be as open and accessible as possible. Policies for immigration and the movement of people for work sometimes require that qualifications and qualification processes and recognition arrangements are sensitive to procedures in a region, and this can have a bearing on the procedures used.</p>
Legal	<p>The status of qualifications is often seen as something that requires protection in law. Where national standards and procedures are not followed, the law sets out the sanctions that can be applied to institutions and people that operate outside the law. This can have two effects on quality assurance procedures. The first is that the actual practice of quality assurance can be tested in the courts for fairness and reasonable equitable practice. The second effect is that the quality assurance procedures themselves become defined in law.</p>
Economic	<p>People aiming for TVET qualifications expect to get a job, and recruiters in businesses expect that applicants with relevant TVET qualifications will be able to do the job (or at least learn how to do it very quickly). This is why the labour market can shape TVET provision.</p> <p>Economic considerations include the weight of the informal economy. Workers in micro and small enterprises can learn their trade on the job in the informal sector rather than in the formal TVET sector. In some countries, the informal sector accounts for more than 80 per cent of all skills training (ILO, 2007). Furthermore, in some countries qualification reforms have been designed specifically to address some of the challenges in informal sector skills development.</p>

Considerations	Comments
Stakeholder	<p>The level of stakeholder engagement, particularly of employers and sectoral organizations, has a direct bearing on quality assurance processes. Not only does the involvement of key stakeholders offer immediate quality assurance in the sense that they represent the demand side for qualifications and thus have a vested interest in quality, there is also the fact that they seek labour market relevance of programmes and qualifications as well as efficiencies in the system that creates them.</p> <p>In some countries, industry groups and sector bodies have a formal role, including setting examinations, assessing outcomes and developing and reviewing achievement standards.</p>
Financial	<p>The costs of quality assurance are mostly seen as a necessary burden on TVET systems, which are usually designed to optimize the volume of training. Financing quality assurance of qualifications is influenced by the choice between central governance arrangements and the extent to which devolved governance arrangements are defensible. The resources available can therefore be a direct influence on the system that can be used and its effective operation.</p> <p>In developing economies, with limited financial resources, there is often a dependence on donor funding to assess the quality of TVET provision.</p> <p>Funding sources for quality assurance need to be independent of those with an interest in the qualifications outcome. National governments, businesses and individuals pay for quality assurance, directly and indirectly. Businesses may fund quality assurance of TVET through training levies and incentive schemes. In some quality assurance systems, the financing is supported by a levy on the qualifications that are issued. This is a step towards self-financing systems.</p>
Institutional	<p>A powerful force shaping quality assurance systems is the existing institutional infrastructure in the country. For example, if there is a tradition of semi-autonomous providers playing a key role in quality assurance, then this network of providers is likely to form the basis of the national system. Where no such network exists, or where provision is of variable quality, a central national quality assurance system is more likely to be favoured.</p>

Assessment arrangements in TVET

As noted in the discussion paper (UNESCO, 2016), some countries regulate the application of certain assessment methods through law, while others provide a framework consisting of general methodological principles.

Skills demonstrations, simulations, portfolios, project presentations, fabrication of work pieces, role plays, theoretical and practical tests are common assessment methods within a competency-based assessment context. These assessment methods are used as part of two basic approaches:

- Candidates are assessed during their programme and there is no final assessment.
- Candidates are assessed in a final assessment that may or may not include an examination.

However, often these two approaches are combined through use of a mix of assessment methods. For example, a written examination plus a practical skills assessment.

The selection of assessment methods is dependent on their fitness for purpose in relation to the skills and knowledge to be applied, as specified in the competences. However, the selection is also dependent on historical precedent, personal preferences of the assessor, stakeholder perceptions, time and financial constraints, and access to suitable resources for assessment purposes.

All quality assurance models involve issues of quality in each of the following assessment elements (UNESCO, 2016):

- Assessment design
- Rubrics and protocol design
- Information and training
- Administration
- Judgement/scoring
- Recording
- Result interpretation
- Evaluation

It is important to consider the different power relations that can affect quality assurance interests and approaches. In TVET there are relations between:

- The developers of qualifications, such as the government, assessment agency, employer and provider.
- The users of qualifications, such as state, employer and agency.
- The candidates (trainee/student/learner).
- 'Guardians' of the candidates, such as parents and social partners.
- The funders of the qualification.
- Subject/sector interests, such as subject associations and professional bodies.
- The owners of the standards; national, sector, international organizations (UNESCO, 2016).

Patterns of control and requirements in quality assurance for TVET are not always identical to national patterns of control for assessment.

Purposes and focus of quality assurance of assessment

Quality assurance probes assessment and collects data for four kinds of mechanisms:

- Detection of features of the assessment itself (such as design and format) that result in bias, poor discrimination, lack of validity and so on.
- Detection of errors and other problems in the administration of the assessment.
- Detection of lack of dependability caused by bias, inefficiency, leniency/harshness or erratic assessment by the person making judgements.
- Detection of lack of dependability, deriving from any or all of the elements of the assessment system, including interpretation of data (UNESCO, 2016).

Different forms of assessment locate control of the assessment at different 'levels' in the system. A centralized and controlled approach focuses on strong front-end quality issues, such as the design of standardized assessment tasks, protocols and validation processes, prior to administration. On the other hand, in a more devolved localized approach the assessment items, protocols for administration and evidence collection are at the institution level.

A range of options exist for the development and administration of assessments, so as to increase the likelihood that a correct judgement will be made. The lowest level of reliability exists when assessments are locally developed, locally administered and locally judged. At the next level, assessments are externally developed, locally administered and locally judged. At the third level, assessments are externally developed, locally administered and externally judged. The highest level is when assessments are externally developed, externally administered and externally judged (Gillis and Bateman, 2015).

Quality assurance is an end-to-end process

Quality assurance of TVET qualifications should be seen as an end-to-end process that applies to the conception and formation of qualifications as well as to the practical administration of assessment on the ground. This spans a long timeframe and many steps in the processes of designing, developing, implementing and monitoring the qualification. Problems in administration can originate from issues in the design of a qualification – in terms of both content and form – while some of the best-designed assessments can be distorted through poor administration.

How the participating countries in the Asia-Pacific quality assure the outcomes of TVET qualifications is the focus of this synthesis report.

The logo for Section E consists of a large green letter 'E' with a white outline. The word 'Section' is written in white inside the top curve of the 'E'.

Section E Research and Reporting Frameworks

THIRTEEN NATIONAL REPORTS provide the basis of this synthesis report. These were produced by researchers from Afghanistan, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar⁸, Samoa, The Philippines, the Republic of Korea, Thailand, Tonga and Viet Nam.

A common research framework was developed and agreed upon during the first regional expert meeting on quality assurance of TVET qualifications, which was held in October 2015 in Bangkok, Thailand. The country researchers presented their country reports at the second expert meeting, which was held in Manila, the Philippines, in July 2016.

The country reports (see Appendix 2 for summaries of the reports) contained information on the size and age structure of the national population, the economy, the labour market and the education and training systems. They also included information about the influence on TVET of national histories and values regarding learning and work, and described the nature and extent of TVET learning, including information on skills levels, the range of providers and the various programmes and pathways. This information was set in the context of relevant national policies, legislation and regulations.

At the centre of the reports were accounts of the assessment and validation processes that underpin the qualification process, the funding of these TVET qualifications and the capacity of the country to meet the

⁸ The country report from Myanmar was presented but not completed.

needs of the processes in terms of professional expertise. The reports also provided information about the extent and nature of employer and employee organizations and their roles in quality assurance of TVET certifications.

The country researchers found it challenging to describe data systems that link labour markets to training, and training to national priorities. Therefore, evidence about the ways data from qualifications processes is used to improve the overall reliability, validity and credibility of certificates was not available for analysis.

In general, the quality assurance of qualifications is covered well in the reports. Worthy of note is the way that the descriptions attempted to be evaluative, for example in terms of the capacity of the system to deliver quality assurance and the costs of quality assurance.

The structure of this synthesis report broadly follows the structure of the national reports, describing:

- National contexts
- TVET systems
- Quality assurance of TVET, including governance of quality assurance: legislation, regulations and policies related to quality assurance of TVET qualifications
- Assessment processes that underpin the qualification arrangements of learners and providers in TVET
- Participation by employers, employees and civil society organizations in TVET quality assurance of qualifications
- Capacities to support quality assurance of TVET qualifications
- Funding of quality assurance of TVET qualifications
- Lessons countries have learned and the implications for policy

Each of these sections provides a comparative analysis based on the particular subject. The final section presents a general comparative analysis and some overall conclusions and recommendations.

Section 4 The National Contexts for TVET

MANY SOCIAL AND ECONOMIC FACTORS shape TVET and its certification. The national reports described the context of their TVET systems, with a focus on the following five aspects: demography, the labour market, the economy, education and training, and culture and society.

Table 2: Factors that shape TVET in the Asia-Pacific

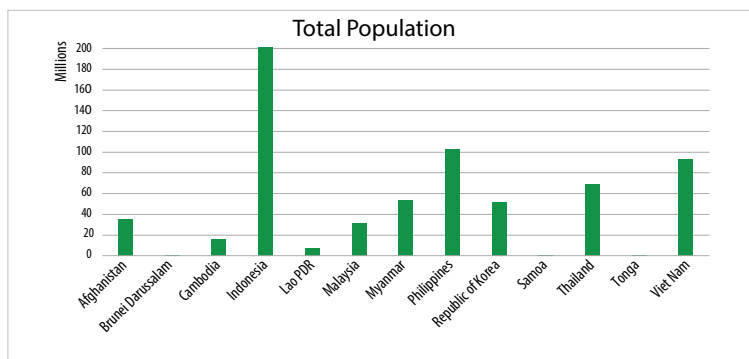
Factor	Indicators
Demography	The size and age structure of the population, including the size of the youth cohort, and projections of the future size and age structure of the population.
The labour market	Indicators such as participation and unemployment rates; the distribution of employment by main industry sectors; the distribution of employment by enterprise size; the distribution of employment by public and private sectors; the role of the informal employment sector; the role of organizations that represent employers and employees in matters such as wage fixation and the regulation of employment conditions; skill shortages.
The economy	Indicators such as GDP per capita and recent trends; the major forms of economic activity and the principal sectors contributing to GDP; likely and projected sources of future economic development and growth.

Factor	Indicators
Education and training	Indicators such as rates of participation in and completion of primary, lower secondary and upper secondary education; the main ways in which vocational education and training are provided; the extent and status of vocational education in relation to general education and higher education; how the evolution of basic and secondary education might be having an impact on apprenticeships and other forms of enterprise-based learning.
Culture and society	The national values, cultures and traditions that either encourage or act as barriers to participation in TVET activities.

The 13 countries that participated in this study vary in many ways, including in terms of population, history, labour market needs, economic conditions and the value society places on TVET. The variation between the countries means that the quality assurance processes and the TVET structures have been adapted to a wide range of contextual conditions. Consequently, any conclusions drawn on the basis of the experiences of this set of countries is more likely to be broadly applicable elsewhere.

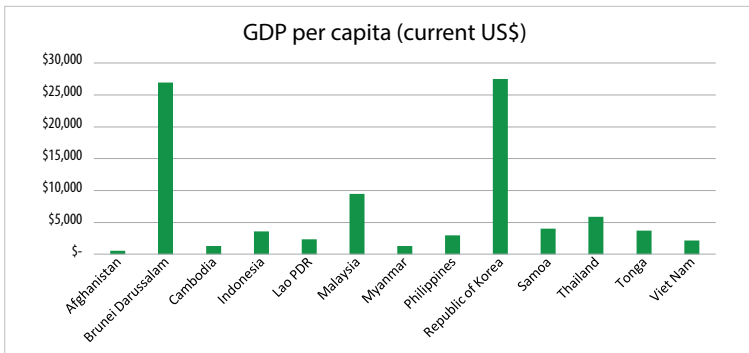
The following figures illustrate the differences in population sizes, GDP per capita and labour force participation rates in the 13 participating countries.

Figure 1: Population sizes in the 13 participating countries (2016)



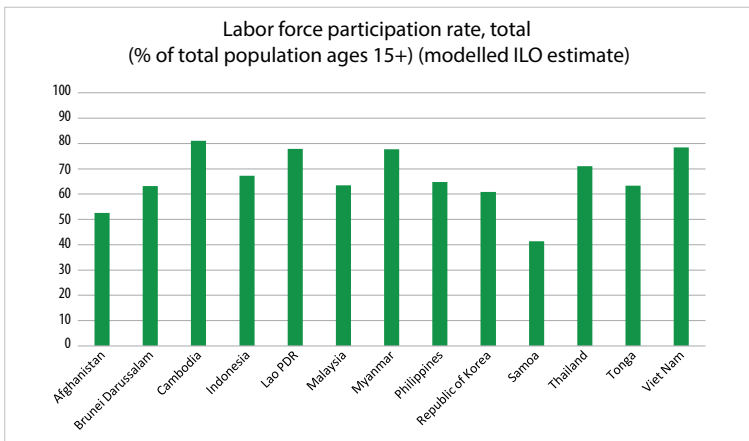
Source: World Development Indicators, the World Bank

Figure 2: GDP per capita in the 13 participating countries, USD (2016)



Source: World Development Indicators, the World Bank

Figure 3: Labour force participation rates in the 13 participating countries (2017)



Source: ILOSTAT database

In terms of education and training systems, all countries except the small island countries (Samoa and Tonga) differentiated between the TVET and higher education sectors. The small island states referred to post secondary education (incorporating TVET and higher education). Three countries (Afghanistan, Cambodia and Lao PDR) indicated that significant

work has been undertaken to improve access, literacy and participation rates across all education sectors. More than half of the countries (Afghanistan, Brunei Darussalam, Indonesia, Lao PDR, the Republic of Korea, Thailand and Viet Nam) reported that their societies place a lower value on TVET qualifications than on academic qualifications. The Philippines indicated that in recent years society has placed greater value on TVET.

Appendix 1 provides summaries of each of the country reports, which include overviews of these social and economic factors. The summaries provide a useful reminder of the country contexts for the various TVET practices described in this report.

A large green graphic consisting of a circle on the left containing the number '5' in white. The word 'Section' is written in white above the circle. To the right of the circle, the text 'Overview of TVET Systems and Their Quality Assurance' is written in a bold, green, sans-serif font.

Section 5 Overview of TVET Systems and Their Quality Assurance

THE COUNTRY REPORTS (Appendix 2) provide information about the types, models and characteristics of the TVET programmes in each country. TVET varies considerably between countries, with some focusing on establishing infrastructure for training while in others the attention is on continuous improvement of extensive systems.

TVET provision includes elements such as employment-based standards, such as occupation standards, and programmes that vary in terms of duration, qualification level and mode of learning. Types of delivery range from college-based programmes that prepare people for work to work-based learning (e.g. apprenticeships). All countries see TVET as a means of increasing employment, so they seek to engage employment-sector partners (industries and employers). Some countries have significant private sector TVET, but TVET is mostly government led and funded.

The country reports describe both the strengths and weaknesses of TVET provision in each country. Table 3 highlights the aspects of TVET provision that are perceived as contributing to increasing the quality of TVET. Table 3 also represents a consensus on the desirable aspects of TVET quality assurance systems.

Table 3: Strengths of TVET provision

Strengths	For example in:
Government attaches high priority to quality assurance of TVET.	Lao PDR, Myanmar
Legal TVET regulations have been put in place.	All countries
A set of quality assurance principles have been agreed upon and applied.	Indonesia, Malaysia, The Philippines, Samoa, Thailand
A quality assurance body is functioning.	Brunei Darussalam, Indonesia, Malaysia, Philippines, Samoa, Tonga
Several bodies are involved in QA but coordinated by ministries.	Indonesia, The Philippines, Republic of Korea,
TVET QA is coordinated with general and higher education.	Malaysia, Samoa
Qualifications framework plays a part in quality assurance.	Malaysia, Thailand, Samoa
Occupational standards or competency statements have been developed.	Most countries, Lao PDR and Cambodia in development
International moderation of assessment standards is used.	Brunei Darussalam
Private business is increasingly involved in moderation of assessments.	Brunei Darussalam, Cambodia, Viet Nam, Samoa
Engagement with industry is extensive.	The Philippines, Republic of Korea, Tonga
Costs of TVET are borne by government.	Brunei Darussalam, Indonesia
Work-life experience is assessed.	Cambodia, Malaysia
Assessment can be carried out by the private sector.	The Philippines
Prioritization of specific qualifications for development.	The Philippines
Self-assessment is a valued dimension.	Samoa, Lao PDR, Malaysia

Table 4 lists the features in the TVET systems that need reform or improvement.

Table 4: Weaknesses and challenges in TVET provision

Weaknesses and challenges	For example in:
Involvement of industry needs improvement.	Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Viet Nam, Thailand
Better incentives are needed for engagement in QA for TVET.	Indonesia, the Philippines, Samoa,
Coordination between ministries, agencies needs to be improved.	Brunei Darussalam, Indonesia, Malaysia, Republic of Korea, Tonga
More work-based learning is needed.	Thailand, Tonga
Poor coordination of different forms of occupational standards.	Thailand
Not enough qualified assessors.	Brunei Darussalam, Indonesia, the Philippines, Samoa, Viet Nam
Use of TVET certification is voluntary but should be required.	Indonesia
Better communication of the value of TVET qualifications is needed.	Indonesia, Lao PDR, Republic of Korea, Samoa, Viet Nam
Progression of TVET graduates is often unclear.	Malaysia, Myanmar
Insufficient resources for TVET qualifications and QA.	Brunei Darussalam, Cambodia, Viet Nam
Poor quality culture in the system.	Viet Nam
Better information and data systems are needed.	The Philippines, Viet Nam
TVET QA system needs time to establish, too much change in the system.	Brunei Darussalam, Cambodia, Lao PDR, Myanmar, Republic of Korea
Guidance and handbooks are needed.	Lao PDR
QA is too focused on providers and not sufficiently focused on qualifications.	Lao PDR
Self-assessment and external review is underdeveloped.	Cambodia
Need to develop validation practices for work-life learning.	Brunei Darussalam

Opportunities and new developments in quality assurance of TVET

Some key themes emerged from the country assessments of the strengths and weaknesses of TVET quality assurance, as outlined below.

Quality assurance systems

There is a consensus that TVET quality assurance systems need to be continuously improved and that the key to improvement is establishing an effective governance structure in which **strategic leadership** can bring about changes over a relatively short time frame. Many of the country reports indicate that existing provisions are too fragmented and are based on varying principles and methods. This is often a result of the diverse nature and structure of TVET itself. Developments that can bring consistency and allow synergies to develop are seen as desirable. This is discussed in some depth in the next section of this report.

Learning outcomes and competency frameworks

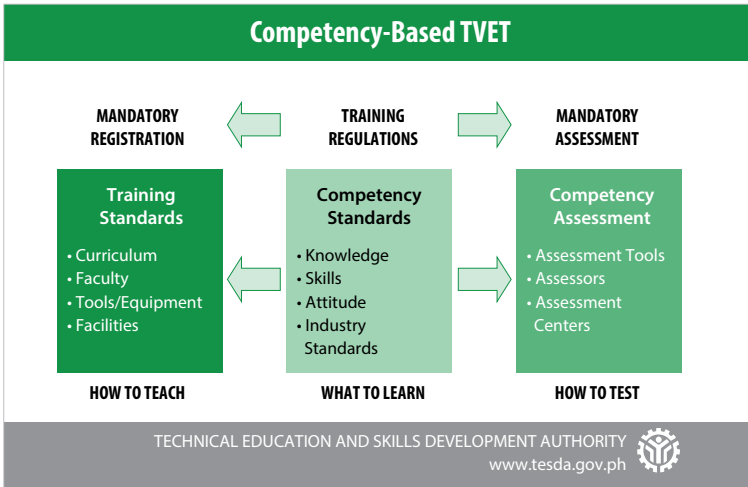
The country reports indicated that the introduction and greater use of learning outcomes, together with the use of qualifications frameworks, is beneficial for quality assurance.

International quality assurance frameworks are seen as a means of achieving more objective assessment. Furthermore, having officially qualified assessors is seen as a useful driver of greater use and acceptance of learning outcome based methods. All of the countries also see a need for greater transparency of standards, programmes, assessment practices and qualification outcomes.

Almost all of the countries that participated in the study are developing labour market based standards (such as occupational standards or competency standards). These standards are based on learning outcomes and underpin the process of focusing on the concrete learning (and competences) of people rather than on the duration and location of their education experience. Besides bringing a labour market relevance to TVET, the use of learning outcomes opens up a different kind of

programme design, more transparent assessment process and valid and reliable quality assurance. The model used by the Technical Education and Skills Development Authority (TESDA) in the Philippines is a good example, as illustrated in Figure 4.

Figure 4: The TESDA competency-based TVET model



In Indonesia, a large-scale programme to develop labour market based standards (known locally as national competency standards) is the first stage in the quality assurance of TVET certification. These standards are intended to be the basis of better quality training, assessment and certification. It is hoped that this will serve to encourage workers to obtain qualifications and competences in their professions and thereby have greater access to employment. Similar arrangements are in place in Korea, where there is a growing recognition of the benefits of learning outcomes compared to input-based education and training. Korea is establishing a national qualifications framework, which will register TVET qualifications, along with others. In Thailand, the national skills standards is the mechanism for defining the requirements of knowledge and ability for each type of worker. Since 2013 all TVET qualifications have been required to comply with competency standards for each occupation, and

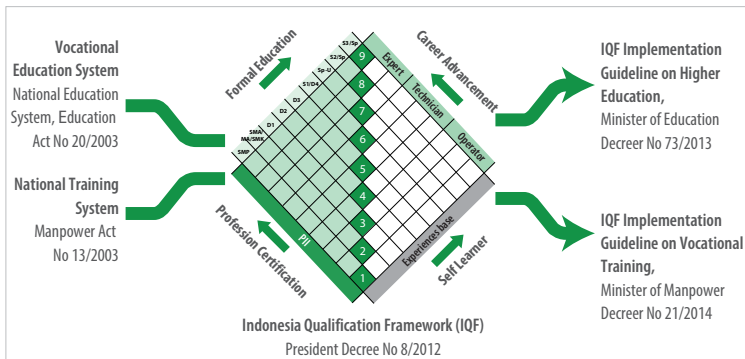
the learners must pass each subject and pass final tests on occupational standards in order to receive the qualifications.

The countries use established standards in diverse ways. While many countries have mature and valued systems of competency standards (learning outcomes), other countries lack modern competency-based TVET training programmes, lack standards for qualifications and have poor quality assurance of the system as a whole, with the result that TVET has a particularly low standing in these countries.

In Indonesia, the Ministry of Education has been encouraging the use of learning outcomes, especially in the curricula for colleges and universities, by promoting the formulation of learning outcomes, according to those in the Indonesian qualifications framework. The Ministry of Manpower has applied learning outcomes at the level of the Indonesian qualifications framework as the basis for the development of qualification- and labour-oriented competences in various training and workforce providers, including private training providers. Learning outcomes are used as a standard to determine criteria for measuring the effectiveness of training.

Qualifications frameworks

National qualification frameworks (NQFs) serve as instruments for structuring TVET qualification systems and for improving quality assurance. While some countries (e.g. Malaysia, the Philippines, Samoa and Tonga) have well-established frameworks, others are in the early stages of developing them (e.g. Afghanistan and Myanmar) or are now implementing them (e.g. Indonesia, Viet Nam and Cambodia). In the process of developing NQFs, attention is being paid to promoting learning outcomes, strengthening assessment processes and coordinating the issuance of certificates. In Indonesia, the NQF is seen as a central hub of coordination between important policies and between the ministries implementing them, as illustrated in Figure 5.

Figure 5: Role of the NQF in Indonesia

The Malaysian NQF is seen as a broad declaration of Malaysian qualifications and their quality in relation to the education system. The MQF integrates and links all national qualifications and provides education pathways through which it systematically links qualifications. These pathways enable the individual to progress through credit transfers and accreditation of prior experiential learning, in the context of lifelong learning.

The concept of a 'pathway' enables more detailed analysis of qualification arrangements. 'Pathways' are different routes and opportunities, including links between basic and higher education, and can be vertical and horizontal, and can cut across disciplines.

Several countries reported accelerated development of their NQFs in recent years. This is associated with the development of two regional qualifications frameworks: the Pacific Qualifications Framework (PQF) and the ASEAN Qualifications Reference Framework. In the Pacific, the development of a regional qualifications framework has provided an impetus for six countries to develop an NQF and for some countries to adopt the regional framework as their own. All of the ASEAN member countries have undertaken to reference their national qualification levels to the regional qualifications framework, which has spurred the development of NQFs.⁹

⁹ Tonga, Fiji, Samoa, Vanuatu, PNG have an NQF, and the Solomon Islands on its way to a NQF, while Kiribati and Tuvalu are adopting the Pacific Qualifications Framework (Bateman, 2016).

The different national approaches to the functions of the NQFs include emphasizing the inter-relationship between qualifications and achieved learning outcomes (e.g. Brunei Darussalam) and making sure that the level of education qualifications is linked with competences required by the labour market (e.g. Thailand).

Quality assurance frameworks

Some country reports indicate that their quality assurance systems are in need of coordination. This is usually achieved through a framework of regulations, leading institutions and common practices. These more coordinated approaches can be considered as quality assurance frameworks and they are often informed by international quality assurance frameworks, such as the East Asia Summit TVET Quality Assurance Framework, and the Pacific Quality Assurance Framework.

The East Asia Summit TVET Quality Assurance Framework aims to help East Asia Summit countries to benchmark their TVET quality assurance systems to an agreed international framework. It includes standards for competent bodies and for TVET providers. As of 2017, eight of the countries that participated in this study (Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Thailand and Viet Nam) have conducted self-assessments against the competent body standards. Myanmar has indicated that it is using the East Asia Summit TVET Quality Assurance Framework as a guide to set up the quality assurance system for the country's TVET sector.¹⁰ In addition, the Philippines is working towards using the East Asia Summit TVET Quality Assurance Framework provider standards as national TVET quality standards.¹¹

In the Pacific, the Register of Qualifications and Standards is underpinned by both a regional qualifications framework and a regional quality assurance framework. The quality assurance framework includes standards-based benchmarks for national competent bodies and for providers of education and training services across the Pacific. The Pacific

10 Personal communication (Myanmar representative) UNESCO regional meeting for this project, July 2016.

11 Personal communication (Philippines representative) UNESCO regional meeting for this project, July 2016.

nations use these quality assurance standards to benchmark their own quality assurance standards and processes. In a small number of instances, Pacific nations have adopted the regional qualifications framework and the regional quality assurance framework at the national level.

Some regional qualifications frameworks, such as the ASEAN Qualifications Reference Framework, require countries in the referencing process to refer to agreed quality assurance frameworks.

Promoting TVET

Another action point noted in the country reports was to promote TVET qualifications more systematically. TVET qualifications are often seen as second class in relation to the qualifications from formal general education, and several countries feel it is necessary to make them more desirable in recruitment and selection. For example, Brunei Darussalam has called for a change in the mindset of society about the attractiveness of TVET and has made moves towards making TVET qualifications more relevant to the job market.

A key factor in making TVET more attractive to employers and citizens is the way TVET qualifications are used in recruitment. In some countries (e.g. Cambodia and Indonesia) the voluntary nature of the way the labour market uses qualifications is seen as an issue. The fact that qualifications are not a requirement for a job undermines their status. If there were legal minimum qualifications identified for each job, it would lift the status and quality of those qualifications.

Another factor that reduces the status of TVET qualifications is that they are often seen as a fall back route for those who drop out of school and university. In Cambodia the students who wish to change from the academic stream to the TVET stream have to pass a bridging course or national competency assessment of Level 1 of the Cambodian Qualifications Framework.

Data systems for TVET

The country reports indicate that data systems for TVET quality assurance are a common weakness. Development of the use of digital technology in, for example, the promotion of programmes, monitoring progress of learners, checking procedures in institutions and providing feedback on the performance of the TVET system, is seen as critically important. In some countries, the many TVET institutions are spread far and wide across large areas and the need for an automated monitoring system is evident. Accordingly, many countries are discussing the need to develop better data systems. For example, Cambodia is discussing plans to improve system management through a TVET management information system and a labour market information system, which will provide essential data on the training system and the skills required by employers. Information and communication technology facilities and training are to be provided for the Ministry of Labour and Vocational Training and all of its training institutions and provincial offices. Gender-disaggregated data and, where relevant, ethnicity-disaggregated data, including those related to TVET outcomes, efficiency and effectiveness will be collected via the two information systems.

The East Asia Summit TVET Quality Assurance Framework has a focus on continuous improvement and proposes a set of quality indicators and suggested data sources for countries to evaluate their TVET systems. As part of the self-assessment, six countries from the countries participating in this study reviewed their data collection sources against this framework. Following this self assessment, some countries are developing or enhancing their data standards and collection (e.g. Myanmar).

International developments

TVET qualifications are important for the national labour market and they are also acknowledged to have wider significance beyond country borders, as benchmarks of levels of competence. TVET qualifications are included in NQFs and these will link in future to regional qualifications frameworks such as the ASEAN Qualifications Reference Framework and the Pacific Register for Qualifications and Standards. Through these

links, they will be more visible to recruiters in other countries. TVET qualifications are also identified in mutual recognition agreements between countries.

The international quality assurance frameworks discussed above also help to promote TVET qualifications outside their country of origin. This broader regional dimension of TVET seems to be becoming more important for countries in the Asia-Pacific region and serves as a means of promoting the mobility of TVET graduates.

Both the links to NQFs and the establishment of mutual recognition agreements offer opportunities to enhance the quality of TVET systems and qualifications because these processes require comprehensive assessment of learning outcomes (or national competency standards). Countries see cross-border sharing of approaches to quality assurance as an area that can inform policy learning.

Recent changes in quality assurance arrangements

The participating countries were asked to identify significant changes in their TVET systems over the past ten years.

Legislation, regulations and development plans

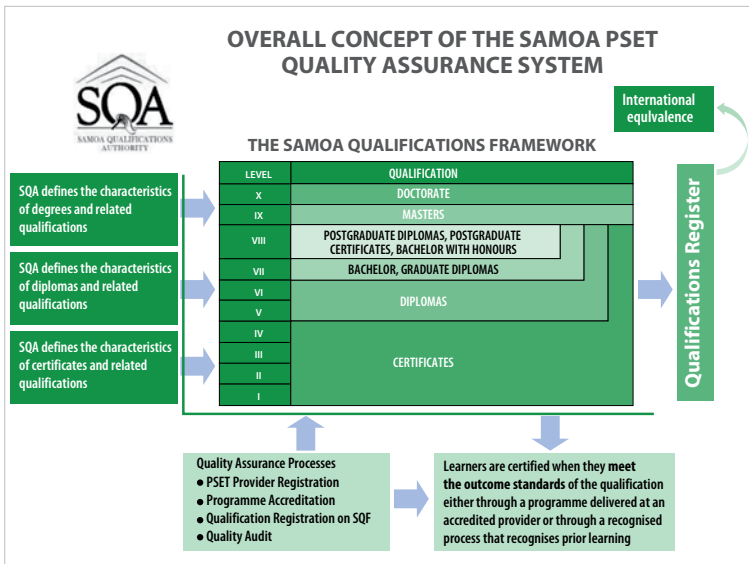
Several countries have enacted new regulations or laws to support the improvement of TVET and its quality assurance processes. Afghanistan, for example, introduced the National Qualifications Act, which aims to establish a sustainable qualifications system that will meet the demands of the labour market, contribute to the development of workers' competences and improve the social status of skills qualifications. The process of developing the act involved conducting studies of the systems in other countries and engaging in extensive consultation on forms of legislation, and saw the active involvement of the technical advisory group and representatives from the Ministry of Justice and from other government agencies and non-governmental groups.

Similarly, Viet Nam has introduced a new resolution, Government Resolution No 76/NQ-CP, dated 3 September 2016, which has led to restructuring of the network of TVET institutions; unification of TVET standards; shifting of tasks to the state administration body of TVET, with MOLISA becoming the sole state management agency; and changes in the names of TVET institutions. It is expected that this law will help TVET operate more effectively.

While it was not introduced recently, Thailand's National Education Act of 1999 is an example of legislation that has benefited TVET. It brought about improvements in TVET as it supported the implementation of specific quality assurance measures. It also established the Office for National Education Standards and Quality Assessment, which is a public organization responsible for enhancing internal and external quality assurance systems of education institutions. This office undertakes external quality assessments of TVET institutions every five years, and internal quality assessment is conducted every three years by the Office of the Vocational Education Commission or other authorized agencies.

In Samoa, various changes have occurred over the past ten years as a result of the legislation that established the Samoa Qualifications Authority (SQA). A quality assurance system is now in place for Samoa, with the SQA as the key coordinating structure. To complement the quality assurance systems, associated policies are now in place, namely provider registration, programme accreditation, quality audits, and recognition of non-formal learning. In addition, Samoa has implemented the Samoa Qualifications Framework. Figure 6 illustrates the components of Samoa's quality assurance system.

Figure 6: Samoa’s post-secondary education and training quality assurance system



Source: Adapted from the revised Quality Assurance Policies, SQA 2013

Another example that demonstrates the link between the legislation and national development planning processes, policies and procedures for specific aspects of the TVET quality assurance system is Cambodia’s National TVET Development Plan (2006-2010), which includes various policies and associated strategies relating to TVET. These policies are clustered into three groups, including a specific cluster about creating a demand-driven TVET system, as shown in Table 5.

Table 5: Cambodia National TVET Development Plan (2006-2010)

<p>1. Macro policy</p> <p>Policy 1: Poverty Reduction</p> <p>Policy 2: Decentralization</p> <p>Policy 3: Supporting Enterprise Growth with a Skilled Workforce</p>
<p>2. Development policy to support the macro policy</p> <p>Policy 4: Out of School Youth</p> <p>Policy 5: Self-employment</p> <p>Policy 6: Micro Credit Access</p> <p>Policy 7: Small Enterprise Support</p> <p>Policy 8: Community and Enterprise Based Training (outreach)</p>
<p>3. Enabling policy to sustain the demand-driven TVET system</p> <p>Policy 9: PPP-Beneficiary Financing TVET</p> <p>Policy 10: PPP-Enterprise Involvement in TVET</p> <p>Policy 11: PPP-Expanding the provision of TVET</p> <p>Policy 12: Assuring Quality of TVET provision</p> <p>Policy 13: Quality of TVET Leadership, Management & Coordination</p> <p>Policy 14: Labour Market Information</p> <p>Policy 15: Skills Competency Standard</p>

The examples above show that the introduction of new laws and regulations can lead to changes in the governance structure of TVET, which then provides an impetus for quality improvements to TVET and its qualifications.

Summary

The common areas of concern in relation to TVET quality assurance were identified as fragmentation of governance, the capacity to shift to learning outcomes, the relatively low value placed on TVET and the existence of weak data systems for data collection. Although all of the 13 participating countries are striving to address these concerns, it is necessary to mobilize further commitment and financial support to address the issues.

A key driver of reforms in TVET has been new legislation. The country reports indicate that many of the countries participating in this study have put the required governance arrangements in place, either through legislation that deals directly with the roles, function and powers of a quality assurance agency, or through legislation that focuses on the qualifications system or the national qualifications framework.

Almost all of the 13 countries have implemented a qualifications framework as a key tool of quality assuring TVET, although some aspects of TVET may fall outside the formal qualifications system. In addition, the focus on learning outcomes in most countries has led to the development of occupational standards and a competency-based approach to learning and assessment. This has resulted in a national approach to development, with ongoing requirements for continuous review for relevance and currency.

It seems likely, in light of the above, that changes to governance arrangements are arising as a result of such things as the development of work based standards, more objective-driven curricula and assessment, and greater transparency of qualifications systems and their quality assurance. Indeed, there may be a cyclical effect since as new governance arrangements become effective they in turn lead to developments in curricula, assessment, quality assurance and progression pathways in qualifications systems. Analysis of the country reports indicates that these developments are inter-related.



Section 6 Governance of Quality Assurance in TVET

THIS SECTION examines the quality assurance systems in the participating countries, including how the systems are governed, with particular emphasis on the ways that TVET qualifications are quality assured.

A typology for governance

The country reports sought to provide national perspectives and they therefore describe many aspects of national and local TVET provision as well as aspects of quality assurance of TVET qualifications, including information regarding the actors in TVET provision.

Analysis of the country reports indicates that the countries have differing systems of quality assurance relating to TVET. The following typology was developed for this report as a means of comparing the different approaches:

- **Type 1:** All quality assurance of all education and training (including school, TVET and higher education qualifications) is directed by a single body, operating under national legislation or regulations.
- **Type 2:** All quality assurance of post-compulsory school qualifications (including TVET and higher education qualifications) is directed by a single body, operating under national legislation or regulations.
- **Type 3:** Quality assurance of TVET qualifications is seen as separate from the quality assurance of other education qualifications, and is directed by a single body, under national legislation or regulations.

- **Type 4:** The quality assurance of TVET qualifications is carried out by two or more bodies; each body directs operations across their fields of competence.
- **Unassigned:** Quality assurance processes are under development and it is not yet possible to classify them in terms of the other types.

Table 6 classifies the countries according to the typology.¹²

Table 6: Summary of national positions in terms of the typology of governance

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
1	Brunei Darussalam	The Brunei Darussalam National Accreditation Council Order 2011. The Brunei Darussalam National Accreditation Council accredits higher education programmes and qualifications, supervises and regulates the equality and standards for higher education providers, and establishes and maintains the national qualifications register.	The Ministry of Education is the sole body responsible for quality assurance of certification in Brunei, but it has three agencies: (i) the Brunei Darussalam National Accreditation Agency, (ii) the Brunei Darussalam Technical and Vocational Education Council and (iii) the Private Education Section.

12 The table covers the 12 countries that completed the reports.

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
2	Samoa	The Samoa Qualifications Authority Act 2010 gives regulatory powers to the SQA, including: providing policy advice on strategies and priorities for Post-School Education and Training; coordinating and strengthening all Post-School Education and Training; and regulating qualifications and quality standards.	The Samoa Qualifications Authority is the sole government agency that leads and facilitates the policies, procedures and systems for post-compulsory school education and training. While TVET providers have their own internal quality assurance systems, they are all subject to Samoa Qualifications Authority's standards as an external quality assurance agency.
2	Tonga	The Tonga National Qualifications and Accreditation Board Bill was drafted in 1998, approved by Parliament in mid 2004 and enacted by the Privy Council on 12 December 2007. The Tonga National Qualifications and Accreditation Board Regulations were first drafted in 1999, reviewed in 2006, presented to Cabinet in 2007 and approved in 2010.	The Tonga National Qualifications and Accreditation Board is responsible for the administration of the national legislation and regulations governing qualifications systems and quality assurance of TVET qualifications.

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
3	The Philippines	<p>The Technical Education and Skills Development Authority law provides for the function of the Technical Education and Skills Development Authority Board. The Technical Education and Skills Development Authority was created by law in 1994 and started full operations in the final quarter of 1997. This board, which consists of members from government, employers, employees and TVET institutions, approves the training regulations.</p>	<p>The Technical Education and Skills Development Authority is the government agency responsible for TVET qualifications. It develops training regulations that relate to the competences, assessment and certification rules for a qualification. These are developed in consultation with other government agencies. For example, the agriculture qualifications are developed with the Department of Agriculture.</p>
3	Lao PDR	<p>Prime Minister decree on TVET and Skills Development No. 036, January 2010 outlines the responsibility for the TVET and skills sectors.</p> <p>Key legislation for each sub-sector include:</p> <ul style="list-style-type: none"> • Decree on TVET and Skill Development (2011) - Ministry of Labour and Social Welfare • TVET Law (2013) – Ministry of Education and Sports 	<p>The Educational Standards and Quality Assurance Centre is unit under the Deputy Prime Minister. Its role is to develop quality assurance policies and systems for all education sub-sectors in Lao PDR, and its work includes supporting the quality assurance decree and strategy.</p> <p>The National Training Council has 24 members: representatives from relevant ministries. Its role is to develop TVET policy by coordinating the public and private sectors in matters concerning skills training.</p>

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
4	Cambodia	<p>The National TVET Development Plan (2006-2010).</p> <p>The Royal Government of Cambodia gave the Ministry of Labour and Vocational Training the mission to direct and manage labour and vocational training in the Kingdom of Cambodia. (Article 2 of Sub-decree 52 dated 1 April 2005).</p>	<p>The Ministry of Labour and Vocational Training regulates formal and non-formal TVET. But other ministries also operate TVET programmes, including the Ministry of Education, Youth and Sports; the Ministry of Women's Affairs; the Ministry of Health; and the Ministry of Agriculture.</p> <p>The National Training Board is the most important policy-setting authority. Other key agencies include:</p> <ul style="list-style-type: none"> • Education and labour local authorities • Provincial training centres • Community learning centres • Schools (especially those designated as resource centres) • Employers' organizations • Private companies • Non-governmental organizations • The national employment agency

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
4	Indonesia	National Education System Act No. 20/2003. Manpower Act No. 13/2003. Lembaga Akreditasi Lembaga Pelatihan Kerja (Accreditation Authority for Training Providers) decree No 38/2013 on Accreditation Standards.	Institutions under the Ministry of Education: <ul style="list-style-type: none"> • National Accreditation Board for school and <i>madrasah</i>¹³ • National Accreditation Board for Higher Education/University • National Accreditation Board for training provider and non-formal education Institution under the Ministry of Manpower: <ul style="list-style-type: none"> • Lembaga Akreditasi Lembaga Pelatihan Kerja (Accreditation Authority for Training Providers)
4	Republic of Korea	The management and operation of the National Technical Qualification System is legally bound to the National Technical Qualification Act, enacted in 1973.	The Ministry of Employment and Labour is the control tower for quality control of national technical qualifications and in-firm qualification systems, while the Ministry of Education performs the role of quality control of private qualifications. A further 18 ministries and agencies participate depending on their scope of work. These agencies manage each national technical qualification in accordance with each ministry's business act.

13 An educational institution, particularly for Islamic religious instruction

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
4	Malaysia	<p>The legislative base across the sectors include:</p> <ul style="list-style-type: none"> • Universities and University Colleges Act 1971 • The Private Higher Educational Institution Act 1996 • Education Act 1996 (Act 550) • National Skills Development Act 2006 • Malaysian Qualifications Agency Act 2007 <p>In 2012, a TVET taskforce jointly led by the Malaysian Qualifications Agency and the Department of Skills Development (DSD) of the Ministry of Human Resources was formed as a platform for collaboration and coordination of TVET institutions, including private institutions. Initial cooperation (in 2012) between the agencies focused on auditing public TVET institutions. Since 2016, the agencies have collaborated in establishing a single quality assurance system for TVET.</p>	<p>The current fragmented TVET sector (managed by several ministries, the Malaysian Qualifications Agency and other TVET bodies) will be consolidated through the establishment of a single system adopted by both the Malaysian Qualifications Agency (MQA) and the DSD, so as to improve coordination and monitoring of the TVET sector.</p> <p>The MQA is the custodian of the MQF and is responsible for managing and monitoring the MQF.</p> <p>The DSD has responsibility for skills in the MQF.</p>

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
4	Thailand	<p>Legal foundations include:</p> <ul style="list-style-type: none"> • The Education Act of 1995, covering external and Internal quality assurance. • The Vocational Education Act of 2008, which stipulates qualifications that must comply with both the external and internal quality assurance systems. • The National Vocational Education Qualifications Framework Act, which identifies the level of TVET qualifications and quality assurance mechanisms for each qualification. • The Skills Development Promotion Act B.E. 2545 (A.D. 2002), which determines the National Skill Standards system. • The Thailand Professional Qualification Institute Establishment Royal decree B.E. 2554 (A.D. 2011). 	<p>The Ministry of Education is the main body for education, but the agency responsible for external quality assurance is the Office for National Education Standards and Quality Assessment. The agencies responsible for internal quality assurance are the Office of the Vocational Education Commission and other agencies and institutions. The Department of Skills Development of the Ministry of Labour is responsible for quality assessment of the skills sector.</p> <p>The Thailand Professional Qualifications Institute is responsible for developing and managing the national professional qualifications system.</p>

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
4	Viet Nam	<p>Decision No 02/2008/QĐ - Ministry of Labour, Invalids and Social Affairs dated 17/01/2008, regulates the system of standards and criteria for accreditation of vocational schools.</p> <p>Resolution No 09/2017/TT-BLĐTBXH on the Regulation of implementing training programmes at intermediate and college levels, in the form of year-based training or of modules accumulation, credits; regulations of examination, testing and graduation recognition.</p> <p>Relating to TVET credentials issues, the Law on Vocational Education 2015 regulates as follows:</p> <ul style="list-style-type: none"> • TVET institutions have the right to print certificates and issue them to learners. • The head of the state management agency on vocational education is the central regulator for inspection, examination, consideration and recognition of graduation; prescribed form of diplomas or certificates of training, printing, management, allocation, revocation or cancellation of certificates of training. 	<p>The Viet Nam Vocational Training Accreditation Agency (VVTAA) is the main accrediting agency established by the Ministry of Labour, Invalids and Social Affairs.</p>

Type of QA governance	Country	Legal provisions	Institutions responsible for quality assurance
Unassigned	Afghanistan	The Afghanistan National Qualifications Authority Act has been developed and sent to the Ministry of Justice to be processed. Regulations for the TVET Board, which will be a cornerstone of the Afghanistan National Qualifications Authority, have been developed.	The Afghan system currently does not have the capacity to fully develop a standard system of qualifications. This situation is likely to be addressed with the establishment of national assessment centres, the TVET Board and the Afghanistan National Quality Agency.

Table 6 indicates that most countries use an approach that has two or more bodies, with each body directing its operations across its field of competence. Typically, initial (formal) vocational training is the core of one type of quality assurance body, while worker training, retraining and other adult modes of vocational training (non-formal and informal) are the focus of other quality assurance bodies. The country reports indicate that such fragmentation of approaches to governing quality assurance is a concern; a shift to an approach where one overarching body is responsible for TVET quality assurance can be expected.

Strategic leadership

Quality assurance governance arrangements need to be fit for purpose in optimizing the effectiveness of quality assurance and allowing the process to become more effective over time. Good quality assurance is transparent and builds capacity as it operates, and for this to be enabled good strategic leadership is necessary. Such leadership may come with a structure where one body operates across the range of TVET qualifications, and it may also be part of a more diffuse system of bodies, where each operates independently according to its field of expertise but within a common code of practice. Strategic leadership is not associated with any model of governance structure but can be seen in all structures.

If strategic leadership is seen as closely associated with national policy formation then it will reside in a national committee or body closely linked to government, such as a government department. Where strategic leadership is seen as something that must come from the practitioners/stakeholders in several quality assurance bodies, then the leadership may be seen as coming from a coordinating committee that is balanced across the range of stakeholder bodies. This committee is seen as more independent of government.

Both of these approaches are evident in the practices described in the country reports. Each model has its strengths. For example, the high-level government model has the advantage of working in closer harmony with wider government policy initiatives. It may also be easier to organize and to change according to shorter timescales. The more diffuse model, based on coordinating committees, has the advantage of using a greater sense of ownership of stakeholders to allow current practices to evolve without the opposition to change that is often present when top-down models are used.

Whichever model is used to facilitate strategic leadership, it is necessary for the structure and the interactions of the bodies involved to be clear, with well-differentiated terms of reference. Similarly, the approach will need to ensure the engagement of a full range of stakeholders, including business representatives, employee representatives as well as regional and provincial bodies.

Better coordination

The responsibility for quality assurance of TVET and its qualifications is often diverse by nature: various ministries and agencies have taken charge of quality assurance in their areas of competence. For example, the quality assurance of employer-led training naturally falls under a ministry of labour, whereas the quality assurance of TVET in post-secondary education falls under the responsibility of the ministry of education. In addition, industries that have developed occupational standards may have their own quality assurance arrangements associated with their use.

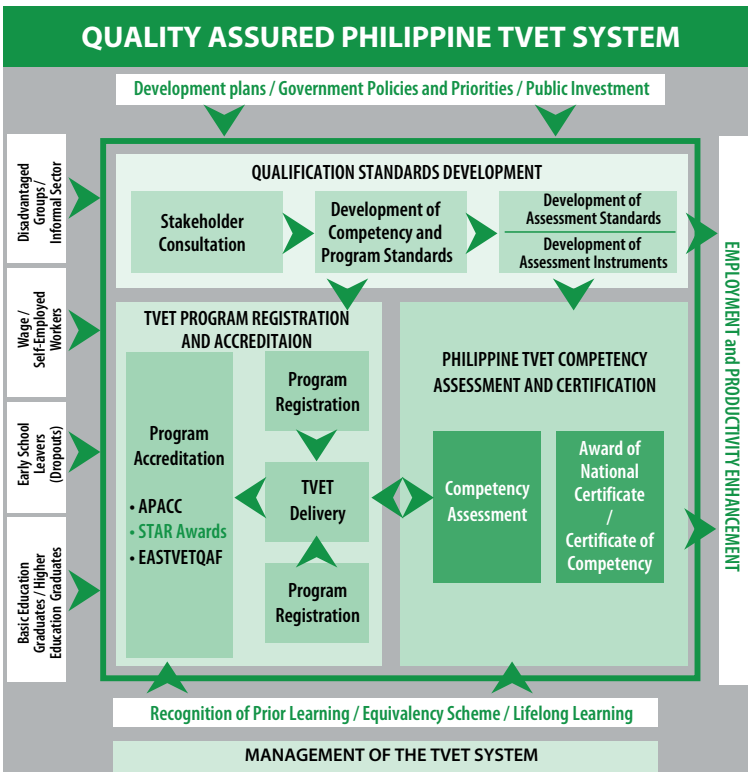
Most countries see an advantage in linking different ministerial approaches, so as to bring about better exchanges between them and improved coordination. This creates a system of fit for purpose kinds of quality assurance that acknowledges the fact that TVET operates in different contexts (e.g. work-based and college-based) and that these differences are important. Some countries (e.g. Brunei Darussalam) wish to go further and bring all the practices under a 'one stop shop' for quality assurance. This has the advantage of imposing consistency and driving forward synergies and efficiencies. However, both options have advantages and there is no one best practice model emerging.

Some countries have a board that is responsible, (e.g. the National Training Board in Cambodia) and which has representatives from all ministries with training responsibilities. In Indonesia, two ministries lead developments across four types of TVET quality assurance provision. Figure 7 illustrates how the ministerial responsibilities are allocated in Indonesia.

Figure 7: Indonesia's Quality Assurance System

Under Supervision of MOE Ministry of Education			Under Supervision of MOM Ministry of Manpower
BAN SM National Accreditation Board for Schools and Madrasah	BAN PT National Accreditation Board for Higher Education/ University	BAN PNF National Accreditation Board for Training Provider & Non-formal Education	LA-LPK Training Provider Accreditation Authority for Training Provider
Accreditation Standards	Accreditation Standards	Accreditation Standards	Accreditation Standards
1. Content 2. Process 3. Competence 4. Teacher and Staff 5. Facility and Infrastructure 6. Governance 7. Funding 8. Assessment	1. Competence 2. Content 3. Process 4. Assessment 5. Teacher and Staff 6. Facility and Infrastructure 7. Governance 8. Funding	1. Competence 2. Content 3. Process 4. Assessment 5. Teacher and Staff 6. Facility and Infrastructure 7. Governance 8. Funding	1. Competence 2. Curriculum 3. Material and Process 4. Assessment 5. Teacher and Staff 6. Facility and Infrastructure 7. Governance 8. Funding

In the Philippines, coordination of TVET is carried out by the Technical Education and Skills Development Authority (TESDA), a high level board that links national policy priorities to its operations. This board is composed of six representatives from the government sector, two from the TVET Institutions, six from the labour groups and four from the employers groups. The coordination of the quality assurance function in the Philippines is illustrated in Figure 8.

Figure 8: Philippines' TVET Quality Assurance System

In most countries, the coordination process is a work in progress, as exemplified by developments in Lao PDR, which span the whole education and training system (Table 7).

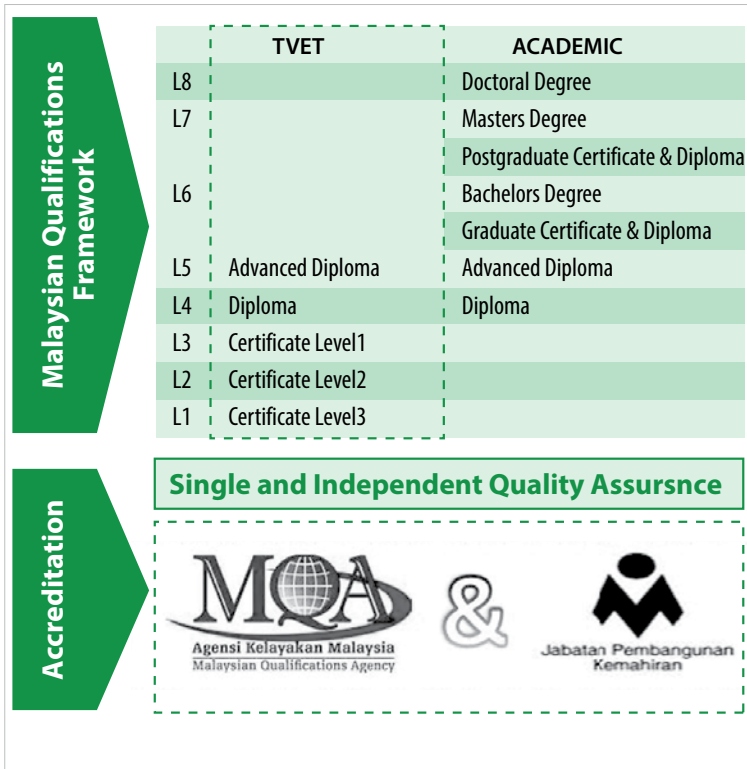
Table 7: Lao PDR Quality Assurance System

	Quality assurance at the institutional level	Quality assurance at the programme level	Quality assurance for qualifications
Higher education	<ul style="list-style-type: none"> Approved standards in 2013, finished the training for Institutions and trained 50 external assessors in 2015. Conducted external assessments in 14 private colleges and 3 public institutes and 7 faculties of the university. 	<ul style="list-style-type: none"> Planned to approve Common Programme Standards in 2016 to use in both HE and TVET in general. Develop the details of programme specification in some prioritized sectors. 	<ul style="list-style-type: none"> Institutions select students. Report to the Department of Higher Education (DHE). Conduct the education and training activities. Conduct the exams and projects Report the result to the DHE. Issue the qualifications.
TVET	<ul style="list-style-type: none"> Approved standards in 2011, finished the training for Institutions in 2015. Planned to conduct external assessment in 10 public TVET institutions in 2016. 		<ul style="list-style-type: none"> Institutions select students. Report to the Department of TVET Conduct the education and training activities. Conduct the exams and skill tests. Report the result to the Department of TVET. Issue the qualifications.
School education	<ul style="list-style-type: none"> Approved standards in 2012, trained a few province officers to pilot the system. There are no assessment results yet. 	None	<ul style="list-style-type: none"> The completion examinations for both lower and upper secondary school are conducted at the province level.
Primary education	<ul style="list-style-type: none"> Approved standards in 2012, trained 80% of districts nationwide. However, as of 2015, only 10% of schools could conduct the self-assessment. 		<ul style="list-style-type: none"> Completion examinations for primary school are conducted at the district level.
Early childhood education	<ul style="list-style-type: none"> Planned to approve standards in 2016. 		None

Several milestones indicate progress in achieving better coordination. For example, in Malaysia a TVET taskforce was established in 2012 that is jointly led by the Malaysian Qualifications Agency and the Department of Skills Development. This taskforce is a platform for collaboration and

coordination between TVET institutions, including private institutions. Figure 9 illustrates the proposed revised Malaysian national qualifications framework.

Figure 9: Malaysia's Proposed Revised NQF



In Brunei Darussalam, coordination is achieved through the operations of a single body: the Council, which is made up of private sector representatives and high-level government officials, and is chaired by the Minister of Education. The private sector members are from Brunei Liquefied Natural Gas, Brunei Shell Petroleum, the Chamber of Commerce and Industry Brunei, the Association for Engineers, Architect Surveyors, Infocom Federation Brunei and Grand Motor Automotive Company. The government officials are from the Ministry of Education, the Public Service

Commission, the Economic Planning and Development Department, the Institute of Brunei Technical Education, the Labour Department, the Polytechnic Brunei, the Public Works Department and the Ministry of Defence. The Council is assisted by ten sub-committees that assess and evaluate qualifications and make recommendations to the Council.

Another tool for coordination is a network of stakeholder groups that have an interest in quality assurance of TVET. For example, the Cambodian government has set up a National Association of TVET Providers. This provides a forum for the exchange of experiences, so as to improve the competence of individual trainers as well as to establish a code of ethics.

In some countries, qualifications frameworks are used as a means of coordinating quality assurance of qualifications. These tools are especially useful when the responsibility for TVET quality assurance is spread across several providers. For example, in Samoa the SQF is a classification structure indicating the levels and types of quality assured qualifications. It improves understanding and acceptance of all qualifications through reinforcing dialogue within providers, between providers and with employers and other relevant stakeholders. The Samoa Qualifications Framework aims to, *inter alia*:

- Provide a structure for national equivalence and comparability of qualifications.
- Facilitate the matching of skills demanded by industry with the supply of skilled workers.
- Facilitate the development of a register of quality assured qualifications.

In Brunei Darussalam, the qualifications framework defines the standards of different qualifications, ensures their quality and indicates the articulation ladders between the various levels of qualifications. All local and foreign qualifications delivered in Brunei are accommodated within the Brunei Darussalam Qualifications Framework.

In Cambodia, the Philippines and Malaysia, the qualification frameworks are a key component of the quality assurance system. Common to all of these qualifications frameworks is the regulation of the qualifications that

may be included in the framework. In Thailand, the national vocational education qualifications framework (which is a sub-framework of the NQF) seeks to identify vocational education qualifications standards at every TVET level for the implementation and supervision of the Office of the Vocational Education Commission. All TVET qualifications, including vocational secondary, post-secondary and degrees, that are stated in national vocational education qualification framework must be considered by the Office of the Vocational Education Commission and approved by the Vocational Education Commission.

In some instances, the quality assurance processes are based on external, international models of quality assurance. These external models serve to improve the quality of national approaches. For example, the East Asia Summit TVET Quality Assurance Framework is increasingly used in the Philippines, and ISO 9001 (2008) standards are used in Brunei Darussalam.

Data systems and feedback

An important feature of governance arrangements concerns the extent to which they encourage the experiences from the qualification process to be taken into account when reviewing the overall impact of TVET qualifications. This requires asking questions such as: How are standards monitored and revised? How is the overall reliability, validity and credibility of qualifications improved? and How involved are the relevant stakeholders?

The country reports signal that in most cases this is an area that needs further development. For example, in Samoa the Samoa Qualifications Authority is currently reviewing its information system to ensure information is captured and reports are formulated in the interlinked work with the providers. The review of the quality assurance system in 2012 resulted in the recommendation to develop a robust information system.

Other countries acknowledge that computer-based information systems offer potential improvements in several areas of the quality assurance process, including more efficient systems and better-coordinated quality assurance practices. In the Republic of Korea, the Ministry of Education

shares information on the education and training achievement levels of each vocational education institute every year. Following this trend of making performance indicators available to the public, the Ministry of Labour has begun measuring the overall impact of vocational training institutes, using the employment rate as a major indicator.

In the Philippines, the overall performance of the TVET system is based on measures of internal and external efficiency. The internal efficiency measures include enrolment numbers, graduate numbers and certification rates, while external efficiency measures include employment rates of the graduates and employers' satisfaction levels. The data for internal efficiency are monitored through administrative reports that are submitted on a monthly basis, while the external efficiency data are gathered through a survey. The survey samples and analytical design are cleared with the Philippine Statistics Authority, which quality assures all national surveys in the country.

In Tonga, the National Qualifications and Accreditation Board collects data from TVET providers on enrolment and graduate outcomes for the previous five years so as to measure the impact of quality assurance on TVET training. Data are lacking in some cases because providers do not have figures for certain semesters. The TNQAB now plans to collect the data as part of the required documents for audit and to make it one of the quality assurance criteria for providers conducting tracer studies. This is expected to make the capture of information more efficient and effective.

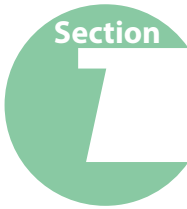
Summary

The countries that participated in the study have many ways of organizing quality assurance of qualifications. The country reports indicate that there are five distinct approaches to governance of TVET. These range from the highly centralized approach in which one body is responsible for quality assurance, to the more diffuse model where several bodies are responsible for quality assurance across their areas of competence.

It is clear that to achieve better coordination of governance and therefore more transparent and reliable systems, and to ensure the system remains fit for purpose, strategic leadership is required. In addition, high-level

committees and networks of stakeholders are beneficial. Qualifications frameworks are important in ensuring that governance of the system of TVET qualifications remains transparent and coordinated.

The need for better coordination is recognized in the countries studied and is receiving attention in TVET reforms. The countries that participated in this study also seek to improve a seriously weak use of data systems and wish to see progress in use of digital systems for enrolment, monitoring and quality assurance of TVET provision.



Assessment that Underpins Qualification Arrangements

THE FOCUS of this section is how the various forms of assessment are monitored and supported by quality assurance. Box 2 provides definitions of the key terms.

Box 2: Key terms related to TVET assessment

Assessment is the process of judging an individual's knowledge, skills and wider competences against a set of criteria, such as learning outcomes or standards of competence.

After assessment, the information on the achievements of learners is subject to **validation and grading**, which is about confirming that certain assessed learning outcomes achieved by the learner correspond to the specific learning outcomes that may be required for a qualification or a part of it. It usually includes making a decision on the specific grades (or levels of performance) learners will receive for their performances. Sometimes this validation process includes moderation of the assessments by an external body, such as another providing institution, a group of institutions or a quality assurance agency. Sometimes this is called **external verification**.

After validation and grading, the **qualification is awarded**. This is the official attestation by the issuing authority that an individual has achieved the learning outcomes.

Some countries prefer to use the phrase **competency assessment** for the process of collecting evidence and making judgments on the nature and extent of progress towards the performance criteria set out in a standard or a learning outcome. At the appropriate point, a judgment is made as to whether competence has been achieved or not. The emphasis in competency assessment is not on ranking candidates or comparing one candidate to another, but rather on comparing individual performance against the performance criteria.

Centralized or devolved models

The country reports described their countries' approaches to assessment in some detail. In most countries, the quality assurance of assessments was based on a centralized and controlled model in which procedures and technical specifications are mandatory requirements, and the quality assurance process tests compliance with these requirements. Some countries use less specific procedures and technical specifications and providers are asked to self assess the quality of their assessment practice, with providers judged according to the quality of these self assessments and the risk of poor assessment procedures.

In general, countries see the assessment process as being in the hands of the providing institutions. Even for mainstream national qualifications, following national regulations, the individual candidate assessments are the responsibility of the providers. While there are high levels of validation or checking for some qualifications, it is unusual for TVET qualifications to be assessed by external bodies. When external assessment exists, it generally takes place in assessment centres.

According to the country reports, external influence on assessments is important, given that providers have multiple, and potentially conflicting, roles. For example, in Afghanistan the provider not only provides the TVET courses, it is also the assessor, evaluator and certification-awarding agency.

Competences, units and qualifications

Most country reports indicated that assessments are carried out against specific skills standards (occupational standards). These standards are sometimes small areas of competency and may not be called a qualification. In these circumstances, the assessment process may not be for a qualification as a whole but rather for a part of a qualification. One consequence of this is that such assessments are more difficult to integrate into a system of quality assurance. Separate quality assurance is applied to the ways these unitized competences are combined into a process of a whole qualification. Methods used by countries to quality

assure the development of these competences vary, as do methods to confirm these as contributions towards qualifications. All are centrally managed, however, and involve industry stakeholders in some way.

The assessment of competences for qualifications is commonly done by assessing performance against industry standards, which are often determined by the relevant industry. For example, in Malaysia the competences to be achieved in training for a particular job are identified by expert workers and practitioners, and are clearly defined and spelled out in a national occupational standard (NOSS). The competences are clustered around modules, which are called 'duties', in a NOSS, so as to enable training, assessment and certification to be more flexibly packaged and undertaken. In the Philippines, all TVET programmes are registered against the training regulations (TR). The development of the TRs follows a detailed process, beginning with the analysis of functions in the sector or subsector to which the identified qualification belongs. The experts decide which are the major and minor functions and the specific tasks. These are translated into qualifications and competences. The experts develop the components of the training regulations and the competency assessment tools (CATs), and then these are subjected to validation by other industry experts, and are confirmed by the TESDA Board through its Qualification Standards Committee and Executive Committee.

Assessment models

The assessment models use various strategies, as listed in Table 8.

Table 8: Assessment models

Assessment models	Examples
Organizations are responsible for conducting assessments	Training institutions, external or separate assessment centres
Assessment process	Assessments are conducted by trainers as assessors, separate assessors, trainers/assessors accompanied by an industry expert, industry-based experts as the assessor, and assessors accompanied by authority representatives.

Assessment models	Examples
Assessment methods	Dependent on the target group and purpose of assessment, but the methods generally involve requiring candidates to do, say, write or create something as a demonstration of their skills, knowledge and application (Gillis et al., 2009; Griffin, 2014).
Validation models	Internal verification, external verification or both; external verification by the responsible authority or by peer institutions.

The assessment models in the 13 participating countries include broad statements about the quality assurance process. Table 9 provides examples showing the general standards for the quality assurance processes for assessment and moderation in Samoa.

Table 9: Samoa – Standards for Quality Assurance Processes

Aspect	Quality audit standard	Criteria for provider registration	Criteria for programme accreditation	Criteria for recognition of non-formal learning
Assessment and Moderation	The provider has fair, valid and effective systems for assessing learners against the programme outcomes.	Assessment and moderation policies and procedures are in place.	The providers' application of their policies and procedures will ensure the fair, valid, consistent and appropriate assessment of learners against the learning outcomes of the programme.	The body ensures fair, consistent and relevant assessment to achieve the learning outcomes.

Indonesia, under the standard procedure, has several stages of assessment of competence, including assessment of information, competency assessment registration, filing of the competency assessment, application completeness check, competency assessment, recommendations and decision (result).

Using assessment centres

There is some evidence in the country reports of a general trend towards using dedicated centres that do not provide training, but act as a hub for assessing people against qualification specifications. Such external, independent assessment centres carry out assessments for the providing institutions. Assessment centres are part of the quality assurance process and are themselves subject to quality assurance. For example, in the Philippines all assessment activities leading to the award of either a national certificate or a certificate of competency are carried out by an accredited competency assessor in an accredited assessment centre or designated assessment venue. These centres are officially authorized by the Technical Education and Skills Development Authority to manage the assessment of candidates for national certification. The centres undergo accreditation, following specific guidelines contained in a quality procedures manual. They are accredited by the provincial offices in accordance with the set of guidelines contained in the procedures manual on accreditation of assessment centres. Accreditation is valid for two years.

Assessment centres are seen as having advantages over internal assessment because they:

- Concentrate expertise on assessment in one organization.
- Ensure consistency in the approaches to assessment.
- Separate assessment from the teaching process.
- Broaden the capacity to assess candidates who are not part of a provider programme.
- Increase the capacity to change, when necessary, the assessment methods over a shorter timescale.
- Increase the potential to provide immediate feedback on the performance of the TVET qualification system.
- Use materials and machinery efficiently for practical assessments.
- Provide efficiencies in terms of cost and time for assessment.
- Provide training capacity for teachers as assessors.

However, the assessment centre model is also perceived as having several weaknesses:

- Assessors are drawn from the pool of teachers and trainers as assessors must understand the learning outcomes approach underlying the competency based model, as well as good training techniques and the links to quality assessment. This reduces the number of skilled teachers and trainers in provider institutions.
- Authenticity issues may arise in the form of a disconnect between the formal training environment and workplace contexts with that of the assessment context.
- The external assessment model brings potential for added duplication and complexity within the TVET qualifications system.
- Maintaining separate training and assessment facilities and resources may increase the costs of assessment.

Assessing non-formal and informal learning

Some country reports indicated that there may be significant differences between assessments of formal TVET, where the assessments are based on the syllabus, and non-formal provision, where assessments are based on understandings of the skills to be practiced in the labour market.

Competency-based assessment or, more generally, the assessment of learning outcomes, can be used for assessing candidates who are not enrolled in programmes but are experienced in a specific sector or job. For example, in the Philippines there are assessment-only pathways: situations in which there is no structured training and the candidates are simply required to provide current and quality evidence of their skills. Persons, such as workers in a particular industry, who think they have the skills and knowledge required to gain a certificate may apply for assessment in an accredited assessment centre. In Samoa, the Samoa Qualifications Authority has developed a policy for the quality assurance of the recognition of non-formal learning.

Assessment methods

The country reports described various assessment methods, including:

- Written tests and theoretical examinations (including multiple choice items)
- Oral questioning tests
- Practical workshop/workplace tests
- ‘Passing’ or completing an industrial placement
- Project work
- Direct observations while the tasks are being performed
- Interviews
- Portfolio assessments (this involves providing a collection of evidence of the standard of work, and might also include an assessment summary by an assessor, a completed observation record for demonstrations, and evidence of role plays, presentations, roles within group work and from discussions).

In general, the assessment methods used in TVET depend on the behaviour domains to be assessed, such as cognitive, psychomotor and attitude. Cognitive assessments commonly use written tests, discussions, question and answer methods, explanations and presentations. In the assessment of psychomotor skills, the assessment methods commonly used include simulations, role plays and the practice of making something. Assessments of attitudes generally include observations, questions and observations during practice.

While the various methods are listed in the reports, there is little explanation as to how or why they are chosen for particular modes of qualification. This may be due to the fact that TVET is seen as a broad field of qualification, using multiple methods of assessment.

Discussions with the country representatives indicated that the choice of assessment method often depends on the purpose of the assessment (e.g. post-initial training or for RPL purposes) and on the characteristics of the target groups. Often a combination of methods is

used, including methods appropriate for more practically-oriented skills (e.g. demonstrations).

Assessor qualifications

The quality of the TVET qualifications system depends on the skills of the teachers and employers who are acting as assessors; they make judgments about the relevance and sufficiency of evidence of learning against a standard. Many countries train assessors (e.g. Lao PDR) and in others there is a good supply of trained assessors (e.g. Indonesia). Most country reports did not mention the provision in national systems of a specific qualification that indicates assessor competence, however. One exception was the report from the Philippines.

Summary

The assessment models vary between the countries and two distinct groups of countries can be identified. One group uses personnel within providing institutions as both the trainers and the assessors; the other group has a level of separation between the training and the assessment decisions, including the trainers not being the assessors of their own students. The shift to a more external form of assessment is considered important by most countries, but external assessment raises several issues, including a cost implication.

Given that most countries are using a competency-based approach to TVET, there is general consistency in regard to the assessment methods used (e.g. observations and portfolios). Very few country reports explained how they arrived at assessment decisions, however, or how they used the evidence to make decisions.

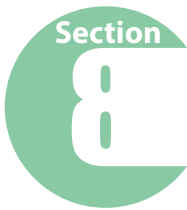
In some countries, the focus of quality assuring assessment tends to be on developing standardized assessment tools and on the training of assessors. However, for a small number of countries the focus is on the internal and external moderation of assessment and on ensuring consistency of standards within and across providers. The reluctance to focus on moderation of assessment may be due to the level of maturity

of their assessment systems and the need to first get some identifiable gains (e.g. competency standards drafted; assessment tools developed).

Very few country reports referred to the assessment of non-formal learning. This may be due to different understandings of non-formal learning (workplace learning) and formal learning in institutional provider settings.

In some countries, the specific assessment processes are quality assured but, in general, the quality assurance arrangements for verifying that awards and qualifications are based on nationally-acknowledged learning outcomes levels and content are weak.

The training of assessors was an issue raised by countries and is a common deficiency in quality assurance systems.

A green circular graphic containing the word 'Section' in white text above a large white number '8'.

Participation by Employers, Employees and Civil Society

EMPLOYMENT is related to TVET at all stages, from the initial defining of the skills to be learned through to the recruitment of people graduating from TVET programmes. The country reports indicated that although the engagement of employers, employees and civil society organizations in the quality assurance process for TVET qualifications is desirable, the ways of engaging wider interests are not straightforward and are difficult to sustain, so such engagement does not always occur. Furthermore, the levels of engagement vary from setting to setting within a country.

In many cases, however, several aspects of TVET are designed, managed and assessed by employers and civil society groups. Non-formal provision of education and training often involves short training programmes and apprenticeships or work-based learning. The interface of the outcomes of these kinds of learning programmes with those of the formal system is important and quality assurance processes are used to bring consistency between the outcomes of non-formal and formal provision.

Levels of engagement of employers, employees and civil society

The level of participation by businesses and trade unions in TVET in the 13 countries and how they are involved in quality assurance processes differ between the countries. For example, in Cambodia employers (the Industry Advisory Group) and employees (expert workers) are involved in the process of developing TVET qualifications. The main business

association also acts as a training provider, with a view to assisting employers in strengthening their competitive edge through skills training and employee development. Similarly, in the Philippines industry associations play a significant role in TVET; they are the main source of information on the priority skills required by employers and they help to develop the standards on which qualifications are based. In some cases industry associations also provide the assessors for assessment centres. In other countries, however, the practice of involving stakeholders in the development of TVET is not so developed. For example, in Afghanistan employers, government and non-government providers of TVET and industry representatives are just beginning to actively collaborate in the process of TVET development.

In some countries there is still work to be done to establish an effective process for engagement by stakeholders in the quality assurance of TVET qualifications. Even where tripartite systems are established there is still too weak a focus on TVET and its quality assurance. Indonesia, for example, has a tripartite forum but its role is still largely focused on wages settlement, and not sufficiently on training or capacity building of workers.

The role of trade unions in TVET quality assurance varies between the 13 countries. For example, in Afghanistan workers' unions were involved in consultations regarding TVET quality assurance arrangements, but it was only during the consultations that they recognized how vital quality assurance of TVET is for industry. In the Philippines, the labour sector representatives on the TESDA board have been very active and have chaired the board's executive committee. The Labour Code promotes free trade unionism as an agent of democracy, social justice and development, and two of the main trade unions are represented on the TESDA board.

In some countries trade union activity in TVET is minimal. For example, in Indonesia involvement in improving the functioning and effectiveness of TVET has not been a priority for the unions and has not been included as a trade union programme. As of 2017, the involvement of trade unions in activities related to education and training is very limited. Brunei Darussalam has three registered trade unions, but none are active as trade union organizations. There is almost no involvement of

employees and civil society organizations in the quality assurance of TVET qualifications in Brunei Darussalam. However, Brunei's recently launched long-term development plan (Brunei Vision 2035), indicates that the private sector will increasingly be involved in the planning and implementation of development projects – including those relating to TVET. This is particularly the case for post-secondary TVET, where industries play important roles in several aspects, including curriculum planning, the development and implementation of apprenticeship schemes, and competency-based training and assessment. Under the competency-based arrangements, any assessments for students will need to be verified by the relevant industries.

Sometimes a high level of interest is not sustained. For example, in Korea trade unions initially participated in the ministerial discussion on technical qualifications, but this did not last. It is hoped that the trade unions will increase their participation in TVET qualifications.

Few country reports indicated that the level of involvement of employers, employees and civil society was satisfactory. Even in countries where engagement was high, the reports noted that there was more that could be done. However, public-private partnership is not a simple process of a government or a ministry consulting with employers and receiving a positive response from them. Changes in approach are almost always needed, with the ministries having to step back from decision-making and adopt a more participative approach in which the knowledge and skills of the world of work are brought to bear on the reform of TVET institutions, qualifications systems and curricula. Furthermore, employers have to take on a share of responsibilities that were previously left to government. This has been the case in Cambodia, where the main industry bodies have been critical of inertia and a lack of dynamism on the part of the national training board and have emphasized the importance of greater participation by employers' organizations in the TVET decision-making process. Such pressure from employers has not been seen in Indonesia, however. The business community has not formulated a vision of quality assurance, even though it is important for bringing about improvements in productivity and producing a competitive labour force. An issue noted

in some country reports is that small and medium-sized employers (and associated trade unions) are more difficult to engage than larger ones.

Tools for engagement

Engagement by employers, employees and civil society in TVET and its quality assurance can take various forms, including:

- Participating in developing national, sector or local policies.
- Improving training provision at a firm or sectoral level.
- Supporting funding mechanisms.
- Joining the boards and management bodies of TVET providing institutions.
- Helping to identify occupational skills and standards to serve as the basis for education and training standards.
- Participating in pilots, initiatives and innovation.

The country reports described various ways of engaging employers, employees and civil society groups. Most are based on voluntary engagement but sometimes legal provisions are used to encourage participation. For example, in Korea the National Technical Qualification Act requires that business owners, business owners' organisations, and workers' organisations shall actively cooperate in the development of the National Technical Qualification System through participation in the operation of such system, so that national technical qualifications may effectively reflect the needs of industrial circles.

Similarly, the business community in Viet Nam has rights and responsibilities in relation to supporting TVET. Responsibilities include funding the training of people needed in their businesses, participating in programme development and providing feedback to state administration agencies on vocational education. The business community is also required to create conditions that enable employees to improve their occupational skills.

One of the most common tools for enabling engagement by employers, employees and civil society are committees that help manage, improve and quality assure the TVET system. In some countries, boards provide oversight to the system, whereas in other countries such boards may have specific roles within the TVET system, or may be key employer players within the system. Table 10 identifies key committees in each country.

Table 10: Committees involved in TVET

Country	Bodies with some oversight	TVET committees involving employers
Afghanistan	The proposed TVET board will have labour market representation.	The Afghanistan Chamber of Commerce and Industry is the main body of employers and industry in the country. It was involved in all technical meetings and in the process of developing the framework of the TVET system.
Brunei Darussalam	The main awarding bodies are the Brunei Darussalam National Accreditation Council and the Brunei Darussalam Technical and Vocational Education Council.	The Chamber of Commerce and Industry. The Brunei Darussalam Technical and Vocational Education Council members are high-level officials from the government and representatives of the private sector.

Country	Bodies with some oversight	TVET committees involving employers
Cambodia	<p>The National Training Board is chaired by the Deputy Prime Minister and has 31 additional members, including 16 senior government officials and the representatives of all ministries with direct involvement in TVET provision, along with five representatives of employers associations, two representatives of trade unions, three representatives of non-governmental organizations and four representatives of government training institutions. Three Industry Advisory Groups have been established.</p> <p>The National Training Board Sub-committee for National Competency Standards Development has representatives from industries who review and endorse skills standards and curricula.</p>	The Cambodian Federation of Employers and Business Associations
Indonesia		The Employers Association of Indonesia is recognized by law and represents members in matters relating to industrial relations.
Lao PDR	<p>The National Training Council is comprised of 24 representatives from relevant ministries and is chaired by the Deputy Minister of Education. The vice-chairs are the Deputy Minister of the Ministry of Labour and Social Welfare and the Chairperson of the Lao National Chamber of Commerce and Industry. The council is responsible for TVET policy, coordination between the public and private sectors, establishing and managing trade working groups, and developing occupational standards.</p>	The Lao National Chamber of Commerce and Industry is composed of the occupational associations.

Country	Bodies with some oversight	TVET committees involving employers
Malaysia	The Malaysian Qualifications Agency Council includes representation from industries (Malaysian Qualifications Agency Act 2007).	The panel of experts for the development of programme standards includes representatives of relevant industries.
The Philippines	The Technical Education and Skills Development Authority Board has six representatives from the government sector, two from TVET institutions, six from the labour groups and four from the employers' group.	Industry associations contribute information on the priority skills required and the qualifications for which the Technical Education and Skills Development Authority should develop standards.
Republic of Korea	The Ministry of Employment and Labour selects and supports 13 industry skills councils for industry-led development and maintenance of the national competency standards.	The Korea Chamber of Commerce and Industry is an awarding body of computer utilization and computer accounting certificates in business sectors.
Samoa	The Samoa Qualifications Authority Board includes representatives from education and training providers, the Chamber of Commerce and ministries (Samoa Qualifications Authority Act 2010).	The sector advisory groups develop and review providers' programmes to ensure they meet the requirements of employers.
Thailand	The Office of the Vocation and Education Commission is assigned to control and oversee the implementation of the National Vocational Education Qualifications Standards Framework.	The Federation of Thai Industries, the Thai Chamber of Commerce and the German-Thai Chamber of Commerce are developing the TVET dual system. The industrial cluster sub-committee, which is chaired by private sector representatives, assists in ensuring the quality of TVET programmes.

Country	Bodies with some oversight	TVET committees involving employers
Tonga	The Tonga National Qualifications and Accreditation Board members include: three persons from ministries; three from sector groups in non-governmental educational systems and industry; and the chief executive officer (Tonga National Qualifications and Accreditation Board Act 2004).	
Viet Nam		The Viet Nam Chamber Commerce and Industry. The Small and Medium-sized Enterprise Association. The business community in Viet Nam has rights and responsibilities relating to supporting TVET as regulated under the vocational education law.

Another engagement tool is a system level review of TVET that includes employer perspectives. For example, Korea has established the National Technical Qualifications System Review Commission, which includes government representatives, employers, employees and professionals. Its role is to manage quality assurance of assessment in TVET.

National qualifications frameworks are another tool of engagement used in many countries. For example, the Afghanistan Chamber of Commerce and Industry was involved in all technical meetings and in the process of developing the qualifications framework. Besides governmental and non-governmental organizations, representatives of the workers' unions, builders' association engineers' association and private industry organizations were also involved in the process.

Cross-border mutual recognition agreements are often highlighted as powerful tools for engaging employers in the quality assurance of qualifications systems, but such agreements were not mentioned in the country reports.

Summary

All of the participating countries indicated in their reports the importance of engaging employers in various aspects of the TVET system, e.g. in identifying occupational skills and standards as the basis for education and training, or inclusion/membership on decision-making boards. In general, engagement is easier to achieve for the standard setting process, because businesses see standards as something they own, but it is much harder to achieve in relation to qualifications, because business often see this as the responsibility of government.

Many of the country reports indicated that ongoing, effective engagement with civil society organizations needs further attention. Formal reviews of the governance arrangements for TVET are a means of building in a systematic engagement process for civil society organizations. Sometimes participation in such systems is legally enforced, while in other cases engagement is offered as a means of shaping the system to better serve employee interests.

Using high-level committees and boards was seen as an effective way of giving voice to employers, employees and civil society. Engaging stakeholders in such national TVET boards and councils was reportedly easier to achieve than engaging local stakeholders in the management of TVET providers. New qualifications frameworks are showing potential as a means to engage employers and unions but this is generally at the national level; there is little evidence of this occurring at the provider level.

Section 9 National Capacity to Support Quality Assurance of TVET Qualifications

THE COUNTRIES that participated in the study differ in their approaches to quality assurance of qualifications. The analysis of country reports indicates that there are five main categories of expertise for quality assurance of qualifications:

- **Assessor of learners** in programmes, in the workplace and assessment centres.
- **Internal verifier:** usually an assessor in another field from the same centre.
- **External verifier:** an assessor and verifier who operates in several accredited centres and is appointed by a body independent of the centres, such as an assessor panel.
- **Centre/Provider manager** (of quality assessment): administrator and manager of all quality assurance practice in a TVET centre or provider.
- **Member of an assessor panel or appeals board:** centre personnel member who ensures the fairness, effectiveness and validity of assessment in a region.

Most country reports noted areas of weakness with regard to local capacity to carry out these roles.

Other issues that hinder quality assurance include:

- Poor coverage of quality assurance in some occupations and sectors.
- Lack of modern equipment in TVET institutes/centres.

- Difficulty in getting assessors from industry to conduct competency assessments.
- Excessive workloads for teachers/assessors.
- Poor incentives for teachers to be involved in quality assurance.
- Poor quality of appointed assessors and verifiers.
- No competency assessment process for teachers.
- Missing or weak database of learner records.
- Poor quality assurance in the accreditation of centres.
- Strong central quality assurance weakens local autonomy to carry out quality assurance.

A key issue is the limited capacity of quality assurance agencies and their staff to undertake centralized quality assurance activities, such as facilitating the development of qualifications, approving and reviewing assessment providers, undertaking centralized moderation activities and reviewing assessors against quality standards.

Areas of weakness regarding capacity to undertake these roles included:

- A shortage of experts to lead and manage quality assurance (locally and nationally).
- Weak registration in national databases of qualifications in centres.

In Samoa, for example, the recent introduction of quality assurance has meant that human resource capacity has been a challenge for the Samoa Qualifications Authority and within TVET providers. Likewise, quality assurance of TVET has been a challenge in Afghanistan, where capacity building of all technical staff is required. The assessors and master assessors being trained under the Skills Accreditation and Certification Agency project by the International Labour Organization will increase capacity for implementing quality assurance in the country. The project aims to train 250 TVET assessors throughout Afghanistan.

Training of quality assurance personnel

The country studies examined the local capacity to carry out the various roles of quality assurance linked to qualifications, including, for example, identifying whether assessment can be made valid and reliable, whether moderation (within an institution and with reference to other institutions) can make the interpretations of similar achievements less variable and whether awarding processes can be carried out effectively and consistently. Measuring quality assurance of qualifications also involves examining the personnel at the system level who are responsible for the design, approval and review of qualifications, and for the approval of assessment providers. The country reports tended to focus on the assessors and assessment capacity within providers and did not provide information in relation to more system-wide quality assurance of assessment.

Training of assessors

Most country reports focused on the role of the assessor as critical to quality assurance of qualifications and in some countries training of assessors is a priority. For example, in Tonga, new national developments have driven the need to train and qualify people as assessors. Similarly, in Korea the Ministry of Education and the Ministry of Employment and Labour, seeking to improve adoption of the NCS-based and programme-based qualification system, have introduced a variety of training programmes for professors and teachers, focusing on evaluation of learning outcomes. At the polytechnic level the plan is to develop a core of 10 per cent of teachers who are qualified; this has involved sending people to other countries for training.

Some countries see quality assurance aspects of TVET as a lesser priority compared to the immediate challenges of providing learning opportunities and quality assuring the provision of teaching and learning. This is because the lack of formal qualifications and lack of vocational experience of TVET lecturers and trainers is a significant factor leading to the inadequacy and poor readiness of graduates for employment.

Teachers are usually seen as the frontline assessors in countries that do not have assessment centres as part of their structure. Accordingly, some countries are improving the training of teachers to include better skills and more assessment capabilities. For example, in Thailand assessors are usually selected from the group of outstanding teachers, as they are considered to be the best at assessing students. Some of these teachers also play important roles in the institutions' internal and external quality assurance systems. Teachers must complete a training programme, pass the official test and obtain an assessor certificate.

In Cambodia, thought has been given to how the new competency-based assessment can be implemented by staff members who have been trained to carry out the assessments. All TVET teachers have upgraded their industry experience, and since 2016 pre-service TVET teachers have been required to obtain a competency qualification in their specialty. Similarly, in Japan technicians in the occupation 'Panel Control and Power Distribution Assembly' are able to complete skills assessor training, which is provided by a Japanese expert from Toshiba. Furthermore, national competency assessors will be trained and certified through the Technical Vocational Education and Training Sector Development Project.

In countries that have assessment centres (e.g. the Philippines) the focus is on professional assessors. The certification office conducts capacity building and calibration for regional lead assessors, expert panel members and competency assessors for new and amended training regulations. The programme includes reviewing the competency standards, competency assessment guide and an actual assessment carried out by the competency assessors. The national experts who developed the training regulations carry out the review and actual assessment.

One method used to make training of assessors more systematic and effective is to define a qualification for those who carry out assessments. Countries often use existing qualifications for assessors – usually a master's degree plus some relevant experience, for example in Malaysia the panel of assessors involved in assessing TVET programmes will come from various fields. Members of the panels appointed by the Malaysian Qualification Agency must have a minimum qualification at Master

Degree level and experience in related field. Before their appointment to the panel, all members must undergo training conducted by the Malaysian Qualifications Agency. In Samoa there is also recognition of a need for ongoing professional development that needs to be aligned specifically to some of the standards that are pertinent.

In some countries have also paid attention to the industry relevance of the assessors' qualifications. For example, in the Philippines competency assessors have to be practitioners of the occupation or trade and/or must have been teachers, instructors, or trainers in the trade area for at least two years.

Several countries are currently developing provisions relating to the qualifications of assessors. For example, Indonesia plans to have qualifications for assessors for higher education, schools and madrasah, and to have a certified assessor as the manager of quality assurance at colleges and schools. The accreditation body for non-formal education and training providers will also have a certified assessor. The accreditation institute of training providers is drafting competency standards to enable teachers to become accredited assessors. Three levels of qualifications are envisaged: junior assessors, senior assessors and master assessors. The professional certification authority has developed a standard of qualification and competency for being an assessor.

Not all training is welcomed by teachers and trainers. For example, in Korea there has been severe opposition from the teaching staff because the conversion from the input-based curriculum and vocational training standards to the NCS-based assessment, which emphasizes learning outcomes, is seen as bringing about huge changes in the TVET system.

Internal and external verification

Internal verification involves checking assessments and procedures within the institution and aims to enable comparability of practices and assessment judgements. That is, it helps to ensure the same requirements are applied to all assessment results within an institution.

External verification involves checking assessments and procedures across institutions. The process helps to bring comparability between practices, institutions, regions and over time.

Several countries use qualified external verifiers as part of their TVET quality assurance systems. In Brunei Darussalam, for example, external verifiers are selected and appointed from established universities abroad, mainly from the United Kingdom and Australia. In Malaysia, with the aim of maintaining the credibility and continued acceptance of Malaysian skills certificates, the National Skills Certification Programme adopts a stringent procedure of quality control and course assurance, with three levels of key personnel:

- Assessors: These must undertake an induction course and achieve a qualification at one level higher in the related programme, a vocational training officer certificate or equivalent.
- Internal verifiers: These must undertake an induction course and achieve a qualification at one level higher in any related sub-sector or equivalent.
- External verifiers: These must undertake an induction course and must be an expert in that particular programme.

Awarding certificates

The country reports did not provide information regarding the capacity to quality assure the awarding of certificates. This stage, specifically the translation of a verified assessment outcome into an official certificate from a competent body, is also related to quality assurance. The following questions arise:

- Which body or bodies are licensed to issue certificates?
- How is the information from assessment organizations verified?
- How is the identity of the candidate receiving the certificate checked against that of the candidate that was assessed?
- How are data relating to achieved outcomes stored?
- How are data relating to certificates stored?

At this stage, it is crucial to have effective data handling processes and ensure ICT is used appropriately to carry out checks. The country reports indicate that this is an area in need of development.

Summary

Most country reports focused on the capacity of assessors to undertake assessments of individuals; they did not consider the quality assurance personnel required at the system level, within the quality assurance agency or the ministry responsible for the TVET system.

Some countries considered the capacity of quality assurance agencies and their staff to undertake centralized quality assurance activities, and identified areas of weakness, including a shortage of experts and weak or emerging quality assurance processes in assessment centres. This is possibly an area for improvement in many countries.

The country reports described various tasks and personnel that participate in some way in assessment processes, including assessors of learners, internal verifiers, external verifiers, centre and provider managers and members of assessor panels and appeals boards. Many of the reports noted that they face issues that impact on the effectiveness of the assessment, including a lack of consistency within and across providing institutions, and a lack of adherence to learning outcomes or competency benchmarks. This highlights the linkages and the complexity of providing valid assessments in the TVET system.

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Funding Quality Assurance of TVET Qualifications

IN MOST OF THE COUNTRIES that participated in this study, funding of quality assurance is allocated from the government budget. The costs of quality assurance are part of the governments' funding allocations for TVET. However, most governments find it difficult to provide adequate, stable financing for quality assurance; they are already struggling to fund public TVET institutions and skills development in general. TVET also has other sources of funding, including from non-governmental (private) organizations, foreign loans, technical assistance, grants, and local revenue generated by schools and communities.

Government funding

In some countries, the government covers all quality assurance costs, and organizations carrying out quality assurance make requests for funding for specific activities. Wage-related costs are usually the priority for the government, and this is the largest single area of expenditure. The government also often provides support for scholarships, concessional loans, student fees and in-house training. Some countries also have a central fund for specific initiatives (such as training of people in disadvantaged groups); agencies and providers prepare proposals to obtain such funds.

In Indonesia, the government is the main source of funds for activities relating to assessment and certification. It has financed all activity relating to the development of competency standards and has financed the entire budgets for establishing representative offices across Indonesia,

accreditation activities in training centres and providers, administration and individual assessment.

Arriving at an appropriate and sustainable level of funding is a challenge in many countries. Some countries use registration fees (e.g. student fees, examination entry fees and centre fees) to cover costs, while other countries use output-funded models where the successful graduation of learners is the main metric used for future funding.

TVET quality assurance spending covers various components, including the following:

- Consistent development of standards and programmes.
- Consistent development of competency assessment tools.
- Development and accreditation of assessors.
- Training of assessment centre managers and processing officers.
- Capacity building of lead assessors.
- Accreditation of assessment centres, including review and inspection of centre facilities, equipment, requirements.
- Compliance audits.
- Maintenance of registers of learners, graduates and qualifications.

Non-governmental funding

Some countries are exploring other sources of funding for TVET quality assurance. In Cambodia, for example, consideration is being given to the decentralization to regional and local authorities of key areas of funding responsibility, giving greater autonomy to schools and increasing the potential for private funding. Similarly, in Samoa an output-funding model allows for self-funding of programme approval procedures. The Philippines has a national system of assessment fees, which is effective, but some assessment centres and assessors have requested that the fees be increased, so as to cover the increasing costs of assessment. Compliance with guidelines and methods of assessment is checked on an annual basis.

The integrity of funding

Inappropriate use of funds is an issue in many countries and mechanisms are in place to avoid corrupt practices. For example, in Indonesia, where the three main bodies concerned with quality assurance receive government funding, mechanisms have been set up to ensure financial accountability and ensure transactions are transparent and controlled. Similarly, in Korea a systematic inspection system is used against possible malpractice in vocational training institutes. The government plans to establish a taskforce to deal with malpractice in vocational training and has established an automated remote alarm system relating to this. Discussions were held regarding a suggestion to introduce a fingerprinting system that would enable providers to register and identify trainees in a more systematic way, and since 2015, newly established vocational training institutes risk losing accreditation if they do not introduce a fingerprinting system for trainee registration.

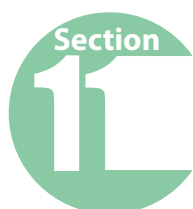
Measures to prevent corruption give rise to new issues, however. For example, audits to ensure compliance with regulations, including financial regulations, are time intensive and incur costs, which presents a problem for many countries.

Summary

Funding models for TVET vary between countries and depend on factors such as governance arrangements, historical precedence, cultural priorities, donor priorities, autonomy of providers, and engagement with the private sector. Each country strives to make sure disbursements of funding for quality assurance take into account all of these factors.

Some countries have shifted towards devolving budgets to the local level, to enable and incentivise institutions to seek other sources of funding, including private enterprises. The country reports did not indicate that funding is used to incentivise programmes (in high interest areas for the labour market) or that funding is discretionary, so as to promote only the qualifications that are quality assured.

Most of the countries are taking steps to make the disbursements efficient and free from corruption.



Conclusions and Recommendations

THE EXPERTS who prepared the country reports reflected on the quality assurance of TVET qualifications in their countries, and also met with experts from other countries to discuss ways of improving quality assurance of TVET. Table 11 lists the areas for improvement they identified.

Table 11: Areas for improvement of quality assurance of TVET

Areas for improvement	Examples drawn from the country reports
Establish clear governance arrangements	<ul style="list-style-type: none"> • Initiate a government-led transformation of the qualification system. • Establish a legal or regulatory basis for TVET quality assurance. • Ensure coordination between the responsible bodies. • Involve the private sector. • Devolve some quality assurance responsibilities to the provincial level. • Avoid bureaucracy and promote transparency and accountability.
Link the qualifications framework to quality assurance	<ul style="list-style-type: none"> • Develop clear QA policies and procedures that provide a link between the quality assurance framework and the qualifications framework. • Use a qualifications framework for QA purposes. • Develop instruments for implementing QA of the institution governance and certification process. • Establish an accreditation system for qualifications that provides a link between occupational (skills) standards and qualification outcomes. • Allow time for implementation.

Areas for improvement	Examples drawn from the country reports
Improve stakeholder engagement	<ul style="list-style-type: none"> • Strengthen employer, employee and civil society involvement in TVET quality assurance. • Promote industry sector committees. • Encourage employers to use standards and certificates in recruitment. • Communicate better with all stakeholders.
Develop a quality culture that is underpinned by strong self-assessment and continuous improvement	<ul style="list-style-type: none"> • Ensure QA is fit for purpose. • Establish an independent QA body. • Promote concepts of self-assessment and continuous improvement. • Build a community of practice in the QA field. • Link to the general and higher education systems of QA. • Develop incentives for effective QA. • Raise levels of understanding of QA, particularly of self-assessments and external reviews. • Publish the outcomes of QA.
Provide funding and resources	<ul style="list-style-type: none"> • Ensure sufficient provision for quality assurance activities and for assessment for certification. • Use diverse sources of support. • Centralize the costs of TVET QA. • Develop a QA system that is sustainable.
Establish quality assessment	<ul style="list-style-type: none"> • Use skills standards, occupational standards and competency standards. • Use a learning outcomes approach. • Use accredited assessors. • Use private sector assessment centres. • Apply effective and consistent moderation of TVET qualifications.
Build capacity of assessors	<ul style="list-style-type: none"> • Establish a qualification for assessors. • Train assessors. • Create a code of practice for QA. • Develop and provide guidelines, handbooks and support materials on assessment practice.
Clarify access and pathways of TVET qualifications	<ul style="list-style-type: none"> • Assess non-formal and informal learning. • Create and promote pathways from and to other sectors, e.g. basic education and higher education. • Facilitate credit transfer and recognition of prior learning.

Areas for improvement	Examples drawn from the country reports
Strengthen data systems to inform QA of TVET qualifications	<ul style="list-style-type: none"> • Develop digitized and automated systems to improve assessments, monitoring and processing. • Improve the use of technology to increase efficiency, reduce discrepancies and monitor provision. • Collect and publish data and information about the need for training in specific areas and the take up of education and training opportunities.
Regional cooperation and policy learning	<ul style="list-style-type: none"> • Use the EAS TVET Quality Assurance Framework to promote regional cooperation, institutional exchanges and sharing of best practices. • Develop regional cooperation for developing standards for qualifications. • Benchmark regional and national standards to facilitate and promote the mobility of professionals, academic credit transfer, employability and student-centred learning (including standards for training providers, assessment providers and TVET teachers). • Conduct joint projects on quality assurance for TVET qualifications with other countries in the region. • Build capacity by developing regional assessors. • Promote mutual recognition agreements (MRAs) of qualifications with regional partnering countries.

Source: Adapted from Coles, 2016

Based on the findings of the country reports and the points made during discussions of quality assurance, conclusions were drawn about specific aspects of quality assurance, and the following recommendations were formulated for action at the national and regional levels.

Governance arrangements

In many countries, responsibility for TVET is divided between multiple agencies (including among several government ministries), but having a single agency for TVET qualifications standards is more effective. This may not be achievable, however, in countries where the legislative basis and the history and context of TVET management is not conducive. In such instances, coordination and close collaboration are critical to ensure that TVET achieves its perceived benefits.

All of the countries participating in the study seek a consistent national approach to quality assurance across the varied TVET qualifications. However, the very nature of TVET makes this difficult to achieve. For some countries, striking the right balance means taking full account of local contextual factors, consulting with stakeholders and sharing responsibility for quality assurance between all main stakeholders. Having struck such a balance, it will be important to ensure that the system operates in a consistent and coherent way.

Regardless of the governance structures, all of the country reports expressed the importance of engaging stakeholders, including the private sector, in governance arrangements. They also expressed a need for the governance structure and quality assurance system to function in a coherent and efficient manner and promote transparency and accountability.

Recommendation 1: Conduct a strategic review of the structure of governance of quality assurance across TVET, with a focus on strengthening coordination and increasing accountability in all aspects of the qualification process.

Link qualifications frameworks to quality assurance

A qualifications framework can be used as an official regulatory tool in quality assurance, and qualifications framework legislation can be used to explain the regulatory status of the framework. Sometimes a qualifications framework is restricted to describing the range and levels of qualifications and no official regulatory powers are associated with it; it just has a communicative purpose.

Quality assurance frameworks provide confidence in assessment services and the outcomes of these assessments by enabling a systematic process for the development and approval of qualifications, and of the delivery by assessment providers of specific programme services. In some countries, quality assurance of qualifications is articulated in quality standards, while in other countries quality expectations appear in legislation, regulations or guidelines.

In the 13 countries examined for this study, most qualifications frameworks are either under development or implementation is only just beginning. Furthermore, the linkages between qualifications frameworks and quality assurance frameworks tend to be fairly weak and implementation is not always systematic or consistently applied. To ensure that there is confidence in qualifications, the linkages between these two structures need to be strong.

Recommendation 2: Ensure qualifications frameworks have a quality assurance dimension and/or are linked to quality assurance frameworks at the national and regional levels.

Improve stakeholder engagement in QA of TVET qualifications

All of the participating countries indicated in their reports the importance of engaging with employers, employees and civil society in the various aspects of the TVET system, and all of the countries reported involving the stakeholders, especially employers, in some way in the identification and development of occupational skills and standards, as the basis for education and training. In some countries, participation by stakeholders is minimal, however, and has not provided the level of engagement and acceptance by employers of TVET qualifications that indicates work readiness.

The strategies for engagement used by the 13 countries are generally formal and include establishing national TVET boards and councils in which the stakeholders can participate. Using high-level groups is also seen as an effective way of giving voice to employers and civil society.

Countries that are currently formally reviewing their systems for quality assurance of TVET qualifications have the opportunity to design their systems to systemize participation in a meaningful and effective manner. Formal reviews of the governance arrangements for TVET also offer potential to build in a systematic engagement process for civil organizations. In some countries, participation in such systems is legally enforced, while in others engagement is offered as a chance to shape the system to better serve employee interests.

Recommendation 3: Reflect on the level of engagement of employers, employees and civil society in the quality assurance of TVET qualifications, and proactively design the system to maximize engagement.

Develop a quality culture that is underpinned by self-assessment and continuous improvement

Both the qualifications framework and the quality assurance framework aim to support and strengthen the culture of quality assurance and improvement within TVET systems. Many of the country reports indicate that there is room for improvement in enhancing mutual understanding of quality in qualifications within and across borders. Strategies to raise awareness and understanding include improving communication between stakeholders and other education and training sectors and establishing communities of practice. Other strategies, such as increasing the transparency of processes, providing incentives to high-performing institutions and publishing outcomes of quality assuring activities and research can also be used to broaden understanding in the wider community.

Recommendation 4: Consider increasing the transparency of processes, and publishing outcomes of quality assuring activities and research to broaden understanding in the wider community.

Quality assurance systems need to take account of the whole range of TVET qualifications, and it is important to construct a model of the qualification process that makes it fit for purpose. This can be achieved as follows:

- Ensure equity of access, and do not discriminate between users on any grounds other than performance.
- Ensure that the model acknowledges the various learning modalities (formal, non-formal and informal) as being equally important in a TVET system.

- Ensure that the model includes knowledge gathering through monitoring the processes and informing continuous improvement of the qualification process.
- Adopt a risk-based approach in which the assurance process itself watches out for the nature and scale of potential failings and the (remedial) quality assurance techniques that might be required.
- Require the QA system to be aware of the pressures acting on all actors in the development, administration and use of the qualification, so that the process runs smoothly and fairly.
- Build high trust through mechanisms that can lead to higher quality and enhance society (for instance by improving access and equity) and the labour market (for instance by providing relevant skills that lead to an economic return for companies).

Whether at the regional, national or provider level, it is important to ensure that all systems are built on a process of evaluation, and lead to improvements. This can be achieved through a top-down driven quality assurance process, e.g. audits by a responsible agency, but can also be achieved through a process that is conducive to self-evaluation and accountability. This approach to quality assurance focuses on evaluating the effectiveness of an organization's processes and practices, and using the information gained to make real, effective improvements. The countries vary in their implementation of systems for evaluation and continuous improvement, but nearly all have a top-down approach. Most focus on quality assuring TVET providers, and do not ensure that the agencies responsible for TVET are also subject to evaluation.

Recommendation 5: Develop a process of continuous review of the quality assurance process for TVET, to ensure that it is fit for purpose.

Provide funding and resources for quality assurance of TVET qualifications

Funding models for TVET are specific to countries and depend on factors such as governance arrangements, historical precedence, cultural

priorities, donor priorities, autonomy of institutions, and engagement with the private sector. Levels of funding are generally based on precedence and there is no indication that funding is used to incentivise programmes (in high interest areas for labour market) or that funding is discretionary to promote the qualifications that are quality assured. Discussions between country experts indicated that having sufficient and targeted funding is important in successfully implementing a system for quality assuring TVET qualifications.

Recommendation 6: Ensure that funding is targeted towards quality assuring TVET qualifications.

Establishing quality assessment

Learning outcomes and standards

All of the countries that participated in this study accept that a shift to the learning outcomes approach, often articulated as skills or outcomes standards, is a key building block in quality assuring TVET qualifications. It is accepted that learning outcomes have a role to play in making quality assurance more effective (e.g. through the use of standards, improved assessment). The 13 countries vary considerably in the extent to which they have adopted learning outcome-based standards, however. The countries currently using learning outcomes acknowledge that it takes a long time to embed the approach in the work of assessors, due to various issues. For example, some countries reported antipathy in the higher education sector towards the learning outcomes approach. Another issue is that when multiple sets of skills standards exist, there is often little coordination between them. A further issue relates to the lack of systems to maintain momentum and plan for revisions.

Recommendation 7: Make greater use of learning outcomes a priority and support current initiatives in this regard.

Focus on the validity of assessment decisions, validation of outcomes and certification

The countries recognize that the assessment process includes the promotion of valid and reliable assessment decisions and validation of the outcomes. Countries approach the assessment process in different ways, however. For example, some countries have established standardized assessment tasks and protocols and licensed assessors and have separated learning from assessment (using assessment centres). In other countries, the assessment decisions and evidence gathering are highly devolved. Either approach is acceptable as long as the system design is appropriate to the country's context and to the purpose of assessment.

The countries struggled to articulate the processes post the assessment, including the validation of outcomes, any external verification and the certification. Country discussions indicated that quality assurance of TVET qualifications appears to focus on the inputs for assessment, rather than on the validation and certification aspects of the quality assurance process of TVET qualifications.

Recommendation 8: When designing or reviewing the system for quality assuring TVET qualifications, pay attention to the validation and certification aspects of the qualification process.

Build the capacity of assessors

The lack of training and qualifications of assessors is a weakness and undermines the development of a quality culture. Providing such training is expensive but necessary because the capacity to conduct assessments is part of good teaching skills. This is an area of development in many countries and some have called for guidelines in this area.

The training of assessors is closely linked to implementing learning outcomes and to validation practices, as well as to ongoing professional development, self-evaluation of providers and continuous improvement.

Some countries focus on formal training of assessors, but others use strategies such as providing guidelines and support materials, hosting web discussions, establishing communities of practice and networks and supporting participation in moderation activities. These strategies may be more effective and have more of a long-term impact than professional development.

Recommendation 9: Develop the capacity of assessors.

Clarify access and pathways of TVET qualifications

National qualification frameworks and the process for the conceptual design, formation and endorsement of TVET qualifications are two key ways of promoting access and pathways for learners. The national qualification framework can identify and support increased access and pathways as well as enable recognition of prior learning and credit transfer arrangements. The formation of TVET qualifications can identify within endorsement documentation how access, pathways, recognition of prior learning and credit transfers will be addressed at specific qualification levels.

The participating country reports did not explain how each country facilitates access and pathways for learners, and did not provide clear information of the usage of recognition of prior learning and credit transfer, as an indicator of a flexible, fit-for-purpose TVET qualifications system.

Recommendation 10: Undertake research into TVET qualifications to explore how they are facilitating access for all, especially for vulnerable groups, and identify pathways, and the extent of recognition of prior learning and credit transfer.

Strengthen data systems

Quality assurance of qualifications depends to a large extent upon the availability, validity and reliability of data about the practices and

outcomes of TVET. The data can be derived from various elements of the qualifications process. Systematizing the collection of data and ensuring that the data can be used to inform decision-making is a challenge in many countries. In particular, a lack of robust data systems for TVET quality assurance is a weakness in TVET provision. The country reports indicated that countries are struggling to link qualifications data with labour market needs. The countries that participated in this study vary in their levels of systematic documentation, evaluation and monitoring of certification. Critical steps include establishing relevant data sets, such as the characteristics of students and retention and completion data, and ensuring that the data are collected in a consistent format (applying data standards).

Recommendation 11: Make the development and use of data systems, including labour market information systems, an integral part of the process of quality assurance of TVET qualifications.

Regional cooperation and policy learning

The participating countries' quality assurance systems vary significantly in terms of their histories, governance, infrastructure and approaches, but there are some similarities. For example, in relation to the use of laws and regulations; dedicated bodies; quality standards related to assessment providers and the provision of assessment; standards (e.g. occupational standards, frameworks); accreditation procedures (e.g. for good teaching, good assessment and qualification); and sanctions (e.g. public profiles, licence to practice, funding). The countries also face common challenges, including developing systematic documentation, evaluation and monitoring of certification, and ensuring that bodies representing employer and employee interests are involved in TVET quality assurance. Employer engagement could be increased by regulating recruitment into the labour market and targeting specific sectors as a part of economic planning.

There is much to be gained from countries collaborating and sharing good practice in areas such as these. The country reports outlined the need for regional cooperation and proposed some mechanisms to

support the quality of qualifications, including benchmarking national skills standards and regional skills standards (if in existence), harmonizing certification and qualification approval processes, benchmarking quality assurance standards and requirements, seeking mutual recognition of agency decisions and establishing mutual recognition arrangements.

Strengthening the quality of qualifications across borders requires a concerted effort to understand other systems and approaches to quality assurance to instil confidence and trust in qualification outcomes. Nearly all of the countries that participated in this study are part of regional qualifications frameworks, and collaboration and networking is embedded within those frameworks, but the links within the frameworks could be strengthened, for example by sharing practices and engaging in peer learning. For countries that sit outside the regional frameworks, greater effort is required to maintain relationships with other countries (on a bilateral basis).

Recommendation 12: Participate in further collaboration and the sharing of experience, and create a community of practice that has the potential to inform policy and practice. Instruments to facilitate this could include a regional collaboration platform, opportunities to take advantage of the existing cross-national TVET networks, and regional guidelines for the quality assurance of TVET qualifications.

Recommendation 13: As per a recommendation emanating from the Third International Congress on Technical and Vocational Education and Training, held in Shanghai in 2012: develop regional guidelines on quality assurance for the recognition of qualifications based on learning outcomes. This will strengthen a common understanding of quality assurance systems and provide a basis for enhancing quality assurance systems in the region. Refer to Appendix 3 for a summary of the proposed Guidelines for the Quality Assurance of TVET Qualifications in the Asia-Pacific region.

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Appendix 1: Country Contexts that Shape TVET

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Afghanistan	<p>Total population (2016): 34,656,032.</p> <p>In 2017, 52% of the population are working age (15–59) and 43% are under the age of 15.</p> <p>About 64% of Afghans are under 25 years of age, with a large cohort of young people slowly emerging.</p>	<p>GDP per capita (2016): 561.78 United States dollars (USD).</p> <p>In 2016, the GDP growth rate was 2.2%, increasing from the 1.1% rate recorded in 2015 (World Bank).</p>	<p>2017 data indicate that the overall labour force participation rate is 52.6%, though with marked gender differences. The male labour force participation rate is 83.6%, while for women the rate is 19.3%.</p> <p>Strong reliance on the agricultural sector (farming and livestock) for employment (44%). Most employment is low or unskilled (90%).</p> <p>The percentage of the 'not gainfully employed' (including those unemployed and underemployed) is cumulatively 39%.</p> <p>High rates of child labour: 26.5% (ILO) or 29.5% (UNICEF) of the 5 to 17 year olds are engaged in child labour (CSO, 2016).</p>	<p>Afghanistan has made steady progress in reconstituting the education sector over the past decade. Since 2001 there has been remarkable growth in enrolments at all levels. Enrolment in general education rose from approximately 800,000 students, and very few girls, to 8.7 million in 2015, 39% of whom were girls. In 2015, TVET had 75,496 students and teacher education had 819,074 students. In 2014, higher education had approximately 300,000 students, of whom about 130,000 were enrolled in private institutions (Rasmussen & Kelly, 2016).</p>	<p>In Afghanistan, TVET continues to suffer from a low image vis-à-vis university education among young Afghans, with university qualifications being much more highly esteemed. The perception of TVET also suffers due to the perceived lack of relevance of training programmes to labour market needs, concerns over the quality of training delivered, and the lack of formal mechanisms for quality assurance (MoE & MoLSAMD, 2014).</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Brunei Darussalam	Total population (2016): 423,196. In 2017, around 70% of the population are working age (15–59) and 23% are under the age of 15.	GDP per capita (2016): 26,938.50 USD. Brunei Darussalam is the fourth-largest oil producer in South-East Asia. In 2015, oil and gas accounted for around 57% of GDP and was the source of 76.24% of government revenue. Both figures are lower than those recorded in 2013.	In 2017, the labour force participation rate is 63.2%. The youth unemployment rate was 5.9% in 2016. Employment is heavily concentrated in the services sector, particularly in public administration, wholesale and retail trade and education.	The legal minimum school leaving age is 16. A total of 115,862 students were enrolled in pre-primary to tertiary education in 2015. Distribution of post secondary (17–25 years old) students: <ul style="list-style-type: none"> • 20% A level/academic streams • 22% TVET (government and private) • 5% polytechnic • 52% universities. 	TVET is considered a second-best option compared to general and higher education. There is a culture of training within firms in some industries. More employers are shifting focus from academic qualifications to skills and capacities.
Cambodia	Total population (2016): 15,762,370. In 2017, 62% of the population are working age (15–59) and 51% are under the age of 25.	GDP per capita (2016): 1,269.91 USD. In 2016, the economic growth rate was 6.9%, a slight decline from the 7.1% rate recorded in 2014. The garment and footwear sector made the largest contribution to growth in 2015: one-third of real growth. The construction (and real estate) sector provided about one sixth of the total. The tourism sector continued to underperform in 2015, while the agriculture sector stagnated (Ly, 2016).	Cambodia's labour force participation rate is one of the highest in the region. In 2017, 81% of the population aged 15 or over are engaged in the labour force. The youth unemployment rate was 0.4% in 2016. The garment, tourism, and construction sectors have driven economic growth. Growth is expected to slow considerably or remain stagnant in the garment and construction sectors in the coming years. The majority of Cambodians rely on the agricultural sector for their livelihoods.	Noticeable achievements have been made in improving access to education. In 2015–16, the primary net enrolment rate (NER) was 96.5% in rural areas, 83.3% in urban areas and 93.9% for the whole kingdom. The gross enrolment rates for lower secondary, upper secondary and tertiary were 53.8%, 24.3% and 13.09%, respectively (Department of Education Management Information System, 2016). In 2008, 2.3% of students in secondary education were enrolled in vocational programmes (UNESCO-UIS).	Efforts have been made by various parties to raise the status and improve the attractiveness of TVET, which, as of 2017, is viewed as a second-rate option by learners, employers and the public.

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Indonesia	<p>Total population (2016): 261,115,456.</p> <p>In 2017, 64% of population are working age (15–59) and 27% are under the age of 15.</p> <p>The size of Indonesia's youth population is projected to decline.</p>	<p>GDP per capita (2016): 3,570.29 USD.</p> <p>In 2016, Indonesia recorded an estimated economic growth rate of 5%, a decline from the 6.2% rate recorded in 2010 and the 5.6% rate of 2013.</p> <p>In 2016, services accounted for the largest share of GDP (43.7% of total GDP). Industry and agriculture constituted 39.3% and 13.5% of total GDP, respectively.</p>	<p>In 2017, Indonesia's labour force participation rate is 67.33% with a female labour force participation rate of 51%. The youth unemployment rate was 18.62% in 2016.</p>	<p>In 2015–2016, the number of students at primary school was 25.9 million, for secondary schooling 10 million, secondary high schools 4.3 million, vocational high school under the Ministry of Education and Culture 4.3 million, and higher education 6 million. (Statistics Indonesia, 2017)</p>	<p>Learning by apprenticeship is important and requires taking sufficient time to become competent. Certain community and workers' associations of arts and crafts have rejected the definition of competences because standardization could limit the creative process. In general society, vocational education and training is considered of less value than formal education.</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Korea (Republic of)	<p>Total population (2016): 51,245,707.</p> <p>In 2017, 67% of population are working age (15–59) and 13% are under the age of 15. The proportion of young people in the total population is expected to decline, and it is projected that there will be significant population aging and a shrinking workforce over the coming decades to 2050.</p>	<p>GDP per capita (2016): 27,538.80 USD.</p> <p>In 2016, Korea recorded an estimated economic growth rate of 2.8%, a decline from the 6.5% rate recorded in 2010 and the 2.9% rate of 2013.</p> <p>In 2016, services accounted for the largest share of GDP (59.2% of total GDP). Industry and agriculture constituted 38.6% and 2.2% of total GDP, respectively.</p>	<p>In 2017, Korea's labour force participation rate is 60.9% with a female labour force participation rate of 50.2%. The youth unemployment rate was 10.6% in 2016.</p>	<p>Universal education in primary, lower secondary and upper secondary education, with participation and completion rates of almost 100% for each level.</p> <p>In 2015, 1,278,008 students were enrolled in general high school. The number of students enrolled in specialized high schools (TVET school at post-secondary level) was 302,021. There were 189 universities and 138 junior colleges in 2015. A total of 720,466 students were enrolled at junior colleges in 2015. There were 322,413 university graduates in 2015 and 182,424 junior college graduates (Ministry of Education and KEDI, 2015).</p>	<p>The rate of advancement from upper secondary to higher education is as high as 70%. Such a high rate is often attributed to low recognition of TVET. In Korea, TVET has been stigmatized due to the cultural values that rate academic skills above practical skills.</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Lao PDR	<p>Total population (2016): 6,758,353.</p> <p>In 2017, 61% of population are working age (15-59) and 33% are under the age of 15. The size of Lao PDR's youth population (15-24) and the population in the working age group (15-59) are projected to continue to grow.</p>	<p>GDP per capita (2016): 2,353.15 USD.</p> <p>Annual GDP growth in 2016 was 7%, a slight decline from the 7.3% rate recorded in 2015.</p> <p>The agriculture sector is dominant and the service sector has been increasing rapidly. The industrial sector is growing, with domestic and foreign investment, including in the energy and mining sectors.</p>	<p>In 2017, Lao PDR's labour force participation rate is 77.8%, with a female labour force participation rate of 78%. The youth unemployment rate was 3.8% in 2016.</p>	<p>Increasing literacy and numeracy and increasing participation rates of students in primary education has been a focus of the government's national education plans. The national targets for 2020 are: a primary net enrolment ratio of 98%, a secondary education rate of 85% and a lower and upper secondary education rate of 60% (Ministry of Education and Sports, 2015).</p> <p>In 2015, the TVET programmes (certificate 1-3, diploma and higher diploma) were provided at training centres and institutes, with a total of 95,668 enrolled students (35.5% female). For higher education programmes, such as associate degrees, degrees and doctorates, 57,188 students were enrolled (44.5% female) in 2015 (Ministry of Education and Sports, 2016).</p>	<p>There is a mismatch between the supply of skills and the qualifications needed by employers in the workforce. Only a small percentage of the workforce have skills and qualifications above the most basic, with many lacking even basic skills. This lack of skills limits people's capacity to undertake further education and training at the level required in the labour market. Fewer than 7% of students choose vocational education and training.</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Malaysia	<p>Total population (2016): 31,187,265.</p> <p>In 2017, 66% of population are working age (15–59) and 24% are under the age of 15. The declining fertility rate is contributing to an aging population and a decline in the proportion of young people in the total population.</p>	<p>GDP per capita (2016): 9,502.57 USD.</p> <p>The GDP growth rate averaged 5.6% between 2010 and 2015.</p> <p>Malaysia is an emerging multi-sector economy, but the export of electronic goods remains a significant driver of the economy.</p>	<p>In 2017, Malaysia's labour force participation rate is 63.4%, with a female labour force participation rate of 49.3%. The youth unemployment rate was 12.1% in 2016.</p>	<p>In 2011, the primary enrolment rate for public schools was 99% and the secondary rate was 88%. A small but growing number of students enrol in private schools (1% of total primary enrolments and 4% of total secondary enrolments). Independent Chinese Schools form the largest component of other education (Department of Statistics Malaysia, 2011).</p>	<p>TVET graduates and practitioners are classified as technologists but are not recognized by the Board of Engineers Malaysia (BEM) as professionals under the Registration of Engineers Act, 1967. Therefore, technologists do not have professional status and cannot demand higher wages and career enhancement. The starting pay amounts of TVET graduates vary depending on their institutions.</p>
Myanmar	<p>Total population (2016): 52,885,223.</p> <p>In 2017, 64% of population are working age (15–59) and 27% are under the age of 15. The median age was 27.7 in 2015.</p>	<p>GDP per capita (2016): 1,275.01 USD.</p>	<p>In 2017, Myanmar's labour force participation rate is 77.7%, with a female labour force participation rate of 74.7%. The youth unemployment rate was 2.3% in 2016.</p>	<p>In 2014, the primary net enrolment rate (NER) was 94.5%, an increase from 87.74% in 2010. The gross enrolment rates for lower secondary, upper secondary and tertiary were 59.43%, 34.24% and 13.53%, respectively. Note: all data are for 2014 except for those at the tertiary level (UNESCO–UIS).</p> <p>The percentage of students enrolled in vocational programmes at the upper secondary level is very low compared to that of neighbouring countries (UNESCO–UIS; OECD, 2015).</p>	<p>As in many other countries, TVET and manual work in general are viewed negatively in Myanmar. This is evident in the very low proportion of students enrolled in vocational programmes at the upper secondary level. (UNESCO–UIS; OECD, 2015).</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Philippines	<p>Total population (2016): 103,320,222</p> <p>In 2017, 60% of population are working age (15–59) and 32% are under the age of 15. The median age was 24.1 in 2015. The size of the working age population is projected to increase.</p>	<p>GDP per capita (2016): 2,951.07 USD.</p> <p>The GDP growth rate averaged 6.2% between 2010 and 2015.</p> <p>In 2016, services accounted for the largest share of GDP (59.5% of total GDP). Industry and agriculture constituted 30.8% and 9.7% of total GDP, respectively.</p>	<p>In 2017, Philippines' labour force participation rate is 64.8%. The youth unemployment rate was 13.9% in 2016.</p> <p>In 2016, more than half (55%) of the employed persons were working in the services sector. Around 28% were employed in the agriculture sector and 17% in the industry sector (PSA, 2017b).</p> <p>A large number of Filipinos are working overseas. Latest statistics show that the number of Overseas Filipino Workers (OFWs) who worked abroad at any time from April to September 2016 was estimated at 2.2 million, a slight decline from the number (2.4 million) registered for the same period in 2015 (PSA, 2017).</p>	<p>The primary education participation rate for the school year 2012–13 was 95.24%, while that for secondary education was 64.61%. From the period 1995–2013, the peak of TVET enrolment was in 2007 at 2.1 million. The highest number of graduates was registered in 2009 with a total of 1.9 million. Higher education enrolment for the school year 2012–13 was 3.3 million (TESDA, 2015).</p>	<p>In the past in the Philippines, parents preferred degrees over vocational and technical education for their children. But in recent years TVET has seen increased acceptance in the country and has become very popular.</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Samoa	Total population (2016): 195,125. In 2017, 55% of population are working age group (15–59). Samoa has a relatively large youth population, with a median age of 21.2 and about 37% under the age of 15.	GDP per capita (2016): 4,027.76 USD. Samoa's GDP growth ranged between 5.4% and 4.3% over the five years between 2010 and 2015. The economy is largely dependent upon agricultural exports, development aid and private remittances from overseas. The largest sector is agriculture, with the majority of villagers dependent on their surrounding land for a living. Manufacturing and construction contributed 24% of GDP in 2011. Remittances contributed around 25% of GDP, making Samoa one of the highest recipients of remittances in the world (Samoa Bureau of Statistics, 2012).	In 2017, Samoa's labour force participation rate is 41.3%, with a female labour force participation rate of 23.3%. The labour force participation rate is low as the majority of the working-age population is engaged either in subsistence activities or in informal employment. The youth employment rate was 15.6% in 2016.	The total number of students enrolled in all schools in Samoa in 2013 was 57,112. Of these, 40,538 students (71%) were enrolled in primary schools, and 16,574 students (29%) were enrolled in secondary schools (Ministry of Education, Sports and Culture, 2013). The total number of students enrolled in post-school education and training in Samoa in 2014 was 5,902. Of these, 2,457 students (35% female, 65% male) were enrolled in TVET and 3,445 students (61% female, 39% male) were enrolled in higher education (Samoa Qualifications Authority, 2016).	Key values and norms of Samoan society include: respect for the elderly and matai (chiefs) and Christian teachings. The <i>faamatai</i> ¹⁴ system in the Samoan way requires learning through observation and 'doing'. To master faamatai, a youth should follow and do what the matai does, e.g. oratory skills. This is similar to the practical methods underlying TVET teaching and learning.

14 The Samoan chiefly system

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Thailand	<p>Total population (2016): 68,863,514. Thailand is one of the ten most populous countries with below replacement fertility. In 2017, 66% of the population are working age (15–59) and 17% are under the age of 15. The median age was 37.8 in 2015. It is projected that the size of the child and youth and working group population in Thailand will drop steadily over time, while the size of the population aged 60+ will rise.</p>	<p>GDP per capita (2016): 5,907.91 USD.</p> <p>In 2016, agriculture contributed around 8.3% to Thailand's GDP, while 35.8% came from industry and 55.8% from the service sector.</p>	<p>In 2017, Thailand's labour force participation rate is 71%. The youth unemployment rate was 3.11% in 2016.</p> <p>The number of persons employed in non-agricultural sectors increased by 0.3 million between the 3rd quarter of 2015 and that of 2016 (from 25.3 million to 25.6 million), while the number employed in the agriculture sector decreased by the same amount (National Statistical Office, 2016).</p>	<p>In 2014, about 14 million students were enrolled in Thailand's school system. The pre-primary education enrolment rate exceeded 112% (including immigrant children) and the primary education enrolment rate was 97%. The lower secondary education enrolment rate was 99% and the rate for upper secondary education was 79%. The ratio of students in vocational education compared to those in general education was 32.3:67.7.</p> <p>In 2015, 4,194,569 students were enrolled in the education levels from upper secondary to tertiary. Of these, 48.91% were enrolled in general education (upper secondary), 23.82% were enrolled in technical and vocational education (upper secondary), 17.87% in post-secondary non-tertiary vocational education and training, and 47.45% in tertiary education (Ministry of Education, 2015).</p>	<p>Most Thai people prefer their children to study in the formal schooling system rather than gain skills through work-based learning. TVET is generally the second choice for education in Thai society.</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
Tonga	<p>Total population (2016): 107,122. In 2017, 55% of the population are working age (15–59) and 36% are under the age of 15. The median age was 21.3 in 2015.</p> <p>Tonga has a relatively young population, with pronounced emigration.</p>	<p>GDP per capita (2016): 3,688.87 USD.</p> <p>The principal sectors are agriculture, forestry and fishing, commerce, mining, manufacturing, construction, electricity, water supply, transport and communication.</p>	<p>In 2017, Tonga's labour force participation rate is 63.3%. The youth unemployment rate was 11% in 2016.</p>	<p>In Tonga, the literacy rate is high.</p> <p>The main types of post-secondary education institutions in Tonga are TVET and higher education. There are both government and private institutions. Vocational education dominates the higher education sector in Tonga.</p>	<p>Tongan core values include mutual respect, sharing, humility and loyalty. However, there is diminishing interest in traditional values among the younger generations today, which is a concern to many society's leaders.</p>
Viet Nam	<p>Total population (2016): 92,701,100.</p> <p>In 2017, 65% of the population are working age (15–59) and 23% are under the age of 15.</p> <p>Viet Nam has a relatively large youth population, and the proportion of older people is growing.</p>	<p>GDP per capita (2016): 2,185.69 USD.</p> <p>Since 2000, Viet Nam's growth rate has increased, with rates over 6%, on average, per year. Three major sectors contribute to Viet Nam's GDP: the agricultural (18.1%), industrial (36.4%), service (45.5%) sectors.</p>	<p>In 2017, Viet Nam's labour force participation rate is 78.4%. The youth unemployment rate was 6.4% in 2016.</p> <p>The agriculture, fishery and forestry sector employs 44.7% of the working age population, industry and construction employs 22.1% and services employs 33.2%. In Viet Nam, the informal employment sector plays an important role, contributing a large share to GDP (General Statistics Office, 2015).</p>	<p>The legal minimum school leaving age is 15 years old (end of lower primary school).</p> <p>The principal types of post-secondary education institutions include: TVET schools, training centres, colleges and universities. Technical and vocational education and training is provided in two main ways: TVET institutions and TVET in enterprises. Viet Nam does not have any statistics on how many workers have been trained this way.</p> <p>In 2013–14, 14,900,700 students were enrolled in primary and secondary education. The number of students enrolled in TVET in 2014 was 2,372,700.</p>	<p>Vietnamese society values higher education. Most parents expect their children to study well and go to university.</p>

Country	Demography	Economy	Labour Market	Education and training	Culture and society
				The number of students enrolled in higher education in 2014 was 2,363,900 (General Statistics Office, 2014; General Directorate of Vocational Training, 2016).	

Sources: Total population for 2016 from World Bank. 2017. *World Development Indicators 2017*. Washington, DC, World Bank.

Population by broad age group (percentage) for 2017 and Median age for 2015 from United Nations, Department of Economic and Social Affairs, Population Division. 2017. *World Population Prospects: The 2017 Revision, Key Findings and Advance Tables*. New York, United Nations.

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For other sources, refer to country summaries.

Appendix 2: Country Summaries

Afghanistan

National context

The Islamic Republic of Afghanistan is a landlocked country in Asia with a population of approximately 34 million (World Bank, 2017). Almost half (43 per cent) are under 15 years of age, and 52 per cent are aged between 15 and 59 (UN DESA, 2017). Poverty is widespread, with 36 per cent of the population below the poverty line.

In 2016, Afghanistan's overall labour force participation rate (for those 15 years and above) is 52.6 per cent, with a male labour force participation rate of 83.6 per cent and a female rate of 19.3 per cent (ILO, 2017). Cumulatively, 39 per cent of the population is 'not gainfully employed' (including those unemployed and underemployed). The Afghan labour context is characterized by high rates of child labour, with 26.5 per cent (ILO) or 29.5 per cent (UNICEF) of 5 to 17 year olds engaged in child labour. The economy relies strongly on the agricultural sector (farming and livestock) for employment (44 per cent). Afghanistan's service sector is the largest, however, accounting for 49 per cent of its Gross Domestic Product (GDP). Most (90 per cent) employment is low skill or unskilled (CSO, 2016).

Afghanistan has made steady improvements to the education sector since 2001, with remarkable growth in enrolment at all levels. Overall, the number of students enrolled rose from approximately 800,000 in 2001, with very few girls enrolled, to 8.7 million in 2015, with girls making up 39 per cent. In 2014, approximately 300,000 students were enrolled in higher education, about 130,000 of which were enrolled in private institutions. In 2015, TVET institutions had 75,496 students enrolled and teacher education had 819,074 students (Rasmussen & Kelly, 2016).

Overview of Afghanistan's TVET system

Although Afghanistan has made substantial efforts to improve its technical and vocational education and training (TVET) system in recent decades, much remains to be done. TVET institutions in Afghanistan lack equipment and facilities, and although steps are being taken to align training and labour market needs, the curricula are not responsive to the needs of learners and employers. Access to TVET programmes is rather low, especially for girls, who often face social obstacles. A shortage of qualified teachers is a significant issue. Related issues include low qualifications of teachers, low salary levels for teachers and trainers, and high pupil to teacher ratios. Due to low remuneration, it is difficult to recruit qualified trainers with the necessary expertise and professional experience.

TVET services are delivered by both public providers and private institutions, including non-governmental organisations (NGOs). Over 50 per cent of TVET students are enrolled in private institutes, with NGOs the only source of vocational skills training in many rural areas.

The TVET system is characterized by fragmentation, lack of coordination between the various delivery providers, and a lack of standard qualifications. Responsibility for the TVET providers is split between various ministries. The two key agencies involved in TVET in Afghanistan are the Ministry of Education (MoE), which is the main provider of formal TVET, and the Ministry of Labour, Social Affairs, Martyrs and Disabled (MoLSAMD), which manages a network of public vocational training centres and is responsible for the provision of informal TVET. The TVET system does not have the capacity to monitor private and NGO TVET providers. A central system of certification and provider accreditation has yet to be established, hindering the recognition of learning achievements.

Quality assurance

The MoLSAMD runs the National Skills Development Programme (NSDP), which aims to contribute to the socio-economic recovery of the country through developing a national TVET system that is responsive to the needs of the labour market and through developing national occupational skills standards.

A Committee on Education and Skills Policy (CESP), located within the Office of the First Vice President, has been set up and tasked with establishing key regulatory bodies and frameworks for the TVET sector: the Afghanistan National Qualifications Authority (ANQA), the Afghanistan National Qualifications Framework (ANQF) and the TVET Board. The CESP members include the vice president and the ministers or deputy ministers of the MOE, the MOLSAMD and the Ministry of Higher Education (MOHE), as well as a representative of the Ministry of Finance (MOF). The CESP's secretariat works with the concerned departments and other relevant ministries and agencies involved in TVET to facilitate the creation of regulatory bodies and frameworks.

Progress has been made in recent years, particularly in terms of mechanisms for quality control, quality assurance, platforms for participatory governance, teacher training and the formation of thematic working groups. The National Occupational Skills Standards have been revised as preparatory work for the ANQF, with the active participation of government ministries, the private sector, NGOs and donors. As of 2017, legal and operational frameworks had been developed for the ANQA, ANQF and the TVET Board. Once established, they will provide key regulatory and quality assurance services to the education and training sector, ensuring that qualifications and providers in Afghanistan are regarded as robust and credible, both nationally and internationally.

The first board to be established under the ANQA was the TVET Board, but as of 2017, the board was awaiting an ordinance from the president before being able to officially start work. The main functions of the TVET Board will be to accredit institutions, trainers and programmes; undertake monitoring and inspection of providers and programmes; and administer guidelines for certification. Regulations and standard operating procedures have been developed. The first working group of the TVET Board has been convened to pilot the ANQF-level descriptors for curricula and assessment design, which is a key step towards quality assurance in the Afghan TVET system. The ANQA will be an apex body responsible for the governance and management of the NQF, serving as the highest regulatory and standard-setting body in the country for education and training, and will help bring about coherence in the

education and training sectors. It will coordinate policy direction across government ministries and ensure adequate involvement of stakeholders; establish and promote the recognition, development and issuance of qualifications based on standards, skills, and competencies to be achieved by students and trainees; and, finally, promote and facilitate access, progression and mobility through the framework.

Assessment

The assessment process is commonly understood to be a process required for progression to higher level of learning and to final examinations for certification. Assessments in Afghanistan are a combination of written and practical tests. Due to limited equipment, tools and facilities, the practical element of the assessments is weak, which affects the process of certification and the value of qualifications.

As of 2017, most assessments are conducted by TVET providers, so there is a quality assurance problem: the provider is also the assessor, evaluator and certification-awarding agency. Furthermore, there are, as yet, no systematic quality assurance arrangements to verify that awards and qualifications are based on nationally-acknowledged learning outcome levels and content. There is no third party presence to accredit the certificate and awards or to externally assure the quality of assessments. This arrangement will be changed when the TVET Board and national TVET accreditation system are operational. The government, donor agencies, employers, industry and learners are supportive of this planned change.

Under the newly proposed system, managed through the ANQA and the TVET Board, assessment centres will undertake overall assessments in all three types of TVET provision: formal, non-formal and informal.

The majority of Afghan people gain training and education in non-formal settings and in the informal economy by working as apprentices. Currently, there is no accreditation and certification system for these provisions, which means that trainees cannot easily continue their education to gain higher-level skills in their trades. A recognition system for the informal sector linked to the ANQF is envisaged, and once the qualifications

framework has been established this will enable non-formal and informal learning to be officially recognized. In the meantime, the NSDP has developed a method for assessing skills based on the competency-based training (CBT) approach. The assessment method includes identifying competences and collecting evidence on performance and knowledge that can be compared to occupational standards. Certificates will be issued only if competences are demonstrated. If not, then the learner is advised to take a further training course.

Participation by employers, employees and civil society

Government and non-government providers of TVET and employers, including industry representatives, have actively collaborated with the CESP in the process of developing legal and operational frameworks for quality assurance and accreditation.

Given that TVET must have strong linkages with industry, the CESP has made a particular effort to involve the private sector in consultations regarding quality assurance. Apart from the Afghanistan Chamber of Commerce and Industries (ACCI), which is the main body of employers and industry in the country, others that have participated in the consultative process include the Workers' Union, Builders' Association, Engineers' Association and private industry organizations.

The TVET Board includes a representative of the private sector as a member of each leading committee, and it was proposed that their representatives be members of the steering committee. Representatives of the agriculture, mines, railways and small industries are also members of sub-committees.

Conclusions

As of 2017, the Afghan TVET assessment, certification and accreditation systems are not effective, due to issues such as a lack of modern competency-based or learning outcomes-based training programmes, an absence of standards for qualifications, little relevance of courses to the needs of the labour market, and no quality assurance.

The ANQA and national TVET Board represent a vital step towards ensuring high quality delivery, assessment, accreditation and quality assurance of TVET in Afghanistan.

Afghanistan is currently developing the necessary administrative, legal and regulatory foundations for establishing a quality assurance agency for TVET. Concrete steps have been taken in this direction. The ANQA Act has been developed and has been sent to the Ministry of Justice to be processed. Regulations for the TVET Board, which will be a cornerstone of the ANQA, have been developed. Standard Operation Procedures have been developed for all the boards, the ANQA and the ANQF. Furthermore, the structure of the TVET system has been approved by the members of the CESP.

The legal and operational frameworks are being developed by the CESP in cooperation with the MOE, the MOHE and the MOLSAMD, who have consulted with stakeholders, including with other government agencies, training providers, employers, industry representatives and donors. All stakeholders are aware of the importance of quality assurance for TVET qualifications.

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Brunei Darussalam

National context

Brunei Darussalam, with an area of 5,765 square kilometres, has a population of 423,196 (World Bank, 2017). The population growth rate is 1.3 per cent and its youth cohort (aged between 15 and 24) makes up 16 per cent of the total population (UN DESA, 2017).

The nation has a labour force participation rate of 63.2 per cent, with the rate for males being 75 per cent and for females 50.6 per cent (ILO, 2017). The total number of unemployed individuals is around 14,100, with an overall unemployment rate of 6.9 per cent. Employment is heavily concentrated in the services sector, particularly in public administration (26.2 per cent), wholesale and retail trade (11.3 per cent) and education (9.91 per cent) according to the labour force survey conducted in 2014. Approximately one third of the workforce is employed in the public sector, and many trades in Brunei, such as construction labourers, and cleaners, are filled by foreign workers.

Brunei is the fourth largest oil producer in South-East Asia. In 2013, oil and gas accounted for around 66 per cent of the nation's Gross Domestic Product (GDP) and was the source of 90 per cent of government revenues (DEPD, 2015b). However, in recent years, oil production has declined and, as a result, growth has slowed. To strengthen Brunei's long-term prospects, the government has been trying to diversify the economy, using oil revenues to invest in non-oil industries, such as Islamic banking, and has sought to attract foreign direct investment.

Overview of Brunei's TVET system

TVET is embedded as part of the formal education system at two levels: secondary and post-secondary. At the secondary level, students are able to acquire basic technical and vocational skills only by joining the Applied Programme stream. The Institute of Brunei Technical Education and the Politeknik Brunei are the two major providers of post-secondary TVET in Brunei. Table 1 summarizes the TVET system in Brunei.

Table 1: Overview of the TVET system in Brunei Darussalam

Type of programme	Who are the major providers of this type of programme?	What is the typical duration and how prevalent is this type of programme?	What are the skill levels (low, intermediate, high) of the occupation that this type of programme covers?	What is the balance between practical work, technical training and general education in this programme?	Who is responsible for initiating, managing and ensuring quality of this type of TVET programme?	Characteristics of learners in this type of programme?	Do pathways between this and other programmes exist? If so, describe.
Provider-based education and training provided by the formal education and training under the supervision of the Ministry of Education	Secondary Schools	1 – 1.5 years	Low	Mostly practical	Internal QA, BDNAC and BDTVEC	14 years old (Year 9), both male and female	May apply to IBTE for further study upon graduation
	IBTE	1 – 2 years	Intermediate	70% practical and 30% theoretical		16–17 years old, both male and female, 'O' level graduates	IBTE graduates may apply to PB for further study
	PB	3 years	Intermediate	Mostly practical		16–18 years old, both male and female, 'O' and 'A' level graduates	PB graduates may apply to UTB for further study
Provider-based education and training provided outside the formal education and training system for the public	CET, IBTE	6 – 50 hours	Lifelong learning (life skills and community services)	Mostly practical	Internal QA	School leavers and working adults	
	Youth Development Centre, Arts and Handicraft Centre	Short courses (up to 3 years)	Intermediate	Mostly practical	Internal QA	School leavers (17–18 years old)	
Workplace-based education and training	Varies (depending on industry/ employers)	-	-	-	-	-	-

Note: IBTE = Institute of Brunei Technical Education; PB = Politeknik Brunei; CET = Continuing Education and Training; UTB = Universiti Teknologi Brunei; BDTVEC = Brunei Darussalam Technical and Vocational Education

Source: Compiled by the Brunei Darussalam country research team

Quality assurance

The national legislation that governs quality assurance is the Brunei Darussalam National Accreditation Council (BDNAC) Order 2011. The BDNAC was established in 1990 as the accrediting body in Brunei Darussalam, responsible for all matters related to the assessment and accreditation of qualifications recognized by the Government of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam. Two other agencies responsible for quality assurance of certification in Brunei are the Brunei Darussalam Technical and Vocational Education Council (BDTVEC) and the Private Education Section. The BDTVEC was established in May 1991 as the national awarding body for vocational and technical qualifications in Brunei, while the Private Education Section is in charge of registration, regulating and monitoring all private educational institutions (formal and non-formal) in Brunei. The three agencies (BDNAC, BDTVEC and the Private Education Section) are under the Ministry of Education.

With the recent Brunei Technical Education Transformation and the establishment of the Institute of Brunei Technical Education and Politeknik Brunei, the BDTVEC will cease to function as its responsibilities are to be handed over to the other two institutions.

In 2011, BDNAC endorsed the establishment of the Brunei Darussalam Qualification Framework to clearly define, in eight levels, the standards of various qualifications, ensure their quality and indicate the articulation ladders between the levels of qualification.

All local and foreign qualifications delivered in Brunei can be accommodated within the Brunei Darussalam Qualification Framework, and the BDNAC requires that all training providers and higher education institutions – public and private – take responsibility for their performance.

The quality assurance model is based on institutional self-assessment and continuous improvement. This system ensures that the training providers or institutions of higher learning have the capability and resources to establish and maintain an environment fit for delivering good quality education and training to meet or exceed the specified standards, as stipulated in the Code of Practices of Programme Accreditation and the Code of Practices of Institution Accreditation outlined by the BDNAC.

Assessment

Secondary level (Applied Programme Stream)

The programmes of the Business and Technician Education Council (BTEC), part of Pearson Education Ltd, UK, rely solely upon internal assessment, so it is crucially important that Bruneian schools have systems for assuring that accurate assessment records are maintained. Under the BTEC, each centre appoints several committees – appointed locally and by Pearson (UK) – to ensure the standard of quality systems follow that of the BTEC Quality Model.

Towards the end of the programme, students submit a portfolio that is internally assessed. All assessment for BTEC qualifications is criterion referenced, based on the achievement of all the specified learning outcomes. The assessments are developed centrally and locally based on the International BTEC Centre Guide to Assessment provided by Pearson BTEC. A grading grid gives the assessment and grading criteria used to determine the evidence that each learner must produce in order to receive a pass, merit or distinction grade. Individual schools/assessors then manage and administer according to the ability levels and availability of facilities in schools. Pearson BTEC awards the BTEC Level 1/ BTEC Level 2/ BTEC Level 3 certificates and diplomas to those who have satisfactorily fulfilled all the requirements prescribed.

Post-secondary level

Under the BDTVEC, each registered training organization – whether public or private – must ensure that it has a process for standard setting of assessment procedures. This is done via an internal verification system. The process of internal verification is carried out by each registered training organization in order to ensure that the assessment practices and decisions are in accordance with the BDTVEC rules and procedures. The internal verification forms are controlled and completed by the group coordinators.

The assessment process for each unit should ensure that all learning outcomes specified for the unit are achieved. Students are assessed on all units studied and the assessments can be grouped into components to facilitate the submission of results to the BDTVEC Secretariat, as shown in Table 2.

Table 2: Assessment components and types

	Components	Types	
Formative assessment (Continuous assessment)	Coursework	Assignments Reports Class Tests Phase Test	Oral Tests Presentations Portfolios
	Laboratory / Practical work	Laboratory work Practical Work	Laboratory Tests Laboratory Reports
	Project work	Project work including reports and presentations where applicable	
Summative assessment	Examination	End Examination	

Source: BDTVEC, 2012.

Diplomas, skill certificates and achievement transcripts are awarded to those who have satisfactorily fulfilled all the requirements prescribed by the BDTVEC. Students who fail to fulfil all the requirements for the award are given only achievement transcripts, which show all the attempted units (including failed unit(s)).

An additional requirement is that registered training organizations be verified by an external party. The external verifiers are appointed by the BDTVEC Secretariat to monitor the implementation of BDTVEC programmes. The external verifier makes at least one visit per semester to the training organizations, and is expected to ensure that those involved in implementing the programmes use updated programme and unit guides and understand BDTVEC's policies and procedures.

Under the Institute of Brunei Technical Education (IBTE), the process of setting up assessments will be similar to that of BDTVEC. The only difference is that under IBTE, the process of verifying the assessment will no longer be done externally. Instead, an Assessment Verifier Committee (AVC) will be set up, the members of which will be the examination officers from all IBTE campuses.

The Industrial Skills Qualification (ISQ), National Technical Education Certificates (NTEC), Higher National Technical Education Certificate (HNTEC) Certificates and achievement transcripts will be awarded to those who have satisfactorily fulfilled all the requirements prescribed by the IBTE. Students who fail to fulfil the requirements for the award will be issued with only achievement transcripts. For ISQ programmes, students will also have to pass the trade tests set by the relevant industry bodies, where applicable.

Participation by employers, employees and civil society

Recruitment in the public sector relies on qualifications being accredited by either BDNAC or BDTVEC – both of which have members representing different government agencies. With Brunei’s recently launched long-term development plan of Wawasan Brunei 2035 (or Brunei Vision 2035), the private sector is increasingly involved in planning and implementing development projects – including TVET. This is particularly the case for post-secondary TVET, where the industries play increasingly important roles in aspects of TVET such as curriculum planning and the development and implementation of apprenticeship schemes, and are involved in competency-based training and competency-based assessment.

As of 2011, three trade unions were registered in Brunei, but none were active as trade unions. As such, other than through platforms mentioned above, there is almost no participation by employees and civil society organizations in quality assurance of TVET qualifications in Brunei.

Strengths and weaknesses of the quality assurance

In Brunei, external moderators are appointed from established universities, mainly from the United Kingdom and Australia. Some programmes under IBTE also involve key personnel from industry, to support the quality assurance of its qualifications. For instance, any assessment to be given to students needs to be verified by the relevant industry, under the competency-based assessment and training arrangements.

Internal moderation within institutions is also in place. This aims to ensure that consistent and accurate standards are being applied and maintained.

The internal moderation, in each institution and for each programme, is monitored and implemented by quality assurance implementation personnel, who differ depending on the programme type and level of qualification. For BDTVEC programmes, for instance, the personnel involved would normally consist of the deputy principal (Education and Training), the head of department and the external moderators.

The Brunei Darussalam Qualification Framework – which the quality assurance of the qualification process mostly refers to – provides a mechanism for fair and transparent recognition of qualifications, both nationally and internationally. The framework contains the articulation ladders between the different levels of qualifications, thus encouraging and promoting lifelong learning by enabling individuals to plan and access learning, and to pursue their goals according to their own roadmaps.

The cost of quality assurance of qualifications is borne by the government, but the BDTVEC charges small amounts to all private institutions for services provided, e.g. external moderation.

Officially, there is no expertise in the field of quality assurance of qualifications in Brunei, since there is no specific training in this field in the country. However, the individuals assigned the various tasks relating to quality assurance have several means, including workshops on quality assurance processes (e.g. quality assurance training at Bureau Veritas Brunei for IBTE quality assurance personnel), handbooks and policy guidelines (e.g. the IBTE academic policy handbook), to enable them to assess, verify, moderate and accredit TVET qualifications.

As of 2017, there is no single authority or agency for qualifications in Brunei. The tasks of the three agencies responsible for quality assurance matters in Brunei seem to overlap somewhat, with unclear roles, lack of ownership and accountability and lack of clarity in the quality assurance system and the links between the parties. These agencies, though having to rely on one another to execute an action, seem to be working in silos and lack effective inter-agency communication and transparency

Furthermore, there is a lack of resources (both human and capital) at every level of operation. A related issue is that, by being under the purview

of the Ministry of Education, all three agencies are part of a hierarchical structure and they rely on a strict chain of command for decision-making. This leads to slower responses.

Opportunities for and barriers to improving the present quality assurance process

With the ASEAN Qualifications Reference Framework, standards are likely to become more unified across the region. More focus may be put on regulating the credit transfer system, recognition of prior learning as well as understanding the quality assurance framework across countries and regions. The better cross border understanding of qualifications and quality assurance should promote mobility of professionals, academic credit transfers, employability and student-centred learning.

With greater emphasis on TVET in the national agenda, the three agencies responsible for quality assurance of TVET in Brunei have the opportunity to develop effective communication and transparency to ensure more systematic, organized, efficient and effective quality assurance processes. Furthermore, there is also an opportunity for key education and training providers and key personnel from industry to be more involved in supporting quality assurance in TVET.

Getting key stakeholders involved and then to remain committed to the quality assurance process remains a challenge, however. A mechanism is not yet in place to encourage the key stakeholders to be engaged in the quality assurance process.

Suggestions to improve quality assurance of qualifications and how quality assurance could be adapted to respond to regional development

Besides having robust policies and frameworks in place, effective quality assurance of qualifications relies on having the required human capacity. A way forward would therefore be to further develop and train personnel involved in the quality assurance process, and to have local experts in the field of quality assurance.

In addition, there is a need to develop a robust quality assurance and regulatory framework for both private and public TVET institutions. With the recent initiatives to transform TVET in Brunei Darussalam, it is necessary to strengthen the current system to cater for those changes, especially since efforts to establish and maintain robust quality assurance on TVET in Brunei have been reliant on the government sector.

It is proposed, therefore, that the Ministry of Education of Brunei establish a single regulatory body responsible for regulating all types of post-secondary education (TVET and higher education institutions). A single qualification agency would ensure the following:

- Greater emphasis by TVET institutions on student outcomes and their experiences.
- Strengthened quality assurance processes, procedures and policies.
- Safeguarding of the standards required to produce high quality graduates.
- Students and public interests would be at the core of policy and actions.

While a single qualification agency would enable a more systematic, organized, efficient and effective quality assurance process, it would need to meet regional and national standards so as to facilitate and promote mobility of professionals, academic credit transfer, employability and student-centred learning.

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Cambodia

National context

Cambodia is a South-East Asian nation bordering Viet Nam, Lao PDR and Thailand. Its land area is 181,035 square kilometres, and it has a population of approximately 15.7 million (World Bank, 2017). Half of the population (51 percent) are under 25 years of age, and 62 per cent are working age (15-59) (UN DESA, 2017). Cambodia's labour force participation rate is one of the highest in the region. In 2017, 81% of the population aged 15 or over are engaged in the labour force. The youth unemployment rate was 0.4% (of total labour force aged 15-24).

Cambodia's foreign policy focuses on establishing friendly relations with its neighbours, as well as integrating into regional (ASEAN) and global trading systems. Cambodia is a developing country with a narrow economic base. The majority of Cambodians rely on the agricultural sector for their livelihoods, but the garment, tourism and construction sectors have driven economic growth and job creation in recent years.

The country's lack of a skilled workforce indicates a need for a better education system. Formal education in Cambodia consists of three years of pre-school, six years of primary school, three years of lower secondary school and three years of upper secondary school. Formal higher education consists of one year of pre-university (foundation year), two years for an associate degree, an additional two years for a four-year bachelor's degree, two years for a master's degree and three years for a doctorate.

Overview of Cambodia's TVET system

Formal TVET provision covers four main levels (UNESCO, 2013):

- Certificate level: Short courses with lengths ranging from a few weeks to less than a year, leading to certificates delivered in provincial or vocational training centres.

- Diploma level: Post Grade 9 trade training in provincial and vocational training centres, leading to diplomas at three levels (for years 1, 2, and 3).
- Higher diploma level: Post Grade 12 entry plus two years of study, leading to a higher diploma in technical institutes and polytechnics.
- Bachelor's level: Entry either (a) post Grade 12 plus four years (or 4.5 years for engineering), leading to a bachelor's degree in engineering, technology or business administration, or (b) higher diploma plus two (or 2.5) years for the same degrees.

Students who wish to change from the academic stream to the TVET stream have to pass a bridging course of national competency assessment at level 1 of CQF (Cambodian Qualification Framework).

The formal TVET system comprises 39 TVET institutions: 24 provincial training institutes/Centres; eight polytechnics/institutes; one specialized institute, namely the Secondary School of Japan Vocational Centre; and six other institutions that offer community-based short courses to increase family incomes.

The Ministry of Labour and Vocational Training (MLVT) manages the TVET system (both formal and non-formal). The National Training Board (NTB) has overall responsibility for the TVET system and is responsible for policy direction and coordination. It is also the monitoring authority for TVET in Cambodia. The Directorate General of Vocational Education and Training (DGTVET) of the MLVT acts as secretariat to the NTB, which provides it with policy direction and guidelines for the provision of national skills development.

The NTB includes three technical sub-committees: the Sub-committee of National Competency Standards and Testing; the Sub-committee of Accreditation on Courses, Programmes and TVET Institutions; and the Sub-committee of Labour Market Information. The NTB has also provincial representatives through provincial training boards.

Membership of the NTB is under the chair of the minister of labour and vocational training. The other 31 members include 16 senior government officials (including five secretaries of state, three undersecretaries and eight director generals or deputies).

The NTB, an apex competent body supported by the DGTVET, registers all TVET providers. The standards or requirements that need to be met for the registration of providers have been developed through an ongoing project funded by the Asian Development Bank (ADB). It is anticipated that the TVET system will include assessment centres for recognition of competencies and qualifications.

The major support activities for TVET are expected to be channelled through the National Technical Training Institute (NTTI), which is responsible for TVET teacher training and development. The Competency Standards for TVET Teachers, which, as of 2017, are being finalized, will be used as a tool for identifying the minimum standards of TVET teachers.

Assessment

Competency-based education and training aims to provide learners with knowledge, skills and clear understanding for implementing various activities to fulfil the criteria set in the approved national competency standards. Competency-based assessment assesses against a specific set of outcomes, to judge student achievement of these outcomes. Competency-based training and assessment are in the initial stages of implementation in Cambodia for TVET sector at CQF levels 2, 3 and 4.

Competency-based assessment and certification in Cambodia seeks to improve the quality of life of skilled and technical workers by increasing their level of skills and enhancing their employability. In particular, it aims to improve the level of skills of workers in industries and commercial establishments, and assist the development of human resources by providing a precise means of assessing the technical workforce, both qualitatively and quantitatively. It can also help improve industrial relations by providing a common ground for negotiations between employers and workers.

Graduates of vocational training institutions and technical schools can qualify to take a competency assessment in their discipline. Similarly, workers in industries and commercial establishments can also take the test provided they can show proof of their relevant experience and meet the other requirements prescribed by the Assessment Sub-Committee

of the NTB, the Department of Standard and Curriculum (DSC) and the DGTEVT of the MLVT.

Two types of assessments will be available. The first type is assessments taken during the programme, based on learning outcomes for each existing module (qualification/unit competency), to evaluate the students' progress (formative assessment). This assessment will be undertaken by instructors. The second type is a national assessment that will take place at the end of each programme. This type of assessment will be managed by the department and institution, with the assessment committee assigned by the Minister of Labour and Vocational Training.

The competency-based assessment and certification system in Cambodia is strengthening qualification quality assurance and recognition. The Cambodian Qualifications Framework will be the basis of all qualification and certification, supported by the national competency-based assessment guidelines, with national competency assessors in place.

A competency assessment centre is a venue in which people can be assessed. Such centres must have the required equipment, tools and materials for assessing the skills of candidates, and these centres must be approved and accredited by the NTB or other authorized competent bodies.

Competency assessors assess the candidates. They have experience in teaching or working related to the specified skills, and must pass the assessors' training courses. They are accredited and certified by NTB to control and evaluate in the assessment process.

A competency assessment package is the set of assessment instruments, including a written or oral test, a practical test and assessment guidelines. Such packages are developed by the technical skill teachers in cooperation with technical experts from the relevant industry.

Participation by employers, employees and civil society

Several organizations at the national and sector levels play important roles in developing sound public-private partnerships. These organizations include the Cambodian Federation of Employers and Business

Associations (CAMFEBA) and the Garment Manufacturers Association of Cambodia (GMAC). Employers (the Industry Advisory Group or sector skills councils) and employees (expert workers) collaborate in the process of developing standard training packages.

CAMFEBA acts as a training provider to: assist employers in sharpening their competitive edge through skills training and employee development; provide employers with a wide range of training and skills development programmes for upgrading employees' skills; and update employers on the latest developments in human resources and industrial relations management.

Established in response to the increasing need for the garment and footwear industry to have a unified representation, GMAC strives to represent and safeguard the interests of the garment and footwear industry which has been the mainstay of Cambodia's economy, contributing nearly two percentage points of the country's seven per cent GDP growth in 2015 (ILO, 2017b). The association ensures that the policy and legal environment is favourable for the growth and development of the industry and provides quality training with the strategic objective of developing skills that allow learners to move up the value chain. Representatives of CAMFEBA and GMAC sit on key national committees related to TVET, such as the NTB's committees on skills standards, testing and accreditation.

For developing human resources, public and private organizations have collaborated to establish curricula, regulations and legislation relating to training and hiring labour. For example, the Japan International Cooperation Agency (JICA) cooperated with the Department of Standards and Curricula to develop the diploma training curriculum for the electrical sector. Cooperation between the Department of Training of the DGTVET and private employers resulted in an apprenticeship for skilled workers. After the apprenticeship training, certificates were issued to recognize the trainees' competences.

Strengths and weaknesses of quality assurance of the TVET qualification process

In Cambodia, 12 training institutes have achieved the ISO 9001:2008 for Management Quality Control.

The National Quality Assurance Framework includes:

- ▶ The Cambodia qualifications framework
- ▶ The quality assurance handbook
- ▶ TVET quality assurance circulation
- ▶ The TVET strategy plan 2014-2018
- ▶ The national TVET policy
- ▶ The competency-based assessment and certification policy

The TVET quality assurance process includes:

- ▶ Standards training packages (including competency standards, competency-based curriculum, competency-based learning package, and competency assessment package)
- ▶ Competency assessment standards
- ▶ TVET teachers and assessors standards
- ▶ Supporting guidelines and materials

The NTB is responsible for TVET policy, quality assurance legislation and regulation, and approvals of financial plans and proposals. The DGTVET, as secretariat of the NTB, is responsible for managing and implementing all TVET activities, including the TVET quality assurance process. Under the NTB, two sub-committees are directly involved with TVET quality assurance: the Sub-committee of National Competency Standards and Testing and the Sub-committee of TVET Institutions and Courses Accreditation.

Due to budgetary pressures, the Cambodian government finds it difficult to provide adequate and stable financing for public TVET institutions and for skills development in general. Under the various funds, the availability of financial resources for quality assurance of TVET qualification is examined. It is discussed from the viewpoint of resource

mobilization, allocation, utilization and equity impact. Finally, there is a discussion regarding the need to mobilize sustainable resources for TVET and implement mechanisms to stimulate effective and innovative management practices (UNESCO, 2013).

Opportunities for improving the present quality assurance process

Cambodia's Education Strategic Plan (2014-2018) recognises the need to "implement the national qualifications framework to improve the quality of technical and vocational education, and to institutionalize effective coordination among and between all stakeholders". The quality improvement of TVET is also one of the priority areas in the recently approved National TVET policy (2017-2025).

The Cambodian qualifications framework (CQF), which was established in December 2010, came into effect in 2014. The CQF aims to bring all recognised qualifications under a unified structure in order to set out pathways for further education and employment and ensure that the quality of education and training meets international standard.

In an effort to assure the quality of TVET qualifications, the Directorate General of Technical Vocational Educational and Training (DGTVET) undertakes the establishments of standards, endorsement and approval of qualifications and approval of assessment providers. The Department of Quality Assurance (DQA) within the DGTVET is responsible for monitoring and evaluating the quality of the programmes delivered.

Suggestions to improve quality assurance of qualifications and how quality assurance could be adapted to respond to regional developments

The strategic policies of the Royal Government of Cambodia, especially the MLVT, indicate it plans to strengthen the quality of TVET to meet labour market requirements, both nationally and internationally. Accordingly, in the TVET sector development programme, the MLVT has to:

- Raise awareness in education and training institutions of the need to implement the Cambodian Qualification Framework, the ASEAN Qualifications Reference Framework, the Regional Model for Competency Standards and other guiding principles for recognition of competency-based assessment and certification systems, and national and regional frameworks.
- Put the policies and frameworks in place.
- Increase capacity. Since quality assurance of qualifications also relies on the human capacity in the system, a way forward would be to further develop and train personnel involved in the quality assurance process, and to have experts in the field of quality assurance in the country.
- Ensure continuous improvement in the development of training regulations and assessment instruments responsive to regional developments.
- Ensure the following:
 - ▶ Strengthen the quality assurance processes, procedures and policies.
 - ▶ Place greater emphasis on student outcomes and their experiences in TVET institutions.
 - ▶ Safeguard the standards required to produce high quality graduates.
 - ▶ Review TVET providers to ensure they meet expectations.
 - ▶ Continuous benchmarking with international standards and best practices.

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Indonesia

National context

In 2016, the population of Indonesia reached 261.1 million. Almost 30 per cent of the population are under 15 years of age, and 64 per cent are aged between 15 and 59. Unemployment is 5.6 per cent, with the youth unemployment rate of 18.6 per cent (of total labour force ages 15-24) (ILO, 2017).

Indonesia's overall labour force participation rate (for those 15 years and above) is 67.3 per cent (ILO, 2017). The total labour force has increased compared to 2013. The agricultural sector absorbed 31.9 per cent of labour force; the trade sector absorbed 22.5 per cent; the service industry absorbed 16.4 per cent; the manufacturing sector absorbed 13.1 per cent; the construction sector absorbed 6.7 per cent; transport, warehousing and communications absorbed 4.7 per cent; and the financial sector absorbed 3 per cent (BPS, 2017).

Indonesia's GDP in 2016 amounted 932,259.18 million USD and grew at an average rate of 5.6 per cent between 2010 and 2015. Indonesia's GDP per capita in 2016 amounted to 3,570.3 USD and grew at an average rate of 4.3 per cent per year between 2010 and 2015. In 2016 the contribution of agriculture to GDP was 13.5 per cent, the services sector accounted for 43.7 per cent, and the industrial sector contributed 39.3 per cent (World Bank, 2017).

The number of students enrolled in primary school in Indonesia in 2015-2016 was 25.9 million, while the figure for secondary schooling was 10 million and the number at secondary high schools (SMA/ Sekolah Menengah Atas) was 4.3 million. In higher education (Universitas/ Sekolah Tinggi) the number of students enrolled in 2015-2016 amounted to 6 million. The number enrolled in vocational high schools under the Ministry of Education and Culture (SMK/ Sekolah Menengah Kejuruan) was 4.3 million (BPS, 2017).

Overview of Indonesia's TVET system

TVET in Indonesia can be grouped into three categories:

- TVET in the form of vocational secondary school, under the supervision of the ministry responsible for education.

This form of TVET dominates the delivery of training in Indonesia with about 11,720 vocational secondary high schools in the country, of which 75 per cent are private. The programmes offered at vocational high schools generally impart low to intermediate skills, and include engineering technology, information technology, health, art, craft, tourism, agribusiness, business and management.

- TVET in the form of vocational training, under the supervision of the ministry responsible for labour.

Vocational training institutions number around 8,700, of which 97 per cent are private.

- Vocational training centres.

Following an analysis by central and local governments of the need for a skilled labour force to fulfil the requirements of local labour markets, the Ministry of Labour established vocational training centres. As of 2015, the government had established 274 such centres, making up only about 3 per cent of all training providers in Indonesia.

Quality assurance

As of December 2015, there were 320 professional certification agencies (LSP/ Lembaga sertifikasi profesi) in Indonesia, supported by as many as 28,120 assessors. The main function of such agencies is to provide competency tests and certificates of recognition for certain trades and professions. Coaching, supervision and licensing for professional certification agencies is the responsibility of the Badan Nasional Sertifikasi Profesi – National Professional Certification Agency (BNSP).

Quality assurance of training institutions is conducted by the training provider accreditation authority (LA-LPK/ lembaga akreditasi lembaga pelatihan kerja), which operates as an independent body using eight

standards for accreditation, including the standard of competence, standard of curriculum, standards of process, standard of assessment, standard of instructors and staff, standard of facilities, standard of governance and standard of funding.

Assessment

In Ministerial Decree No. 21-2007, the procedures for determining competency standards were outlined with the following phases: planning, preparation, standardization and determination. An assessment of the standardization process is carried out at the fourth stage to ensure that the process of preparation and adoption of standards of competence meet quality assurance requirements.

Assessment and verification of training provider accreditation is conducted through evaluation of requirements and documents prepared by the training providers. Assessment of professional certification is conducted through an evaluation of requirements and documented evidence prepared by the candidates. In the standard procedure, there are several stages of assessment of competence including assessment of information, competency assessment registration, filing of the competency assessment, application completeness check, competency assessment, recommendations and decision.

Table 3 summarizes the responsible bodies and the procedures for assessment and verification.

Table 3: Summary of the bodies and procedures for TVET assessment and verification in Indonesia

Quality Assurance Procedure of Assessment and Verification		
STANCOM	LA-LPK	BNSP
Quality Assurance of Standardization of Competency & Qualification conducted by Stancom (MoM)	Quality Assurance of Training Provider conducted by Accreditation Authority (LA-LPK)	Quality Assurance of Professional certification conducted by Certification Authority (BNSP)
Procedure of Verification	Procedure of Verification	Procedure of Verification
<p>Planning stage</p> <ul style="list-style-type: none"> Identify technical bureau of trustees Verify industry association Validate representation association <p>Preparation stage</p> <ul style="list-style-type: none"> Verify representative of committee Verify RMSCS standard on competency draft Verify of implementation of convention <p>Standardization stage</p> <ul style="list-style-type: none"> Verify the final result convention Verify the final draft of SKKNI/competency standard Verify requirement document for further processing <p>Establishment stage</p> <ul style="list-style-type: none"> Verify technical institution of trustees Verify the agenda of convention Verify the documents for MOM approval 	<p>Dissemination stage</p> <ul style="list-style-type: none"> Identify the process of dissemination Verify self assessment of provider <p>Application stage</p> <ul style="list-style-type: none"> Verify request of accreditation Verify accreditation document of provider Verify schedule of accreditation <p>Desk assessment stage</p> <ul style="list-style-type: none"> Verify completeness of document Verify assessor examination record Verify desk assessment result <p>Visitation stage</p> <ul style="list-style-type: none"> Verify the findings of assessor record Verify assessor's assessment result <p>Final report stage</p> <ul style="list-style-type: none"> Verify completeness of report of assessor Verify the accuracy of assessor report 	<p>Assessment information stage</p> <ul style="list-style-type: none"> Verify dissemination process by LSP <p>Registration stage</p> <ul style="list-style-type: none"> Verify list of applicant Verify assessment readiness of LSP <p>Evaluation of application stage</p> <ul style="list-style-type: none"> Verify completeness of application Verify pre-/ self assessment Verify sufficiency of evidence <p>Competency assessment stage</p> <ul style="list-style-type: none"> Verify suitability of assessment place Verify methods of assessment Verify result of written test, performance and other portfolios <p>Assessor recommendation stage</p> <ul style="list-style-type: none"> Verify assessor recommendation Verify assessor assessment result Verify completeness of report document

Source: MoM, LA-LPK, BNSP

Participation by employers, employees and civil society

One of the largest industry associations is APINDO (the employers' association of Indonesia). APINDO is an official association recognized by law and by government as representing members in industrial relations matters. Business entities or industries that employ people determine the level of proficiency and qualifications required to support their production processes. This standard or level of proficiency and qualifications required by industries should be used as a reference for developing curricula and courses at training centres or institutions. The assessment process for certification of qualifications that are conducted by the BNSP should be based on industry requirements.

As of 2017, industry has not fully contributed to the development of standards of quality assurance at the TVET learning process level, such as those for training centres (BLK) or training providers (LPK). The business community has not formulated a vision of quality assurance that reflects its needs and could be used as a reference for TVET, even though industry needs a productive and competitive labour force.

The main role of trade unions in industrial relations is as a forum of common interests of workers in upholding their rights and increasing their wages and welfare. In industrial relations activities, unions may support management and seek to collaborate harmoniously to improve productivity. As of 2017, including trade unions in improving the functioning and effectiveness of TVET has not been a priority in Indonesia and has not been included as a union programme. Accordingly, trade unions have very limited involvement in activities related to education and training.

Indonesia has a tripartite forum for cooperation between the various parties (government, employers and workers) to improve coordination. As of 2017, the tripartite body is more focused on industrial relations; issues of productivity and increasing the capability and competence of workers are not on the main agenda.

Strengths and weaknesses of quality assurance of the TVET qualification process

Indonesia has a quality assurance system for certification under the ministries responsible for education and labour. The institutions responsible for monitoring quality are the competency standardization (STANCOM) institution, the accreditation of training providers (LA-LPK and BAN-PNF - Badan Akreditasi Nasional - Pendidikan Non-formal – National Accreditation Board for Non-formal Education) institutions and the certification of profession competency (BNSP) institution.

The strengths of the quality assurance system are:

- TVET quality assurance is underpinned by education and labour laws as well as by government decrees.
- The government is committed to subsidizing the financing of quality assurance. The government allocates a budget and subsidizes certification and training provider accreditation as well as institution governance for quality assurance.
- There is growing awareness of the need for certification.
- More and more practitioners involved in the process of quality assurance of certification are becoming certified. There are many quality assurance bodies for certification and accreditation at the Ministry of Education (BSNP and BAN) and at the Ministry of Manpower (BNSP and LA-LPK).
- Quality assurance systems and instruments are already in place for implementing the quality assurance process.
- Quality assurance bodies at the Ministry of Education and Ministry of Manpower have been implementing the principles and processes of quality assurance across representative offices at the province level.

Weaknesses include:

- The lack of a mechanism for coordination between the three quality assurance institutions, with the result that the programmes and objectives of the quality assurance institutions are not always in line. Likewise, communication and institutional coordination between

ministries and between the central and local governments have not yet been established.

- The need for government regulations relating to the financing mechanisms for institutions.
- The lack of involvement of the business community in improving the quality of the three quality assurance institutions.
- Certification of qualification and accreditation of training providers is voluntary and not yet a prerequisite for employment in most industries.
- The small number of quality assurance experts and practitioners in the quality assurance bodies.
- Central and local governments allocate only a small budget and subsidies for quality assurance.

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

Opportunities include:

- A huge a number of training providers and institutions for vocational education across Indonesia.
- Increasing awareness of accreditation of training providers and certification of professional qualifications.
- There is an incentive for accreditation of training providers and professional certification.
- Some industries and users, both local and abroad, ask for certification of employee qualifications as a prerequisite of employment.
- Global competition, especially in the open market of the ASEAN economic community, has encouraged professional certification and training provider accreditation.

Barriers include:

- Low awareness among stakeholders, including industries, of the providers of standards and qualifications.
- Little attention from the Ministry of Manpower and lack of proactive responses to the needs of industry.
- Training providers do not need to obtain accreditation to get funding from the Ministry of Manpower and the Ministry of Education.
- There is limited cooperation between businesses and training providers.
- Industries do not need a qualification certificate for new employees.
- Salary standards in industries are not linked to the certification of qualifications.
- There is no cooperation between the BNSP, the Ministry of Manpower, training providers and the Ministry of Education on certification.

Suggestions for improving quality assurance of qualifications include:

- Encourage industries and users to take the initiative in standardization and certification.
- The Ministry of Manpower, LA-LPK, Ministry of Education and BAN PNF should develop an incentives scheme for provider accreditation.
- Encourage mutually beneficial cooperation between industries and training providers.
- Establish a joint committee with representatives of the BNSP, Ministry of Manpower, and industry to promote certification.
- Establish a joint committee with representatives of the Ministry of Manpower, Ministry of Education to establish a national qualification body under government.

How quality assurance could be adapted to respond to regional development

The policy of an open market and resources in the ASEAN Economic Community will push all the institutions and the wider community to increase their awareness of the importance of quality assurance in

education and training processes to strengthen their qualifications and competencies.

To speed up the process of quality assurance certification, the involvement of industry and the business community is very important. Businesses should be actively involved in the standardization of industrial competence and accreditation of training institutions so as to accelerate the implementation of labour force competencies and qualifications in Indonesia.

Some ways to ensure quality assurance responds to regional development needs include:

- Develop regional cooperation for developing standards, certification and qualifications, and implement the standards with national bodies responsible for certification and accreditation.
- Accelerate and implement national standards, qualifications and certification by national bodies through involving industries and governments.
- Conduct a benchmarking of regional quality assurance; adopt and adapt the regional quality standards for improving the national quality assurance standards.

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Korea, Republic of

National context

Korea has achieved dramatic progress in economic and educational development over the past half century, but new challenges are emerging as demographic projections indicate a decreasing youth population as well as a record high youth unemployment rate (10.6 per cent).

Over the past 50 years, Korea has rapidly expanded the provision of education, achieving universal education at the primary, lower secondary and upper secondary education levels and reaching rates of almost 100 per cent at each level for participation and completion.

The legal minimum school leaving age is 16, ensuring compulsory primary and lower secondary schooling for all. Furthermore, the rate of advancement from upper secondary to higher education is as high as 70 per cent. The number of students enrolled in TVET programmes has been steadily increasing.

TVET is stigmatized in Korea due to cultural beliefs that value academic knowledge over practical skills. While vocational qualifications were highly valued in 1960s when rapid economic developments were taking place, it plummeted as higher education was almost universalized. Following the economic crisis of 1997 and an increasing unemployment rate of college graduates (reaching 12 per cent in 2016), however, greater value is being given to TVET while the value of a college diploma has decreased. It is expected that perceptions of the value of vocational qualification will improve with greater public recognition of the National Competency Standards (NCS) and the National Qualification Framework (NQF) as being essential infrastructure for establishing a competency-based society.

Overview of Korea's TVET system

In early 1970s TVET capacity was insufficient to provide opportunities for school leavers, workers and the unemployed to gain TVET skills. Accordingly, the Ministry of Labour established the National Technical

Qualification System (NTQS), giving people greater opportunities to gain useful skills for the labour market and to develop their careers via a qualifications ladder. In 2015, the number of candidates for NTQS exceeded 80 million, and over 21.8 million were successful, with an average pass rate (under NTQ testing) of about 27 per cent over the four decades since 1973. More than 2.4 million candidates apply for NTQ testing as of 2017.

In 2012, the government initiated reforms that have massively transformed the system of education, training and qualifications in Korea through adopting outcome-based education and training. The government also developed the NQF, including occupational fields such as information technology, beauty and hotel management, for which sectoral qualification frameworks have been established. A total of 847 NCSs have been developed, including more than 10,000 units of standards. These have been adopted mainly in education and training programmes at technical high schools and at the junior colleges providing two- to three-year diplomas. 615 NCS-based technical qualification items have been developed.

Korean TVET has two categories:

- Vocational education, managed by the Ministry of Education (MoE), is composed of two key components: technical high school at the upper secondary level and vocational college (two to four years) at the tertiary level. As of 2017, discussions are underway regarding the need to move education for teachers, engineers, lawyers and accountants from the four years university category into the vocational education category.
- Vocational training, led by the Ministry of Employment and Labour (MoEL), is delivered by three types of institutions: polytechnics, public vocational training centres and private vocational training centres. Private providers supply a large proportion of vocational training in Korea. On-the-job training (provided by companies) is supported by the Employment Insurance System (EIS). Three kinds of training for the employed are backed by the EIS: subsidies for employer-led training, subsidies for self-directed training by the employed, and specialized programmes for small and medium-sized enterprises.

Quality assurance

The MoE controls the quality of TVET by adapting the national curriculum to upper secondary vocational education institutes and by implementing specialized projects for junior colleges. Operating with the national curriculum, these institutes and colleges are evaluated using various indicators, including the employment rate. The MoEL is stepping up efforts to raise the quality of vocational training institutes by adopting national vocational training standards. Vocational training institutes are evaluated by the MoEL on an annual basis. This evaluation system sets three levels of accreditation: accreditation for three years, accreditation for one year and a third type that is yet to be determined. This three-level evaluation system was converted from the previous five-level system.

In 2013, the MoEL established 13 Industry Skills Councils (ISCs)¹⁵ to promote the NCS-based quality assurance activities, led by industries. Since 2015, the quality of the education and training system was assured based on learning outcomes, by introducing a programme-based qualification system to NCS-based education and training. Recently, a programme-based qualification system,¹⁶ connected to the NCS, was introduced into technical high schools, junior colleges and some four-year universities. The policy of strengthening ties between vocational education and vocational training was bolstered with the wholesale reform of vocational training institutes by implementing the NCS-based vocational programme, because there was a growing recognition of the importance of learning outcomes, rather than input-based education and training, which was reflected in the NCS-based TVET system. The NQF tends to facilitate this reform as it is expected that the TVET qualifications will be registered with the NQF.¹⁷

15 As of March 2017, 17 ICs have been established and are in operation.

16 Programme-based qualification means TVET provider based programmes, based on the NCS, are internally quality assured by TVET providers and simultaneously externally quality assured by an awarding body. Public awarding bodies such as HRD Korea and TVET providers issue the qualifications. Programme-based qualifications can be acquired if candidates succeed in obtaining a total score of more than 80 in internal and external assessments.

17 As of July 2017, the Korean NQF is in the process of development.

Assessment

Major assessment methods include: practical tests, written tests and interviews. Practical tests are assessed by industry experts, university professors, teachers and trainers who satisfy the requirements for assessors. For relatively high-level qualifications, a written exam, requiring students to write an essay or write short answers in response to questions, is given to students to supplement the practical exam. Table 4 summarizes the testing methods.

Table 4: Conventional exam-based testing methods of NTQ

Qualification type	Testing procedure	
	Written exam (Write)	Practical exam or Interview (Say, Write, Create)
Craft worker	Multiple choice (1 answer out of 4 choices)	Practical exam
Master craft worker	Multiple choice (1 answer out of 4 choices)	Combined testing: Practical exam and written exam
Engineer	Multiple choice (1 answer out of 4 choices)	Combined testing: Practical exam and written exam
Industrial engineer	Multiple choice (1 answer out of 4 choices)	Combined testing: Practical exam and written exam
Professional engineer	Short answers or essay	Interview

Two methods of testing are used: the formal testing method, which uses the conventional exam-based approach; and the programme-based qualification method, introduced by new National Technical Qualification System (NTQS), which was reformed due to the introduction of the NCS. The NCS was adopted in 2013 and the programme-based qualification method was initiated in 2015, rapidly transforming the process of evaluation into a system based on assessing learning outcomes.

Programme-based qualifications¹⁸ have applied two types of assessment: internal and external. Internal assessments are implemented by the training institutes, which upload assessment results to the database system. HRD Korea, as an awarding body, invites industry experts to be assessors in external assessments. The assessment is composed of a written test and practical test.

In the accredited education and training institutes, NTQ qualifications are given only to the trainees who achieve an average score of 80 in both the external assessment (led by HRD Korea) and internal assessment (arranged by the training institutes). This is in accordance with the NTQA decree, articles 20-22. This qualification process is considered to be more difficult than the conventional exam-based testing as it has low pass rate.

Participation by employers, employees and civil society

Although the NTQS has been a success, application to the labour market remained limited due to insufficient industry participation. To overcome this situation, the government introduced the NCS and NQF, focusing on establishing an industry-led system. As highlighted in Box 1, Article 4 of the NTQA requires that industry participate in the management and operation of the NTQ.

Box 1: Article 4 (cooperation with employer, etc.)

Business owners, business owners' organizations, and workers' organizations shall actively cooperate in the development of the National Technical Qualification system through participation, etc. in the operation of such system, so that national technical qualifications may effectively reflect the needs of industrial circles.

The Korea Chamber of Commerce and Industry (KCCI) is the key employer's organization with around 150,000 members. This organization covers a variety of sectors, including electricity, electronic, manufacturing machinery, and the wholesale and retail segments of the service sector. The KCCI was established upon the enactment of the Chamber of Commerce and Industry Act, led by the Ministry of Trade, Industry and Energy (MoTIE). It is the awarding body for certificates for computer

¹⁸ Curriculum or process-based qualifications

utilization and computer accounting in the business sector. This role will be enhanced when responsibility for certification of vocational counsellors and social survey analysts is transferred from HRD Korea to the KCCI.

Strengths and weaknesses of quality assurance of the TVET qualification process

Strengths:

The TVET system in Korea is regulated by a national qualifications system, in accordance with the National Technical Qualification Act.

Weaknesses:

Changes are needed in higher education, the labour market and the incentive system to trigger a transformation of the education, training and qualification systems so that they are based on the learning outcomes approach.

Although policies related to NCS are being implemented in TVET institutions and are strongly supported by the government, there is low recognition and understanding of the quality assurance system, which pivots on the NCS-based learning outcomes.

The relevant ministries, industries and education and training institutes have not yet fully adjusted to the learning outcome-based quality assurance system. The dominant power groups, such as universities, who benefit from the conventional system, are reluctant to accept a new system. They think that NCS should only apply to vocational training and to education levels below university. Since many stakeholders have not shown willingness to accept the reform packages, including the NCS, NQF and SQF, the Ministry of Labour and Education is providing massive incentives.

The Korean government has put much pressure on the stakeholders to produce visible outcomes in a relatively short period of time, but it takes time to internalize new systems such as the NQF, SQF and NCS. While the president's term in office is five years, NCS-related policies require long-term planning and implementation.

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

Opportunities:

As a policy measure to accomplish the national vision of establishing a competency-based society, the NCS, the NCS-based qualifications and the NQF have become major national policy priorities. Accordingly, the NCS has secured funding from the national budget and a huge policy momentum has gathered (underpinned by vocal support by NCS and NQF experts for this policy change). Aligned with this effort, the TVET and qualifications policy under the MoEL and the MoE was adjusted toward NCS, NCS-based qualification and NQF, speeding up the transformation.

In this context, in an effort to achieve its ultimate policy goal of establishing a competency-based society, the government is ready to provide more resources and strengthen quality assurance for the learning outcomes-based education, training and qualification system. With the newly-developed competency-based NCS, it is possible to establish a quality assurance system with a learning outcomes perspective. A series of recent reforms to achieve an advanced industry-driven competency-based education, training and qualification system based on the NCS provides momentum to improve the quality assurance process.

Because youth unemployment was raised as a serious social problem, a reform movement sought to restructure the labour market and the social incentive system based on the learning outcomes approach. For example, more than 100 public companies recently changed their recruitment process to be based on the NCS, which in turn led to reforms in schools and universities towards a learning outcomes approach.

Barriers:

Although NCS and NQF-related policies are on the national agenda, barriers to their adoption remain, as follows:

- Human, material and financial resources are not sufficient to sustain NCS-based curriculum reform in technical high schools, junior colleges and universities.
- The teacher to student ratio needs to be adjusted to about 1:20 to realize viable NCS-based education and training¹⁹.
- Teachers and trainers need to be equipped with competencies that are commensurate with the changed education and training system. This will require significant effort and energy.
- It is necessary to ensure industries develop close ties with education and training institutes. Collaboration is essential to ensure students achieve the competencies required by the NCS system. Accordingly, the existing system for encouraging industry and school collaboration system should be upgraded and should be complemented by implementing NCS- and NQF-related policies. Furthermore, effective programmes should be supported, including the Ministry of Labour's work-learning parallel system and the Ministry of Education's Korea Apprenticeship programme.
- Most higher education institutes have not been sufficiently proactive in adopting learning outcome-based curricula and establishing delivery systems. However, some vocation-oriented universities are willing to adapt to the NCS and are eager to change their curricula to be based on the NCS.
- Due to lack of resources and time, assessor training is inadequate to meet the new demands. It is necessary to expand training opportunities for competent assessors for learning outcome-based assessment.

¹⁹ The teacher to student ratio of 1:20 has already been obtained in some schools/institutions but not nationwide.

How quality assurance could be adapted to respond to regional development

The Korean quality assurance system, which is based on the learning outcomes approach, should be coordinated with regional and international quality assurance systems. When reforming its input-based education and training system, Korea paid significant attention to international and regional quality assurance standards. Likewise, now that Korea is reforming the education, training and qualification system so as to be based on NCS, it needs to share experiences with countries such as Australia, Hong Kong [China] and Malaysia, which have already established and implemented systems based on the learning outcomes approach.

It is important for Korea to collaborate with international organizations such as UNESCO and the ILO and to reflect regional and international perspectives while putting in place the new learning outcomes system. Given that international organizations perform the role of a catalyst in terms of facilitating collaboration between countries, it is very important to provide member countries with good examples. In this context, UNESCO has put energy into facilitating experience-sharing between member countries and has supported efforts to develop international and regional quality assurance standards.

In South-East Asia many member countries have not introduced the quality assurance system based on NCS because the development of NCS and the application of such standards to education and training and to the qualification system is difficult to implement, usually requiring massive resources and efforts. Some countries are making efforts to change their existing education and training systems, however, and are cooperating with developed countries and with donors. In this context, Korea is now expanding cooperation with South-East Asian countries, aiming to share its recent experience in outcome-based quality assurance. This will be helpful for Korea and the recipient countries, leading to the creation of new knowledge for all parties.

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Lao PDR

National context

The Lao People's Democratic Republic (Lao PDR) is a landlocked country in South-East Asia with a total land area of 236,800 square kilometres and a population of approximately 6.7 million (World Bank, 2017). Half of the population (54 percent) are under 25 years of age, and 61 per cent are working age (15-59) (UN DESA, 2017).

The labour force participation rate is 77.8 per cent (population aged 15+), with an unemployment rate of 1.5 per cent (ILO, 2017). Of the employed persons, 10 per cent worked for the government, 1.1 per cent for state cooperatives and 7.5 per cent for the private sector. Employers, self-employed and unpaid family workers accounted for 0.6 per cent, 37.8 per cent and 43 per cent, respectively (LSB, 2015). Over the two decades to 2015, the economy had a growth rate over 7 percent, with GDP per capita of approximately USD 2,353.15 in 2016.

General overview of Lao PDR's TVET system

Post-secondary institutions include those providing vocational education and those providing higher education, including training centres, vocational schools, colleges, academic institutes, academies and universities. As of 2017, Lao PDR has five public universities, three public academies, seven public institutes, 70 public colleges/schools and 70 private colleges, with a total of 155 institutions (ESQAC, 2016).

TVET programmes, such as certificate 1-3, diploma and higher diploma, are provided at training centres and institutes, which 95,668 students enrolled in 2015 (35.5 per cent female). The number of enrolments for higher education programmes, ranging from associate degrees to doctorates, was 57,188 (44.5 percent female) in 2015 (MoES, 2016).

TVET in Lao PDR has two divisions:

- The formal TVET sector, which has five levels: certificate 1, certificate 2, certificate 3, diploma and higher diploma.

This sector is under the responsibility of the Department of Technical and Vocational Education and the Provincial Education and Sports Service (PESS). The Department of TVET oversees and develops technical and vocational education at a central level while the PESS supervises TVET schools and other training institutions at the local (provincial) level (MOES, 2012; UNESCO, 2013).

- The skills development sector, which is managed by the Ministry of Labour and Social Welfare, relates to upgrading the skills of existing workers.

The structure of skills development consists of five levels (defined by the Decree on TVET and Skills Development of 2011).

Quality assurance

The government introduced a quality assurance (QA) system in 2008 so as to monitor the quality of education and training. The Educational Standards and Quality Assurance Centre (ESQAC), the lead agency in monitoring and overseeing the QA process, was established within the Ministry of Education and Sports and is responsible for improving the country's quality of education. It provides advice on ongoing education initiatives, practices and investments, for all levels of education from early childhood education to higher education.

A QA system for the institutional level is in place. The Minister of Education approved the Quality Standards for Higher Education in 2013 and for TVET in 2015 (2nd edition). There are 12 standards and 45 indicators as follows:

- Vision, Mission and Goals (three indicators)
- Management (four indicators)
- Human Resource (five indicators)
- Curriculum (four indicators)
- Teaching-Learning Effectiveness (five indicators)
- Learner Support (four indicators)
- Environment (three indicators)
- Learning Resources (three indicators)

- Information System (five indicators)
- Quality Assurance System (three indicators)
- Creativity Supports and Consultancy Services (three indicators)
- Learner, Graduate, Employer Satisfaction (three indicators)

Guidelines for self-assessment and external assessment (including a site visit) have been developed. As of 2016, the ESQAC had conducted training on QA and self-assessment report writing for more than 80 per cent of Lao PDR's institutions, and had conducted 24 external visits. A basic agreement on QA has been established at the programme level, and programme standards for some specific areas were to be developed and trialled in 2017. However, there is no clear picture of quality assurance of qualifications or the certification process yet, including of the body to take responsibility.

The basic principles adopted in Lao PDR's quality assurance system are aligned with trends and good practices in the Asia-Pacific region. The first set of standards and guidelines for TVET quality assurance (in 2011) referred to practices by the Asia-Pacific Accreditation and Certification Commission, and the revised version of TVET standards and guidelines (in 2015) took into account guidance from the East-Asia Summit on TVET Quality Assurance Framework (EAS TVET QAF) and the ASEAN Quality Assurance Framework (AQAF).

Assessment

QA for qualifications was introduced at the same time as the NQF. A report of the Vocational Education in Lao PDR (VELA) project, supported by GIZ, describes the three phases of the action plan for this.

- The first phase was the introduction of the competency-based or occupational standards-based assessment. The Vocational Education Development Institute (VEDI) designs and prepares the assessment items, such as the questions on theory and the list of skills the learner has to obtain to complete each module of learning or training. The set of assessment instruments will be developed based on the 17 existing occupational standards and promote application in relevant

providers. The assessors will be the teachers from the institution itself. It is proposed that the sector introduce the National Occupational Skills Standards regional model developed by the ILO. There is a need to develop occupational standards and assessment standards to assure the quality of qualifications.

- The second phase is planned for 2018. Assessors from institutions will be invited to conduct assessments in other institutions or conduct a common national assessment at the same time.
- The third phase will involve setting up assessment centres in each area, and registering qualifications, assessors, assessment centres, etc.

Lao PDR needs to begin by defining its priority areas in the development of human resources and skilled labour. The trends in the labour market and skills mobility policy in ASEAN indicate clearly that one nation cannot cover every sector of development.

Participation by employers, employees and civil society

Although TVET trainers have input into the development of competency and occupational standards, the industrial sector has a more limited role.

The Lao National Chamber of Commerce and Industry (LNCCI), which has members from occupational associations, strengthens its members' capacity to provide technical feedback to improve quality in their sectors. In the long-term, the LNCCI's members (the business sector) can also be registered assessment centres, with registered assessors, and of course can also conduct training through apprenticeships.

Strengths and weaknesses of the quality assurance of the TVET qualification process

Three groups of organizations are responsible for quality assurance: central bodies, development institutes and providers. As of 2017, the capacity of these groups to support the QA of TVET qualifications is low.

- The central bodies are ESQAC, NTC's Permanent Office and DTVET (under the Ministry of Education and Sports [MoES]), the Department of Skills Development (under the Ministry of Labour and Social

Welfare [MLSW]) and the LNCCI.

- The development institutes are the Vocational Education Development Institute (VEDI), under the MoES, and the Lao-Korea Institute of Training, under the MLSW.
- The providers include TVET institutions and others, and their QA capacity needs to be developed, including through quality assurance of programme design, teaching-learning approaches, learner assessments and qualifications.

The NQF is considered as the basic tool for providing information on each level and qualification. As of 2017, without the NQF and a clear policy on competency based training and education, understanding of competency-based training is very limited.

All stakeholders need general training on qualifications and standards, while teaching staff and trainers need training on learning outcomes and competency-related issues as these stakeholders must design and deliver the training.

The NQF is not only expected to support lifelong learning and clarify the pathway for human resource development, but it is also expected to the promote transparency of qualifications and quality improvement.

While the NQF is not yet fully implemented, all qualifications assessment will eventually be implemented by occupationally qualified persons with an assessor qualification and documented assessment instruments. The details of qualification requirements will be defined in the NQF implementation manual.

The needs relating to human resource development in this regard are as follows:

- qualifications and standards
- learning outcomes and competency
- competency-based curriculum
- competency-based assessment
- certification
- registration of qualifications

- standards/database of learner records
- quality assurance and accreditation

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

Quality assurance of the TVET qualification process in Lao PDR is very weak. Some pilot activities are just beginning, however. The development of an NQF is seen as an opportunity to improve the present quality assurance process. The TVET policy-makers and implementation bodies agree that the competency standards and occupational standards are very important for quality assurance of TVET qualifications.

The overall share of TVET within the MOES budget is expected to increase from 4 per cent in 2015 to 6 per cent in 2020. The budget for TVET is substantially higher than for primary or secondary education, mainly due to the high cost of equipment. These high costs mean that TVET development in Lao PDR remains dependent on foreign assistance. TVET donors support improvements to infrastructure and system elements, as well building capacity for sustainability. However, funding remains focused on the development of facilities and on training, so little is allocated to quality assurance of TVET qualifications.

As of 2017, Lao PDR has had success in the following areas:

- Improvements to the facilities and teaching environment for most public TVET institutions.
- Developing the key occupational standards.
- Developing the competency based training curricula and materials in some key areas.
- Training of teaching staff on competency-based teaching.
- Training of trainers in companies as preparation for in-company training.

In the near future, it is planned to:

- Upgrade the teaching staff and set up the certification system for TVET personnel.
- Promote involvement from industry, such as providing experts or in-company training.
- Promote the assessment of learning outcomes and establishment of skill-testing centres.
- Conduct institutional external evaluations as a compulsory activity.

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Malaysia

National context

Malaysia is a federation, with 13 states and three federal territories. The country has two regions: East Malaysia and Peninsular (West) Malaysia, between which lies the South China Sea. Its land area is about 329,847 square kilometres.

In 2016, the population of Malaysia was 31.18 million. More than half (51.6 per cent), 15.99 million, were male. Malaysia has a workforce of about 14.7 million and labour force participation rate of 63.4 per cent (ILO, 2017). Unemployment rate was high among population aged 15-19 years (15.9 per cent) and population aged 20-24 years (9.1 per cent) (DoSM, 2017).

Since the 1970s Malaysia has transformed itself from a producer of raw materials into an emerging multi-sector middle-income economy. Exports – particularly of electronics – are a significant driver of the economy, but the Government of Malaysia seeks to boost domestic demand so as to wean the economy off its dependence on exports. Malaysia's Gross Domestic Product (GDP) in 2016 was USD 296 billion, and its GDP per capita was USD 9,502.57.

In 2010, the government introduced the Transformation Programme, which is expected to create 3.3 million new job openings by 2020, of which at least 40 per cent are expected to require technical and vocational education and training (TVET) qualifications (PEMANDU, 2010). Consequently, TVET will be one of the critical drivers for the country's transformation from a middle-income to a high-income nation.

Overview of Malaysia's TVET system

Malaysia has three TVET streams: higher education; technical and vocational education; and vocational skills training. Technical and vocational education starts at junior secondary level, which is under the purview of Ministry of Education (MoE). The MoE's Vocational Transformation Plan has two components: Junior Vocational Education and Vocational College.

At the post-secondary level, TVET delivery is fragmented, with multiple providers: government ministries and their agencies, universities, state skills development centres and privately-owned institutions. A total of 525 public training institutions operate under seven ministries: the Ministry of Human Resources (MoHR), the Ministry of Higher Education (MoHE), the Ministry of Youth and Sports (MoYS), the Ministry of Regional and Rural Development (MoRRD), the Ministry of Agriculture and Agro-Based Industry (MoA), the Ministry of Works (MoW) and the Ministry of Defence (MINDEF). These institutions offer programmes that were introduced upon their establishment and they may not necessarily specialize based on their niche areas. A total of 813 private institutions are registered with Department of Skills Development (DSD) along with 12 state skills development centres. These centres provide TVET programmes with varying quality and standards. The Malaysian Technical University Network (MTUN) offers degree qualifications in TVET. The members of the network are four public universities: the University of Malaysia Perlis (Universiti Malaysia Perlis), the University of Malaysia Pahang (Universiti Malaysia Pahang), the Technical University of Malaysia Melaka (Universiti Teknikal Malaysia Melaka) and the Tun Hussein Onn University of Malaysia (Universiti Tun Hussein Onn). The Universiti Kuala Lumpur (UniKL) and the German-Malaysian Institute (GMI) also provide private TVET programmes in higher education.

Quality assurance

The Malaysian education system has two accreditation bodies: the Department of Skills Development (DSD), which provides accreditation for the skills sector, and the Malaysian Qualifications Agency (MQA), which provides accreditation for the technical and vocational sector and the academic sector. Both refer to the Malaysian Qualifications Framework (MQF) for the qualifications accredited. The Malaysian Qualifications Register (MQR) lists the registered qualifications and specifies their quality in relation to the education system.

In general, the MQA quality assures programmes through two distinct processes:

- Provisional accreditation, which determines whether a programme has met the minimum quality requirements for full accreditation.
- Full accreditation, which ascertains whether the teaching, learning and other activities of a programme provided by a higher education provider (HEP) have met the quality standards and is in compliance with the MQF.

Assessment

Students' achievements are measured in terms of learning outcomes, which are the competencies that a student should have at the end of a period of study. The panel of assessors (POA) involved in assessing TVET programmes are from the various fields related to the programmes. The qualifications of the POAs therefore vary in accordance with the levels of the programmes, but all POAs appointed by the MQA must at least have a master's degree and experience in the particular field. Before their appointment as POAs, all candidates must undergo training conducted by the MQA.

The Malaysian Skills Certification System (*Sistem Persijilan Kemahiran Malaysia*), under the DSD, is used to appoint assessors of TVET programmes. It is a skills- and work-based certification system with five levels of awards:

- *Level 1: Malaysian Skills Certificate Level 1 (SKM 1)*
- *Level 2: Malaysian Skills Certificate Level 2 (SKM 2)*
- *Level 3: Malaysian Skills Certificate Level 3 (SKM 3)*
- *Level 4: Malaysian Skills Diploma (DKM)*
- *Level 5: Malaysian Skills Advanced Diploma (DLKM)*

The students receive a Malaysian skills award if they meet the requirements of the National Occupational Skills Standard (NOSS), which is regulated by the Department of Skills Development. It is conferred as a formally-recognized certificate to individuals who have shown capabilities acquired or practiced with competencies to do a task or work, which is usually in the form of basic vocational skills. The criteria and standards of the Malaysian Skills Certification System are linked with higher-level

qualifications to enable holders to progress from the level of semi-skilled to skilled production, and then to supervisory, executive and managerial functions. The system was mapped to the Malaysian Qualifications Framework in 2007, providing a framework for credit equivalency and transfers between the vocational education and training sector and the higher education sector.

The DSD quality assures by accrediting centres and its programmes. Assessment is based on the competency-based learning approach, which involves shifting the emphasis from being instructor-centred towards being trainee-centred, and entails providing training in distinct and verifiable competencies that are actually required in the working world. Assessment examines the trainees' performances of these competencies, and thereby determines whether a student meets the skills requirements of the NOSS. Students are awarded with SKM level 1, 2 or 3 depending on their performance in the assessment components and how competent they are in core abilities. Students are awarded with a DKM and DLKM if they pass all the assessment components and industrial training, and are competent in core abilities.

Participation by employers, employees and civil society

Matters relating to trade unions in Malaysia are under the purview of Department of Trade Union Affairs Malaysia (Jabatan Hal Ehwal Kesatuan Sekerja, JHEKS), which is in turn under the Ministry of Human Resources (MoHR). The JHEKS conducts seminars and training on administrative, financial and constitutional aspects of trade unions. As of 2017, employers, employees and civil society organizations participate indirectly. However, the MQA and the DSD involve them, including experts from industries, by seeking their input and feedback when developing guidelines and standards.

Strengths and weaknesses of quality assurance of the TVET qualification process

The quality assurance process for TVET qualifications has four major strengths, as follows:

- The Malaysian Qualifications Framework (MQF), the national framework, is the basis for quality assurance of higher education, covering technical and vocational skills as well as academic and professional programmes. It is a reference point for the criteria and standards of national qualifications.
- The Code of Practice is a structured guideline with nine quality assurance evaluation areas: vision, mission, education goals and learning outcomes; curriculum design and delivery; assessment of students; student selection and support services; academic staff; education resources; peer monitoring and review; leadership, governance and administration; and continual quality improvement. It is compulsory for programmes to comply with the Code of Practices for Programme Accreditation (COPPA) and the Code of Practices for Skills Programme Accreditation (COPSPA).
- The programme standards (for academic programmes) provide a basis for the development of programmes in various fields of study, for all education levels of the MQF. For TVET programmes, the National Occupational Skills Standard (NOSS) document serves as the guidelines for the minimum specifications and criteria of skilled workers in Malaysia.
- The Malaysian Qualifications Register (MQR) is one of the main features of the MQF. It plays a significant role in ensuring that accredited qualifications are registered, and is available to all stakeholders.

The quality assurance process for TVET qualifications has three main weaknesses, as follows:

- Uncoordinated governance. Accreditation and quality assurance of TVET programmes are under the purview of two agencies (the MQA and the DSD), and this has led to confusion and a lack of clarity regarding the possibility of TVET graduates continuing their studies in institutions under another accrediting agency. For example, TVET diploma graduates accredited by DSD have little possibility of continuing their studies under the degree programmes (level 6 of MQF) of institutes of higher education because the MQA and the

DSD have differing quality assurance mechanisms. Furthermore, the TVET diploma programmes place greater emphasis on practical components than the degree programmes, and universities have the perception that these graduates are less academically inclined. However, TVET graduates who are accredited by the MQA have more opportunities to pursue higher education in institutes of higher education, as their curricula are oriented more to the academic track.

- Lack of industry input into curriculum design. This has resulted in mismatch of skills required by industry and the skills attained by TVET graduates. Companies demand TVET graduates who are competent, multi-skilled and work-ready.
- Companies are burdened by multiple requests for collaboration from the multitude of TVET institutions. Companies have therefore requested for a coordinated platform for collaboration between industry and TVET institutions.

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

The government's policy on TVET presents a number of opportunities to improve the present quality assurance process. The Tenth and Eleventh Malaysia Plans and the Malaysia Education Blueprint, for example, emphasized the importance of mainstreaming and broadening access to quality TVET so as to meet the nation's need for skilled workers.

Although efforts to mainstream TVET have been successful, four challenges present obstacles: uncoordinated governance, fragmented delivery, lack of recognition for technologists and competency gaps between instructors. Of these four, two challenges are associated with the quality assurance process:

- Uncoordinated governance.

As noted above, the existence of two accrediting bodies for TVET programmes has led to confusion and issues relating to transferring between institutions.

- Competency gaps among instructors.

TVET instructors in public institutions often lack skills and industry exposure, which is perceived as one of the reasons that training is not effective in meeting industry requirements.

The Eleventh Malaysia Plan (2016–2020) describes two strategies for improving quality assurance for TVET, as follows:

Strategy 1: Establish a single system for accreditation.

- ▶ The current fragmented TVET sector will be consolidated through establishing a single system that will be adopted by both MQA and DSD. The new system will accredit TVET programmes offered by both public and private TVET institutions based on the revised MQF. This will ensure better coordination and monitoring of the TVET sector and will allow mobility of students between all TVET institutions.

Strategy 2: Enhance TVET programme quality and delivery.

- ▶ Strengthen the TVET curricula. The curricula will be strengthened to encourage critical and creative thinking as well as self-reliant learning. The new curricula will feature modules based on the 'Problem, Project, Production' format, which will engage students in authentic, real-world tasks intended to simulate actual workplace situations, so as to better prepare students for the working environment.
- ▶ Develop high quality instructors. Professional development programmes for instructors will be improved by incorporating more industrial training and attachment programmes. In addition, a central repository of instructor profiles will be established to identify competency gaps and enable the development of an effective training schedule. Furthermore, industry experts, including retired practitioners, will be encouraged to serve as TVET instructors through the provision of attractive remuneration packages.

How quality assurance could be adapted to respond to regional development

The MQA welcomes the initiatives in the ASEAN Qualification Reference Framework (AQRF) and the ASEAN Quality Assurance Framework (AQAF) as common reference frameworks for qualifications and quality assurance practices within the ASEAN region. Such initiatives not only facilitate efforts to harmonize qualifications and quality assurance practices among member countries, and ensure recognition of qualifications between ASEAN countries, but will also increase the mobility of students and professionals in the region.

The MQA has played an active role in the AQRF since 2012. Originally developed with the intention of easing the mobility of students between its member countries, the AQRF is expected to become part of the ASEAN's mechanism for the recognition of qualifications in member countries. As of 2017, the MQA is moving towards referencing the MQF to the AQRF.

The MQA also supports the initiative taken by the ASEAN Quality Assurance Network (AQAN), which aims to promote harmonization in higher education in the ASEAN countries. The diverse member countries, which differ in terms of higher education systems, cultures and traditions, can benchmark and align their quality assurance systems for higher education and TVET with the AQAF, which serves as a common reference point for quality assurance agencies and higher education institutions.

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The Philippines

National context

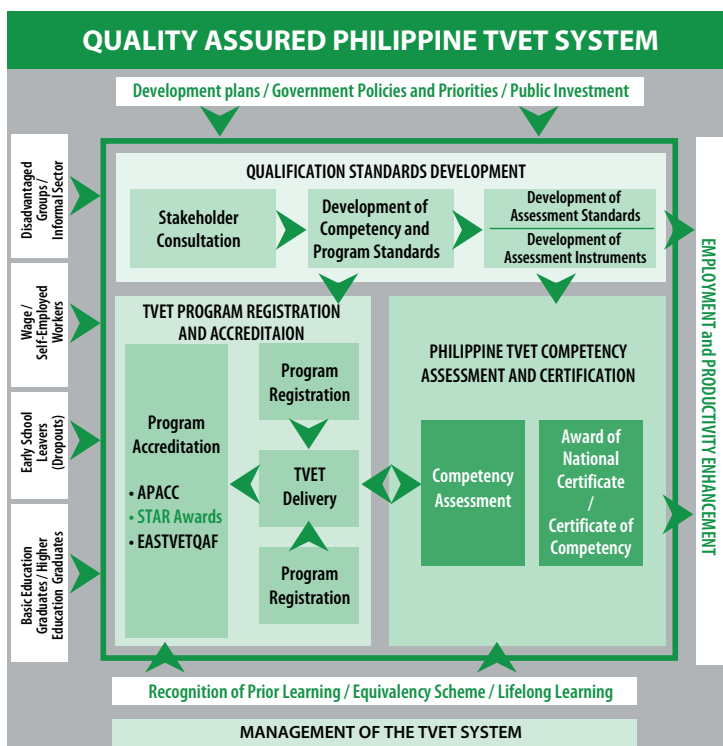
In 2016, the Republic of the Philippines had a population of 103,320,220 (World Bank, 2017), with an almost even sex distribution: 50.2 per cent male and 49.8 per cent female. A third of the population (32 per cent) were aged 0-14 (UN DESA, 2017). As of October 2016, the Philippines had a working age population of 68,734,000 and a labour force participation rate of 64.80 per cent (ILO, 2017).

Overview of the Philippines' TVET system

The TVET system is managed by the Technical Education and Skills Development Authority (TESDA), which was created by virtue of Republic Act No. 7796 (the TESDA Law of 1994). TESDA provides direction and policies, and develops programmes and standards for quality technical education and skills development. TESDA is composed of the TESDA Board, as its governing body, and the TESDA Secretariat, as its executive arm.

Quality assurance

TESDA established the Quality Assured Philippine TVET System in 1997. The TVET system is industry-led and citizen-focused. Under this system, priority qualifications are identified by industry groups, and experts from these groups provide input into the development of standards and training regulations. These standards and regulations serve as a reference in the preparation of TVET programmes by TVET institutions. Figure 1 illustrates the Philippines' TVET quality assurance system.

Figure 1: The Philippines' TVET quality assurance system

Source: TESDA

The TVET system is based on the competency-based approach, which is centred on units of competency that state the standards for knowledge and skills required in a job, as prescribed by industry experts.

Competency is defined as the possession and application of knowledge, skills and attitudes to the standard of performance required in the workplace. Competency-based system was adopted by TESDA because it ensures TVET graduates have the competencies required by industry; it ensures that TVET graduates meet international standards; and it places emphasis on workplace performance. Competency standards serve as a basis for the training curricula, as well as the competency assessment.

TESDA has evolved into a quality organization that is responsive, effective and efficient in delivering myriad services to its clients. Its major processes for quality assurance (qualification standards, programme registration, and assessment and certification) were granted ISO Certification 9001:2008 in 2012. Since its inception, TESDA has focused on the supervision of TVET programmes through the standards developed with industry; the registration of TVET programmes, assessment and certification; and the tracking of employment of TVET graduates.

On 1 October 2012, then President Aquino issued EO 83, s. 2012, institutionalizing the Philippine Qualifications Framework (PQF). The Implementing Rules and Regulations (IRR) were signed on 17 December 2012 and became effective 15 days after publication in the Official Gazette.

The PQF aims to:

- Establish national standards and levels for outcomes of education and training, skills and competencies.
- Support the development and maintenance of pathways and equivalencies that provide access to qualifications and assist people to move easily between the various education and training sectors and between these sectors and the labour market.
- Align with international qualifications frameworks to support the national and international mobility of workers through increased recognition of Philippine qualifications.

Assessment

Assessment is the process of collecting evidence and making judgments on whether competence has been achieved. The purpose of assessment is to confirm that an individual can perform to the standards expected in the workplace, as expressed in the competency standards. Competency standards define the knowledge, skills, attitudes and values required for competent performance in the workplace and are the benchmark for assessment.

Individuals who achieve all the required units of competency of a national qualification, when assessed against the relevant set of competency

standards, are issued with a Certificate of Competency in a unit or cluster of units of competency or a National Certificate. Certificates are issued by TESDA.

Two assessment pathways lead to the recognition of competencies and the issuing of a Certificate of Competency or a National Certificate:

- Training and assessment pathways.

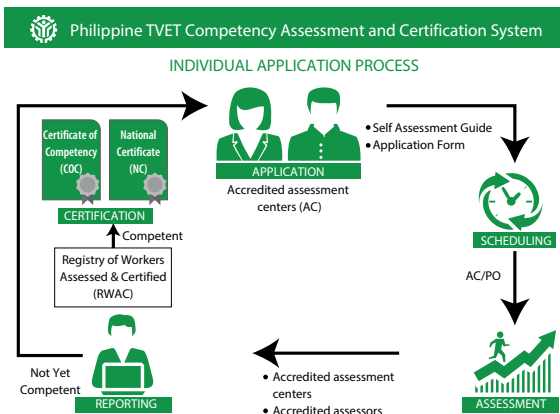
The candidate undertakes a structured programme of training and assessment, e.g. trainees in TVET institutions with TESDA-registered programmes.

- Assessment only pathways.

There is no structured training and the candidate is simply required to provide current evidence. Persons who think they have the skills and knowledge required to possess a certificate may apply for assessment in an accredited assessment centre.

Both assessment pathways provide for the recognition of current competency (RCC). This means that competencies currently held by individuals are formally assessed against the units of competency. In this process the assessments of current competencies of individuals are recognized regardless of how, when or where they were achieved.

Figure 2: The Philippines' TVET Competency Assessment and Certification System



The assessments that are administered in accredited assessment centres by accredited competency assessors are managed by the TESDA provincial offices to ensure the assessments are in accordance with the quality operating procedures manual. The TESDA regional offices are mandated to ensure that all accreditation and assessment activities in their areas conform to the quality assurance system. The competency assessment tools used for national certification are developed by national experts (industry practitioners).

TVET institutions administer institutional assessments, which form part of the requirements for TVET trainees to complete their programmes. Graduating students of TVET programmes registered under 'With Training Regulations' are required to undergo mandatory assessment leading to national certification. TESDA awards the corresponding national certificate to successful candidates in accordance with the Philippine TVET Competency Assessment and Certification System (PTCACS) .

Participation by employers, employees and civil society

Role of employers and industry organizations

Employers are the end-users in the TVET system, so it is necessary to involve them in every aspect of quality assurance, including policy formulation, standards development, programme implementation, and monitoring and evaluation.

In the Philippines, employers and industry associations play a significant role in TVET. They are the source of information on the priority skills required and the qualifications on which TESDA develops the standards. In addition, industry experts develop the competency standards, training standards and assessment tools. In some cases, industry provides assessors at assessment centres. There are industry associations and employers' organizations for almost all sectors for which training regulations are developed.

The Labour Code of the Philippines (Presidential Decree No. 442 of 1974, as amended) enunciates the policy of the State to promote free trade unionism as an agent of democracy, social justice and development. Trade unions in the country have formed the following federations: the

Trade Union Congress of the Philippines (TUCP), the Federation of Free Workers (FFW) and the Affiliated Labour Unions (ALU).

Employee groups are consulted and become partners in promoting, supporting and implementing TVET. Some of these groups, such as the Association of Construction Industry Workers and the tourism workers' organizations, are partners in implementing the Certification of Industry Workers programme. Training centres are registered with TESDA and may apply for scholarship vouchers from TESDA.

Strengths and weaknesses of quality assurance of the TVET qualifications process

Strengths:

- *Involvement of industry and employers groups*

- ▶ *Identification of priority qualifications*

The priority qualifications are identified by the industry group and approved by the TESDA Board. The occupations for which training regulations are developed are those that have been identified by the industry associations as being in-demand and/or growing in terms of magnitude and importance in their sector.

- ▶ *Training regulations and lead assessors*

The development of training regulations follows a detailed process, beginning with the analysis of functions in the sector or subsector to which the identified qualification belongs. The experts decide which are the major, minor functions and specific tasks.

- ▶ *Partnerships with industry associations and employer groups*

Partnerships with industry organizations and other private sector groups became more pronounced following the reorganization of TESDA, with the creation of the Partnerships and Linkages Office.

- *Support from other government agencies*

There is increasing collaboration between and within government agencies. Government agencies in charge of specific industries have responsibilities for some of the qualifications.

- *TESDA mandate and organizational structure*

TESDA provides direction and policies and develops programmes and standards towards quality technical education and skills development.

- *ISO-certified process*

TESDA established ISO-certified procedures for the conduct of assessment and certification, following a series of consultations with the field offices and stakeholders. Quality-assurance processes for TVET qualifications were ISO 9001:2008 certified in 2012.

Weaknesses:

- *Limited staff to oversee assessments and to conduct regular compliance audit*

As a result of the existing structure and personnel, TESDA provincial and regional offices have few staff. For 2016, additional funds were allocated to the central office, enabling them to hire an external audit firm to ensure that audits were conducted in the regions with the most assessment centres.

- *Need for an ongoing capacity-building programme for assessors, assessment centre managers, staff, assessment developers and compliance auditors*

In 2014, with the aim of achieving continual improvement in the quality assurance of TVET qualifications, the Certification Office began conducting capacity building and calibration for regional lead assessors for TM expert panel members, competency assessors for new and amended training regulations, and TESDA implementing units.

- *Lack of an incentive system*

Some fees have been established but have not been adjusted to actual current value. The assessment fees are currently being reviewed.

- *Manual system of processing and monitoring*

Opportunities for and barriers to improving the present quality assurance process

Opportunities for improving the present quality assurance process:

- *Increasing acceptance of and demand for TVET qualifications*
Increased acceptance of TVET qualifications and greater demand for them among employers, graduates and workers is leading to greater demand for effective quality assurance mechanisms.
- *Regional and bilateral Mutual Recognition Arrangements*
The ASEAN Mutual Recognition Arrangement (MRA) on Tourism Professionals is the first MRA that recognizes TVET-level qualifications. The experience gained through this MRA provides a foundation for enhancing quality assurance in other sectors. Other bilateral MRAs shall be pursued as this provides opportunities to further improve the national system.
- *Expansion of benchmarking and international comparability of standards*
Countries all over the world seek to be able to compare competency standards and occupations. The Philippines is often benchmarked in terms of the assessment and certification programme for TVET qualifications by those countries with less-developed TVET systems. The Philippines should likewise be able to benchmark against those with more advanced systems.
- *Expansion of capacity for TVET qualifications*
Increased acceptance of TVET qualifications brings with it the need to expand capacity to more sectors, more levels and beyond borders. Expansion also implies more assessors and more assessment centres, to address: K to 12 requirements, overseas workers' requirements and the requirements of the ASEAN MRA and bilateral MRAs.

Barriers to improving the present quality assurance process:

- *Funding*

- ▶ *Lack of uniformity across regions*

All government funding is subject to the government's accounting and auditing rules and regulations; the funds are disbursed by the respective units concerned. Allocation of funds at the regional level is approved by regional directors, however, so may not be uniform across all regions.

- ▶ *Low fees discourage assessors*

Assessment fees are determined at the national level, as any fees to be collected must be approved by the TESDA Board, the National Economic Development Authority (NEDA), the Department of Finance (DOF) and the Department of Budget and Management (DBM). Some fees promulgated in the past have not been adjusted to actual current value, and therefore may be insufficient to cover costs and encourage assessors. As of 2017, the assessment fees are being reviewed.

- ▶ *High costs and regulations for improving assessments, processing and monitoring*

The cost of quality assurance of TVET qualifications is shared by various stakeholders at different stages, from the development stage to the programme monitoring and reporting stage. These costs are high, which discourages further improvements to the conduct of assessment.

- *Institutional capacity*

While it is necessary to increase the number of skilled workers, it is also necessary to ensure that the skills are of high quality, which in turn requires ensuring that assessors and assessment centres are of high quality. The Philippines has 7,643 assessors and 5,606 assessment centres. The capacity of the central office is limited to calibrating only the lead assessors at the regional level, and the capacity at the regional level needs to be assured. As of 2017, a quality operating procedures manual for this is being prepared.

How quality assurance could be adapted to respond to regional development

- *Ongoing improvement in training regulations and assessment instruments*

Training regulations should be updated every three years, in response to changes in standards and/or technology requirements. All the programmes registered under each set of training regulations should then be adjusted to be in line with the new standards. The trainers' certifications, assessors and assessment centre accreditation should be likewise adjusted.

- *Implementation of regional frameworks such as the East Asia Summit TVET Quality Assurance Framework*

The East Asia Summit TVET Quality Assurance Framework should be pilot tested in the Philippines as a sign of commitment to the ASEAN Qualifications Reference Framework (AQRF).

- *Ongoing research and evaluation*

Research and evaluation should be ongoing so as to address the mismatch between skills acquired by students through the education system and the skills required to obtain the jobs available in the market; and to evaluate current systems for continual improvement.

- *Engage in regional collaboration, institutional exchange and sharing of best practices*

Collaboration, exchange and sharing of best practices should be encouraged in the Asian region and beyond. As of 2017, a Memorandum of Understanding is pending for the recognition of TVET systems with the United Arab Emirates (UAE) National Qualifications Authority (NQA). The representatives of the NQA approved the TESDA system when they visited the Philippines to observe assessment and certification processes in the country.

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Samoa

National context

In 2016, the population was recorded as 195,125. There had been an increase in the population of 11.75 per cent since 2000 (World Bank, 2017). Samoa's population is relatively youthful, with 37 per cent of the population aged under 15 years of age and with a median age of 21.2 (UN DESA, 2017).

In 2017, the estimated labour force participation rate is 41.3 per cent (ILO, 2017). About 36 per cent of the population is over the age of 15 and not engaged in the formal labour force. A further 24 per cent of the population is engaged in employment, of which 9 per cent are identified as subsistence workers (SBS, 2012).

Samoa's economy is largely dependent upon agricultural exports, development aid and private remittances from overseas. Its economy is largely semi-subsistence, with the majority of villagers dependent on their local agricultural land for a living. Although Samoa progressed from the 'least developed' country category to the 'developing' country category in 2014, the economy is still largely supported by official development assistance from donors, comprising around 15 per cent of GDP each year. Key aid donors include Australia, New Zealand, China, Japan and the European Union. Samoa's principal trading partners are New Zealand, Fiji, Australia, American Samoa and the United States.

Overview of Samoa's TVET system

The Ministry of Education, Sports and Culture (MESC) is the regulatory body for early childhood, primary and secondary schools, while the Samoa Qualifications Authority (SQA) is responsible for Post School Education and Training (PSET). In Samoa, TVET is included in the scope of the PSET, so is therefore under the SQA's formal programmes and qualifications. However, TVET is also offered and delivered via non-formal and informal education, such as via on-the-job training.

TVET in Samoa began with the establishment of the Western Samoa Polytechnic. Since then, several TVET training institutions have been set up by missions and private organisations.

TVET providers in Samoa include the following:

- The National University of Samoa (NUS); the sole government provider of TVET.
- The Australia Pacific Technical College; an Australian initiative to strengthen TVET in the Pacific region.
- Four mission and church owned and operated providers (owned by the Catholic and Methodist churches).
- One private provider (owned and operated by a family).
- Government ministries, non-government organizations and other organizations that offer non-formal learning activities.

TVET is becoming increasingly important in Samoa due to economic, social and technological changes, locally and at the regional and international levels.

Quality assurance

The Samoa Qualifications Authority was established by an act of parliament in 2006 that gave the SQA the regulatory powers required to carry out its mandated functions. Quality assurance policies and processes were developed in 2009 and were revised in 2013, based on consultations with the stakeholders.

The SQA's quality assurance responsibilities were drawn from nine of the 17 functions in the SQA Act 2010. The SQA has established national quality standards for PSET providers in the following key areas:

- Registration of providers.
- Accreditation of programmes.
- Quality audit of the provider's ongoing effectiveness in providing high quality education and training services.

- Registration of qualifications on the Samoa Qualifications Framework (SQF).
- Quality assurance of non-formal learning.

Implementation of the quality assurance system has not been smooth. Constraints and challenges include the novelty of quality assurance and the difficulty among providers in meeting the standards. Some providers have not committed to quality assurance as some do not have sufficient human resource capacity to do so. The quality management system and curriculum/programme development have been key areas in which setbacks have been seen.

As of 2017, the SQA is implementing all the quality assurance policies, guidelines, systems and processes. Almost all (86 per cent) of PSET providers are registered with the SQA. Nine providers' programmes have been accredited with another 25 programmes from six providers undergoing the programme accreditation process. Providers have registered 49 qualifications on the Samoa Qualifications Framework (SQF) and 74 non-formal learning activities have been recognized. These results indicate that quality assurance is gradually becoming a key part of Samoa's education system.

Assessment

Assessment is underpinned by the quality assurance system now in place under the SQA. One of the elements of the quality standard is assessment and moderation. Table 5 summarizes the standards and criteria for the quality assurance processes for assessment and moderation.

Table 5: Standards and criteria relating to assessment and moderation in Samoa

Element	Quality audit standard	Criteria for provider registration	Criteria for programme accreditation	Criteria for recognition of non-formal learning
Assessment and moderation	The provider has fair, valid and effective systems for assessing learners against the programme outcomes	Assessment and Moderation Policies and procedures are in place	The providers application of its policies and procedures will ensure the fair, valid, consistent and appropriate assessment of learners against the learning outcomes of the programme	The NFEP ensures fair, consistent and relevant assessment to achieve the learning outcomes

For providers in Samoa, assessment can be defined as all the activities and processes involved in judging and reporting a student's performance. Three forms of assessment are used: written examinations, coursework and competency-based assessment.

The providers of TVET programmes assess the students. The TVET providers that have submitted programmes for accreditation generally use a mix of theoretical and practical assessment methods. Theoretical assessments require providers to design exams featuring multiple choice and short answer questions, along with objective response items. Practical assessments assess students' performance and projects and accumulate evidence. In addition, the assessments are competency based, using the categories of competent and not yet competent.

At the completion of the TVET programmes, if learners have successfully achieved the learning outcomes of the programme and are determined competent, the providers award them with certificates. The SQA issues qualifications through the providers that deliver the programmes.

The Samoa Qualifications Framework facilitates development of the National Competency Standards (NCSs) and Samoa Qualifications (SQs). In the development of the NCSs and SQs there are learning outcomes with performance standards as indicators for the learning.

Participation by employers, employees and civil society

Businesses and employers play a crucial role in the quality assurance of TVET qualifications. Industry representatives and employers participate in sector advisory groups, which advise in the development of providers' programmes and review the programmes so that they better meet employer requirements. In addition, employers assist by providing practical work experience for students both during students' studies and afterwards. Most TVET providers organize programmes in which students are employed by certain employers during the breaks in between semesters.

The sector advisory groups also provide advice in the process of developing the NCS and SQ. This process includes the following stages: a needs analysis; development of the NCS or SQ with inputs from the Sector Advisory Groups; stakeholder validation and endorsement; sector and industry endorsement; and application in the PSET programmes.

Capacities to support quality assurance of TVET qualifications

Given that quality assurance is new in Samoa, the country lacks human resource capacity in this regard, which has been a challenge in the SQA and for providers. Accordingly, international consultants assisted the SQA with the development of policies and procedures.

The personnel of the SQA quality assurance team are all degree holders, with the majority of senior personnel having teaching qualifications and experience. In addition, the quality assurance personnel maximize the opportunities provided by participation in national, regional and international workshops and capacity building training. For example, the SQA was assisted by the New Zealand Qualifications Authority (NZQA) in terms of capacity building through work attachments at the NZQA Office. In addition, NZQA staff have spent time at the SQA.

The National University of Samoa and the APTC have internal quality assurance policies and processes. The National University of Samoa recently created an Academic Quality Unit, which is responsible for all quality assurance matters.

Although professional standards for TVET trainers and lecturers are in place, there is a need for ongoing professional development that is aligned specifically to the relevant standards. It can be assumed that a lack of formal qualifications and lack of vocational experience by some TVET lecturers and trainers and their lack of teaching and learning skills contributes significantly to the inadequacy and poor readiness of graduates for employment.

Funding

National and sectoral planning is led and facilitated by the Ministry of Finance. Since the 1990s, the budget planning cycle is based on the output-based budgeting model. The development of the budget is based on sector plans linking to the budget appropriations of all implementing agencies. This is the planning cycle that the SQA has followed since the SQA is funded only by the government.

Before the sector planning and budgeting approach was initiated, the SQA was leveraging funding to encourage registered providers to either offer the Samoa Qualifications and/or accredit provider programmes. Between 2012 and 2015, the SQA was fortunate to have access to funding from the Australian development agency (AusAID). Providers were rewarded for cooperation through the provision of professional development programmes for their staff and were given support to finance additional consumable and utility costs in their respective institutions. In addition, access grants were provided, so as to encourage both formal and non-formal training delivery in community and workplace settings.

Strengths and weaknesses of quality assurance of the TVET qualification process

The strengths of the TVET quality assurance system in Samoa include:

- The quality assurance system for TVET ensures that everything that happens in TVET is measured and assessed against a set of criteria, to ensure quality.
- Since TVET is included in the scope of PSET, the quality assurance standards are all inclusive and cross-cutting across all sectors.

- The quality assurance system in place for TVET improves the level of education of providers of both formal and non-formal learning.
- Having quality assurance of TVET qualifications ensures that formal TVET providers can have a Quality Management System (QMS), consisting of policies, systems and processes to conduct education and training activities.
- Quality assurance of TVET qualifications ensures that the education programmes meet the quality standards for the components and structure of the programmes and also conform to the requirements of the associated qualifications.
- The quality assurance system now in place in Samoa enhances the employability of graduates, with employers having confidence in the quality of graduates that exit the TVET system. This employability in turn contributes to more effective and efficient servicing of the economy of Samoa.
- Some assistance for providers in complementing the quality assurance systems has begun. This assistance aims to encourage providers to meet the quality standards and criteria.
- The government has increased its budget for the SQA each year.
- The SQA has well-documented strategic and operational plans in place that clearly set out the quality assurance work for PSET, inclusive of TVET.

The weaknesses of the TVET quality assurance system in Samoa include:

- The quality assurance system initially had no financial support to complement quality assurance criteria and requirements.
- Providers find it difficult to meet the criteria and requirements of the new quality assurance system.
- Limited capacity at the provider level to prepare applications to the SQA.
- Although the SQA works hard to bring them on board through quality assurance processes, some providers are not engaged.

- There are no separate provisions for quality assurance for TVET (TVET is part of the PSET).
- Other government ministries are not sufficiently engaged in the work of the SQA. It is recommended to require employers like the Public Service Commission (PSC), for example, to consider SQA accreditation in their recruitment processes.

Opportunities for and barriers to improving the present quality assurance process

Opportunities for improving the present quality assurance process include:

- The SQA could provide incentives to providers to complement quality assurance, and providers could be encouraged and motivated to address the requirements and meet QA criteria.
- The SQA has launched a communication strategy, which has funding available for advertisements. The SQA could use this advertising budget to raise awareness of the benefits of quality assurance, working directly with the individual providers.
- The SQA could identify the needs each provider has for training and tailor training to suit those needs. In particular, training could be given to the providers on the criteria and requirements.
- The SQA to continue to work with the providers in order for them to come on board with the QA processes.
- The current budget provides support from the SQA to TVET providers in terms of consumables and resources. Greater financial assistance would be beneficial in assisting providers of TVET to meet quality assurance requirements and criteria.

Barriers to improving the present quality assurance process include:

- Lack of commitment among providers to quality assurance.
- Lack of capacity of providers to meet the new quality assurance criteria and requirements.
- Issues relating to governance within some TVET providers.

- Lack of resources (financial and physical).
- Limited awareness of quality assessment processes.

How quality assurance could be adapted to respond to regional development

Initiatives to develop qualifications, frameworks and quality assurance arrangements have been implemented at the same time as regional initiatives. To ensure the work is not duplicated, there is a need for communication between national and regional quality assurance agencies.

Regional initiatives can serve as a meta framework for smaller countries, which lack the resources to create their own frameworks. However, their needs should be identified before proceeding. Details and protocols should be agreed on first before any developments take place, so as to avoid confusion. Furthermore, regional developments should not encroach on the work of the national agencies.

Suggestions for improving quality assurance

Quality assurance of TVET in Samoa could be improved through the following measures:

- Provide TVET providers with assistance in improving the qualifications of TVET trainers and lecturers. If qualifications are improved, this could assist in strengthening TVET education in Samoa.
- Increase budget support to the development of qualifications in TVET so as to ensure sustainable financing of quality assurance.
- Include TVET as a focus area in strategic plans, so as to make it more visible.
- Increase visibility through good resourcing and mentoring of SQA staff, and eventually certification.
- Provide ongoing professional development in the form of trainings, attachments, short-term secondments and formal certification and qualifications.

- Give providers incentives to improve quality assurance.
- Link the TVET national qualifications to the Pacific qualifications framework and other international frameworks.
- Ensure that separate data is collected for the TVET sector so that data for TVET is separable from data on higher education. This will ensure accuracy and completeness as well as increased visibility of TVET.
- Distinguish TVET in the SQA legislation.
- Ensure TVET as the focus of apprenticeship programmes is clearly understood and there is a link to national QA provision.

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Thailand

National context

Thailand has a population of approximately 68.86 million (World Bank, 2017), of which 33.94 million are male and 34.92 million are female. In 2016, agriculture contributed around 8.3 per cent of Thailand's GDP, while over a third (35.8 per cent) of GDP came from the industrial sector and over half (55.8 per cent) from the service sector. Around 38 million people were employed, of which around 12 million were engaged in agriculture and around 26 million were engaged in non-agriculture sectors (NSO, 2016).

In Thailand the government provides 12 years of free education, including six years of primary education, three years of lower secondary education and three years of upper secondary education. The first nine years are compulsory. Most Thai people prefer to have their children study in the schooling system rather than in work-based learning.

Overview of Thailand's TVET system

According to the Vocational Education Act 2008, TVET is organized into three systems: formal, non-formal and the dual system. Thailand's TVET system has three key players: the Office of Vocational Education (OVEC), under the Ministry of Education; the Department of Skills Development (DSD), under the Ministry of Labour; and the Thailand Professional Qualification Institute (TPQI), under the supervision of the Prime Minister.

The OVEC provides TVET in three forms: the normal TVET programme, the dual-vocational training (DVT) programme and the non-formal programme. The DSD is responsible for skills training, retraining and upgrading of skills of the workforce to meet the national qualification standards. The TPQI seeks to develop a professional qualifications system and works with vocational and higher education institutes in developing curricula based on competency standards.

Quality assurance

The National Education Act of 1999 provided for the implementation of quality assurance in Thailand. Accordingly, the government established the Office for National Education Standards and Quality Assessment (ONESQA), which is responsible for enhancing internal and external quality assurance in education institutions. ONESQA organizes external quality assurance for TVET institutions every five years, while OVEC and other authorized agencies conduct internal quality assurance every three years.

In 2013, the government established the National Qualifications Framework (NQF) with the aim of ensuring that the level of education (qualifications) is consistent with the competencies required by the labour market. The NQF is currently a key actor in connecting the stakeholders and promoting cooperation among the stakeholders at all levels of education.

The TPQI, with input from industry experts, developed the National Professional Qualifications Framework (NPQF), which lists the standards for qualifications. Qualifications are only awarded where the trainees and workers can demonstrate their ability to meet these standards. The National Skills Standards (NSS) is the mechanism for assessing the knowledge and abilities of workers. Skills training assessment is provided by the skills development institutes and centres under the DSD.

In 2015, in an attempt to ensure the quality of education qualifications, especially TVET, the Ministry of Education issued a policy on integrating TPQI qualifications and DSD skills standards into TVET qualifications.

Assessment

According to the Education Act of 1999, every TVET institution must have a quality assurance system for both internal and external assessment. These quality assurance systems must serve three national education standards: required Thai citizen attributes, education direction and learning society, as well as the skill standards of the DSD and the professional qualification standards of the TPQI.

In 2013, the Ministry of Education developed the National Vocational Education Qualification Standard Framework (NVQF) with the aim of complying with the national education standards and the requirements for internal and external quality assessment. The NVQF encompasses: the levels of TVET qualifications; three learning outcomes: attributes, core and generic competencies, and occupational competency; qualifications, curriculum structure, required credit hours and the volume of learning; and administration of qualifications. Policies relating to the NVQF provide guidelines for ensuring qualifications are 'outcomes-based' and that graduates have the competencies required by employers. In other words, TVET qualifications were changed from being subject-based to being competency-based. As of 2017, all the OVEC curricula are switching to being competency-based.

The DSD provides skills training assessment to all trainees of training courses organized by skills development institutes and centres in Thailand.

An assessment system for professional qualifications institutes was also established. Assessing and certifying systems provided by authorized bodies must be accredited by the TPQI. The assessment process of TPQI has been adopted from ISO 17024. Annual checking and monitoring of assessing and certifying bodies is organized.

OVEC is the lead agency and works with the National Committee on External Quality Assurance and Internal Quality Assurance for TVET. OVEC involves the relevant stakeholders in the process of developing each qualification. For each qualification, the graduates must have certain attributes, core competencies and vocational competencies.

For short vocational training courses organized by the DSD, quality assurance of standard skills qualifications are provided by a joint working committee, the members of which include industrial representatives, experts and DSD staff. Each of the standards must be approved by the National Vocational Training Coordination Committee.

For TPQI qualifications, quality assurance is achieved through the auditing of certification bodies. Industrial representatives are also involved in those processes. The assessment methods used by certification bodies

are usually designed to match the learning outcomes of the TVET qualifications and to reflect the quality of the teachers and trainers and the teaching and learning process.

Participation by employers, employees and civil society

In the past, employers, employees and civil society organizations were not very actively involved in TVET. In recent years, however, there has been an increase in participation of employers in dual vocational education through their involvement in the public and private committee for TVET chaired by the Minister of Education. This is an important industrial cluster sub-committee that seeks to ensure the quality of TVET programmes. The committee's responsibilities include:

- Identifying demand and supply of TVET personnel in each sector.
- Identifying competency of TVET personnel.
- Improving curricula and qualifications.
- Arranging teacher development and work experience.
- Reviewing the teaching and learning process.
- Overseeing assessment and placement of the graduates.
- Declaring minimum wages and salaries for each sector.

The involvement of all stakeholders has become an integral part in contributing to quality assurance of TVET. It is hoped that greater involvement of all stakeholders in quality assurance of TVET will be encouraged through the tax deduction policy and improvements in qualified TVET personnel.

Strengths and weaknesses of quality assurance of the TVET qualification process

Strengths:

- Thailand has good systems for internal and external quality assurance for TVET institutions, which are based on clear laws and regulations.
- The NVQF has changed TVET qualifications from being 'subject-based' to 'competency-based'.

- Competency-based qualifications have enabled close cooperation between TVET institutions and industries so as to meet employer needs.
- The public and private committees for TVET in each industrial cluster have become an essential element for identifying personnel requirements, competencies and teacher development, qualification improvements, and have increased apprenticeship programmes.
- Work-based learning and apprenticeships have become an important part of quality assurance in TVET qualifications, as well as in DSD skills standards and TPQI qualifications.
- The NQF helps to facilitate quality assurance of TVET qualifications and links DSD skills standards and TPQI qualifications with international qualifications and standards.

Weaknesses:

- The NQF is not fully implemented and it will take time and resources to do so.
- Many agencies are involved in providing TVET qualifications, and the quality varies between agencies.
- Participation of industry in TVET is still low.
- Instructors have low capacity and few incentives to implement the competency-based curricula.
- Implementing a competency-based curriculum is limited by insufficient equipment and a lack of workplace learning strategies.
- Information systems for the quality assurance process of TVET qualifications are not well-managed.
- The quality assurance system focuses mainly on institutional quality assurance.
- There is a lack of knowledge and understanding of quality assurance for TVET qualifications.
- There is a lack of a training and learning network on quality assurance for TVET qualifications.
- The National Skills Standard of the DSD differs from the Professional Qualifications Standards of the TPQI, so OVEC staff must take

considerable time and effort to translate those qualifications into the TVET curriculum.

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

The opportunities for improving quality assurance processes include:

- Implementing and enhancing the NQF as a mechanism for driving TVET quality, through linkages and integration between education qualifications, DSD skills standards and TPQI qualifications.
- The internal and external quality assurance system in Thailand should focus on quality assurance of TVET qualifications instead of mainly emphasizing quality assurance of institutions.
- Competency-based qualifications should be encouraged so as to enable TVET institutions to produce qualified personnel.
- The government should actively support the national, regional and industrial clusters and public and private committees for TVET in quality assurance of TVET qualifications, and expand their roles.
- Work-based learning (apprenticeships) should be strengthened and expanded as part of quality assurance for TVET qualifications.
- An effective information system on TVET qualifications quality assurance should be established, so as to provide opportunities for information exchange and learning for all stakeholders.
- Provide incentives and information for increasing participation by industry representatives in TVET.
- Develop alternative models for instructor capacity building in accountability and responsibility for quality assurance of qualifications.
- Extend cooperation and involvement of industries in the delivery of TVET qualifications in order to ensure quality.
- The NQF should help to facilitate quality improvement of TVET qualifications through benchmarking with the AQRF.

How quality assurance could be adapted to respond to regional development

It is suggested that:

- UNESCO develop guidelines for quality assurance in TVET for the region.
- Regional participation in the exchange of experiences should be promoted through online communication.
- Research should be conducted on the issues relating to quality assurance of TVET qualifications. UNESCO should provide experts for a consultation process in quality assurance development in selected countries, the results of which could become a reference case study for other countries.
- TVET qualifications in ASEAN countries should be comparable, with better linkages between qualifications systems. Each member country needs to have a chance to share and discuss their good practices and challenges.
- The various stakeholders involved in the design and delivery of qualifications in the ASEAN region need to work together towards improving quality assurance of TVET qualifications.

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Tonga

National Context

Tonga is located in the western South Pacific Ocean approximately 750 kilometers east of Fiji and 2,000 kilometers north of New Zealand. It has a total land area of 747 square kilometres. In 2016, the total population was 107,122. Demographic data show a wide base at the bottom of the population pyramid, indicating that the population of Tonga is projected to be increasing in the future.

The labour force participation rate is 63.3 per cent (population aged 15+), with an unemployment rate of 4.9 per cent (ILO, 2017). Youth unemployment was recorded at 11 per cent in 2016.

Overview of Tonga's TVET system

All education and training institutions in Tonga are established by the Minister of Education under the Ministry of Education Act (amended in 2013). A total of 22 post-compulsory-education providers (government and non-government) offer vocational skills training, with programmes ranging from life skills training to degree programmes. Secondary schools also offer some TVET programmes, with a pathway that allows students to complete their qualifications with TVET providers. The Tonga Business Enterprise Centre offers short courses that aim to develop skills and capabilities of small and medium-sized private enterprises (the main drivers of the Tongan economy). Apprenticeship is informal in Tonga due to a lack of industrial laws. TVET providers make their own arrangement with workplaces to enable their trainees to engage in work attachment.

In early 2007, TVET providers in Tonga formed the Tonga Association for Technical and Vocational Education and Training so as to build the capacity of instructors such that they have appropriate adult teaching qualifications and to ensure providers have the minimum training resources required for each course.

Quality assurance

Quality is assured by the Tonga National Qualifications and Accreditation Board (TNQAB). The TNQAB's mandate is to develop policies for registration, course approval, accreditation; monitoring, review and audit of all TVET providers and to register their quality assured qualifications in the Tonga Qualification Framework (TQF).

In 2009 and 2010, the TNQAB implemented the new quality assurance policies. All TVET providers are now required by law to be quality assured by TNQAB. This involves meeting the quality standards set for registration, programme accreditation and quality audits. TVET providers are also required to provide evidence showing that they can manage the quality of their programmes, through having a quality management system in place. This requirement aims to ensure that each provider has clear policies and procedures for operating effectively and efficiently.

Assessment

TNQAB assessment standards require that all assessment is valid, fair and reliable. TVET providers use a variety of assessment methods. Each TVET provider develops their own assessments because they own the courses/ programme and the qualifications. Generally, an assessment schedule is developed to guide each assessment. At the end of the programme, a certificate is awarded by the providers to the graduates who complete the requirements of the qualification.

Some TVET providers, such as the Tonga Institute of Science and Technology, have competency-based assessments. Under such assessments, learners are assessed three times before they are deemed 'competent' or 'not competent'. If they are determined competent, they are awarded with certificates.

Not all assessments are suitable for the training being offered. For example, an automotive course would be best assessed by examining the learners' competence in working on automobiles, following being trained at a garage, and much of the theory could be assessed if trainers worked alongside trainees in the garage. However, the providers are reluctant

to let go of the traditional theory test, which involves an examination of two to three hours at the end of each semester.

The TNQAB conducts analysis of the assessment processes used by TVET providers as part of the criteria for accreditation. This includes assessment mapping to ensure that the assessment is assessing the learning outcomes. Providers (both TVET and higher education) are required to submit two units with assessment materials when they apply for accreditation. For most TVET providers, assessments generally do not reflect a perfect match with the learning outcomes.

The use of learning outcomes is not new to providers as this has been an area of emphasis in recent years. However, the introduction of assessment standards is new. This requires having suitably qualified and trained assessors and trainers. The standards help providers to improve their assessments, making them more effective in assessing what they are supposed to assess.

Tonga does not yet have any national qualifications but the TNQAB plans to develop national qualifications so as to centralize the management and administration of standards and assessments, and is seeking assistance in this area.

Participation by employers, employees and civil society

Tonga has several professional bodies for employers, including the Tonga Association of Accountancy; the Electrical Commission; the Tonga Tourism Association; the Friendly Island Teachers Association; the Automotive Industry Association; the Panel Beating and Spray Painting Industry Association; the Welding and Metal Fabrication Sector Association; the Construction, Refrigeration and Air conditioning Association; and the Shipping Industry Association. These were developed by a TVET provider, the Tonga Institute of Science and Technology, in its quest to engage industry in its training. The aim was to gain good support and advice from industries for its training programmes and get feedback on the relevance of the assessment standards used in the training.

Although a 1964 Act of Parliament provides the legislation needed for unions to be formed (2009), Tonga has no formal trade unions, and

employees do not formally participate in TVET programme development or quality assurance. The Public Servants' Association operates as a de facto union for public servants.

TVET providers negotiate directly with industries on workplace training and who to supervise and who to assess. There is no industry training act in Tonga to regulate workplace training other than workplace accreditation conducted by the TNQAB.

Strengths and weaknesses of quality assurance of the TVET qualification process

The following strengths were identified:

- The TNQAB staff have the skills and experience required to conduct quality assurance of qualifications in Tonga, to benchmark the Tonga Qualifications Framework with other qualification frameworks, and to verify and recognize foreign qualifications. These officers have been through extensive training on registration of TVET providers, accreditation of programme of studies and quality audits (internal and external audits), and they have attended international conferences on quality assurance and recognition of foreign qualifications. They have also been on work attachments to the New Zealand Qualification Authority and the Malaysia Qualification Agency, have visited registered training organizations in Australia, and have received training on lead auditing and diplomas in quality auditing in Australia and New Zealand. Some have enrolled in the post graduate certificate in quality assurance programme developed by the INQAAHE, which is offered by the University of Melbourne.
- The local TVET providers have more trained assessors now than ever before, which enables them to meet the requirements of staff qualifications for course approval and accreditation. The unity and willingness of providers to comply with the requirements of the TNQAB for quality assurance strengthens the role of the TNQAB. Moreover, the granting of a TVET fund by the Ministry of Education is based on providers being accredited by TNQAB, and this further strengthens the process of quality assurance of TVET qualifications.

- The clear policies for quality assurance are another strength. A policy on recognition of prior learning enables students to move between institutions and carry academic credits with them. The TNQAB ensures the quality of training and validity of the certification provided by these institutions.
- Quality Assurance of TVET qualifications provides an excellent opportunity for providers to improve their current programmes and qualifications to meet the characteristics of the Tonga Qualifications Framework (TQF), which is benchmarked against international standards. The TQF enables qualifications to be compared and portable, thus enabling mobility of labour.
- The National TVET Policy Framework for Tonga was launched in 2013 and is one of the major instruments that the government will use to achieve its goal, namely an appropriately skilled workforce that meets the available opportunities in Tonga and overseas, by delivering improved technical and vocational education and training.
- Producing skilled workforce is one of the government's priorities in the national planning since 2008 to date. The government therefore focuses on consolidating the training in TVET to ensure that sufficient fund is directed towards TVET for technical assistance, in cooperation with overseas development partners.

The weaknesses in the system were identified as follows:

- TVET providers have difficulty in complying with the assessment requirements of the TNQAB. From analysis of applications, this is the weakest criteria for most TVET providers. This implies that there is not sufficient training or knowledge on how to conduct assessments in a manner that is fair, valid and reliable. Although formal training (a Certificate in Training and Assessment Level 4) has been offered more than once for teachers at TVET providers and other training organizations, the trained staff often leave providers and are replaced or relieved by staff with no training who have not participated in assessment training. These staff are therefore not prepared to conduct assessments that are fair, valid and consistent.

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

The opportunities for improving the system were identified as follows:

- ▶ There have been opportunities to review the present quality assurance process. For example, the number of panelists can be reduced from three to two, depending on the size of the provider and the nature of the programme. Sometimes it is suitable for the industry expert to be accompanied by only one TNQAB officer on visits to the provider to review the teaching and learning resources. This reduces the stress that the TVET providers have when they anticipate a visit from a big TNQAB team. Moreover, this helps to streamline the process and reduce the cost to the provider of accreditation.
- ▶ The expansion of the quality assurance process leads to increases in the number of trained TNQAB staff, which in turn leads to a stronger quality assurance process. For example, in 2016 four new staff were recruited to TNQAB, and these staff members attended Lead Auditing and Diploma in Quality Audit in Australia in preparation for auditing of TVET providers in 2017. Two of these new recruits were awarded scholarships to study for a Master's degree in New Zealand in 2017. When they return to Tonga they will use their skills to strengthen quality assurance of TVET.

The following barriers were identified:

- ▶ There are insufficient funds in the budget to carry out the annual planned activities, so TNQAB needs to look for other sources of funds. At times, there are activities that were not included in the annual plan but were recommended from the divisions as being important to engage in. The budget therefore has to be modified to meet these unplanned expenses.
- ▶ Although principals and school heads attend TNQAB workshops, the preparation of documents is done by teachers who have not received the TNQAB training. It is important that staff

members who work on the programmes attend the TNQAB staff development workshops.

- ▶ Some providers do not respond to contacts made by the TNQAB.
- ▶ None of the staff at the providers has sole responsibility for internal quality assurance, so it is a task that is overlooked. It is recommended that a person be assigned the task of internal quality assurance. This recommendation should be implemented in the revision of the TNQAB Act or Regulations.

How quality assurance could be adapted to respond to regional development

The Act that established the TNQAB regulates qualifications and enables providers who develop a qualification to apply for approval. Similarly, any regional qualifications are subject to the law of the country and can be submitted for approval. The TNQAB has a clear process and procedures for quality assurance for cross border qualifications and the delivery of foreign qualifications in Tonga.

It is not very clear how a regional quality assurance system will be coordinated with national agencies. A regional quality assurance body may only be effective in countries that have no national qualification framework. As such, it is recommended that regional qualifications are offered to countries to adapt as national qualifications. This will help facilitate the mobility of labour.

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Viet Nam

National context

Located on the eastern Indochina Peninsula, Viet Nam is bordered by China to the north, Lao PDR to the north-west and Cambodia to the south-west. The nation has a population of 92,701,100 (World Bank, 2017). The population growth rate is 1.1 per cent and its youth cohort (aged between 15 and 24) makes up 15 per cent of the total population (UN DESA, 2017). In 2017, 78.4% of the population aged 15 or over are engaged in the labour force. The youth unemployment rate was 6.4% (of total labour force aged 15-24) (ILO, 2017). Viet Nam has a large labour force, declining birth rates and a rapidly aging population, which present the nation with both opportunities and challenges.

With the country's wider and deeper integration into the region and the world, the Vietnamese government has affirmed that 'Education is the first priority of the national policy' and investment in improving the quality of human resources is one of the top priorities to enhance the country's competitiveness. The government seeks to improve the quality of human resources through education and training.

Overview of Viet Nam's TVET system

As a subsector of the national educational system, technical and vocational education and training (TVET) plays an important role in providing a quality workforce. However, society has a mindset fixed on higher education credentials, so TVET is always the second choice of the young and their parents.

Prior to 3 September 2016, TVET was under the administration of two ministries: the Ministry of Education and Training (MOET) and the Ministry of Labour, Invalids and Social Affairs (MOLISA). When the Resolution No 76/NQ-CP was passed by the Viet Nam government on 3 September 2016, the government assigned MOLISA as the sole agency for TVET in Viet Nam. It will take time to streamline and unify Viet Nam's TVET system, however, as it is diverse in terms of providers, programmes and administrative authority.

In accordance with the Law on Vocational Education 2014), TVET in Viet Nam is offered at three levels: primary, intermediate, and college. As of 31 December 2016, there were 969 TVET colleges and intermediate schools, and 1,034 vocational training centres nationwide. TVET programmes in Viet Nam include both short-term courses (up to one year, leading to certificates) and long-term ones (from one to three years, leading to diplomas or advanced diplomas depending on the entry level of the students). All programmes must be registered and approved by MOLISA or the Department of Labour, Invalids and Social Affairs (DOLISA), as regulated by government decrees. Many TVET institutions offer skills development courses. Non-formal courses are provided by continuous learning centres at the provincial and district levels. Recognition and validation of non-formal and informal learning is still an issue, however, as the Vietnamese Qualifications Framework has only recently been approved and put into practice.

Many enterprises, particularly industry ones, prefer to recruit high school graduates who can be trained on the job. On-the-job training is considered an effective form of skills development for enterprises as they are able to ensure their employees have the precise skills needed.

Quality assurance

The TVET quality assurance system has two components: internal quality assurance within TVET institutions and external quality assurance.

In 2008, MOLISA issued Decision No 01/2008/QĐ-BLĐTĐBXH and Decision No 02/2008 QĐ-BLĐTĐBXH, which regulates the system of standards and criteria for accreditation of vocational intermediates schools and colleges. According to these documents, quality accreditation shall adhere to the following principles: independent, objective (unbiased), legal, honest, open and transparent, equal, mandatory and periodic. Recently, MOLISA issued Decree No 15/2017/TT-BLĐTĐBXH regulating system of standards and criteria for accreditation of TVET to replace the Decision N 01/2008/QĐ-BLĐTĐBXH and Decision No 02/2008 QĐ-BLĐTĐBXH. According to this Decree, the quality accreditation is applied to vocational training centers, intermediate schools and colleges as well as to training programmes at primary, intermediate and collegial levels.

MOLISA established the Viet Nam Vocational Training Accreditation Agency (VTAA) to lead the appraisal of training quality for vocational training establishments and programmes, and to coordinate with the concerned agencies in the fields of quality control and quality management throughout the country.

To link vocational training with the job market and to ensure that assessment and the issuing of national occupational skills certificates are quality assured, the government developed the National Occupational Skills Standards (NOSS). Certification of national occupational skills is regulated under the Government Decree No. 31/2015/NĐ-CP dated 24 March 2015. Testing for certification is undertaken at testing centres licensed by the General Department in Vocational Training (GDVT). As of 2017, about 200 occupational skill standards have been set and certificates issued to millions of workers.

Assessment

According to Circular No 09/2017/TT-BLĐTBXH, assessment of learning at the intermediate and collegial levels is undertaken through three types of tests: regular, periodic and final tests. All subjects and modules have at least one regular test and periodic test.

- Regular tests are administered by teachers at any time in the year-based training or the accumulation of modules or credits.
- Periodic tests are embedded in the curricula and are written tests, including written exercises, essays and practice tests.
- Final tests are carried out for all subjects and modules in the vocational training programmes. To take part in the final test of a subject or module, learners must have met the minimum attendance of 70 per cent for theoretical courses and have taken part in all practice courses and the internship. Final tests can be in the form of written tests, oral tests, multiple-choice exams, practice tests, exercises, essays or a combination.

The content of the exams and tests must relate to the vocational training programmes, in accordance with the standards of the knowledge and skills specified in the vocational training programme, and measure the

knowledge and skills that apprentices have accumulated in the process of learning and training. The assessment of the examination and test results is based on a 10-point scale.

Learners who complete their studies through the accumulation of modules or credits are eligible to graduate if they have fulfilled the following requirements:

- Accumulated sufficient modules or credits for the training programme.
- Reached a cumulative GPA for the entire training programme of at least 2.0 (on the 4.0 point scale).
- Satisfied the requirements on learning results for the subject groups and modules of the training programme prescribed by the principal.

Learners who pursue year-based trainings are eligible to graduate if they have fulfilled the following requirements:

- Acquired a score of 5.0 or higher or achieved a score of 5.0 on their graduation thesis (on the 10-point scale) in three compulsory subjects: Politics, Occupational General Theory and Occupational Practice.

Participation by employers, employees and civil society

The business community and enterprises in Viet Nam have rights and responsibilities relating to supporting TVET, as regulated in the Vocational Education Law (2014) but, in general, they are not involved much in the process of quality assurance of qualifications. Employers in the private sector are represented by several agencies, including the Viet Nam Chamber Commerce and Industry (VCCI). The VCCI is a national organization that assembles and represents the business community, employers and business associations of all economic sectors in Viet Nam.

In recent years, MOLISA has begun developing national occupational skills standards, and has requested the ministries and some big companies to send experienced workers/experts to assist in developing National Occupational Skills Standards (NOSS).

Employees are represented by trade unions, which take on the role of protector of its members in terms of salaries and wages, social protection and other rights. Since the right of workers to up-skilling is regulated under the vocational education law, trade unions also play a role in upholding this right. A key trade union is the Viet Nam Trade Union (VTU), a state association, which seeks to protect the legitimate interests of workers. The VTU is a national organization for workers for the whole country. Each province also has a Provincial Trade Union, under the supervision of the VTU. Nearly all employees join the trade union. Only enterprises with a small number of workers are exceptions. Trade unions generally do not take any role or responsibility for quality assurance of TVET.

Two foreign business associations (from Germany and Japan) are very active in supporting policies on apprenticeship and in-house training. These associations supported the professional development of TVET teachers and apprenticeships in Viet Nam.

Strengths and weaknesses of quality assurance of the TVET qualification process in Viet Nam

Strengths:

Important legal tools for implementing quality assurance have been established in Viet Nam. These include regulations on quality assurance within legal documents, such as in the Law on Vocational Education, and decrees relating to quality assurance. Furthermore, MOLISA has developed various legal documents and guiding documents for quality assurance.

At the management level, MOLISA set up departments that are in charge of quality assurance of TVET and promulgated legal documents regulating TVET quality assurance

Awareness of quality assurance has increased in Viet Nam following the promulgation of Resolution No. 29-NQ/TW on fundamental and comprehensive innovation in education, which seeks to 'standardize quality assurance conditions and manage the training process; focus on

output quality management; [and] build independent accreditation on education and training quality’.

Weaknesses:

- Although quality assurance has improved, it is too early to state that Viet Nam has a quality assurance system and mechanisms powerful enough to fulfil the important catalyst role in ensuring and improving TVET quality.
- The national education system lacks uniformity and there is limited transferability between educational grades and qualification levels. The government recently approved a national qualifications framework but this framework needs to be linked with the quality assurance processes of institutions in designing, implementing and evaluating training programmes and learners, and in recognizing diplomas according to the ASEAN Qualifications Framework (AQRf).
- The TVET system in Viet Nam is diverse, but there is a lack of coordination between the various education sectors, ministries, training sectors and localities. Furthermore, TVET institutions have few links with employers, industries and the world of work.
- Employees, enterprises and civil society organizations are not sufficiently involved in the process of quality assurance of qualifications.
- There is a lack of qualified teachers and assessors with occupational competence in TVET, and training programmes are often not up to date. In addition, investment in facilities does not respond to the requirements of education innovation.
- In general, Viet Nam lacks the ‘quality culture’ in TVET. Implementation of internal quality assurance by TVET institutions is not an automatic process, but rather is only undertaken at the request of the authorities.

Opportunities for and barriers to improving the present quality assurance process and suggestions and proposals for improving quality assurance of qualifications

Opportunities:

- In the national context, the Communist Party and Vietnamese government emphasize that 'education is the first priority of the national policy', 'investment in education is investment for development' and 'education is the objective and concurrently the motive for socio-economic development' (VPM, 2012).
- The promulgation of 2011-2020 socio-economic development strategy and the strategy for and master plan on human resource development provide a strong basis for education development in general and quality assurance in particular.
- In the international context, the revolution of science and technology, particularly information technology and communication, will create favourable conditions for reforming contents, methods and organizational forms of education, including quality assurance.
- The wide and deep international integration in education taking place globally creates favourable opportunities for new trends and knowledge, modern education models and greater external resources for education development.

Barriers:

- International integration raises issues, such as the adoption of unhealthy cultures and lifestyles that undermine national identity.
- Vietnamese workers have weaknesses in the areas of foreign languages, soft skills and creativity, so are at a disadvantage in the global market.
- Vietnamese society continues to heavily value academic education, with the result that little attention and resources are given to TVET and to quality assurance in TVET.
- It is important to rapidly develop vocational education and training to meet the requirements of industrialization and modernization in a

knowledge-based economy with advanced technology, but it is also necessary to also improve and ensure the quality of that education and training. This is challenging in the context of low investment and resources for education.

- Social stratification is increasing, with gaps between the rich and poor growing, and divides increasing between different population groups, and between different regions. Thus the gap in education quality is growing.

How quality assurance could be adapted to respond to regional development

In order to respond to regional developments on quality assurance, the Vietnamese government established a National Qualifications Framework (NQF), which will ensure quality assurance standards corresponding to qualification levels. The attention has now been shifted towards implementing the NQF and ensuring better linkages between education and training and the world of work. The government must also develop national policies and financial mechanisms to support quality assurance. In particular, Viet Nam needs to continue to review the regulations on quality assurance in TVET systems, improve TVET quality assurance standards and indicators for assessing training institutions, strictly implement certification processes (including licenses for TVET programmes, inspections, applications for accreditation of TVET institutions and programmes) and establish agencies to be in charge of controlling, monitoring and recognizing qualifications to ensure credentials comply with quality standards for each qualification level. Furthermore, the government should mobilize society to support improvements to TVET training in Viet Nam, including in the area of training and retraining teachers, administrators and assessors.

Viet Nam will cooperate with other ASEAN member countries to recognize vocational skills and common professions and to facilitate international accreditation of Vietnamese institutions. Core guidelines for quality assurance of qualifications in TVET at the regional level would be a useful tool in guiding the ASEAN member countries in developing their own national standards.

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Appendix 3: Summary of the Proposed Guidelines for the Quality Assurance of TVET Qualifications in the Asia-Pacific Region

The table lists the 13 principles described in the guidelines, along with indicators that can be used to measure the extent to which the principles have been implemented (UNESCO, 2017).

Table 6: Summary of the principles and indicators

	Principles	Indicators	
		Qualitative	Quantitative
1	There is a clear vision for how QA of TVET qualifications operates across the TVET qualifications system.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • A vision for QA of TVET qualifications is communicated through legislation, blueprints or similar documents. • A roadmap is documented and communicated for the future development or enhancement of the TVET qualifications system (and its quality assurance) in the medium and long term. 	<p>Evidence that there is a clear vision for QA of TVET qualifications is measured by:</p> <ul style="list-style-type: none"> • Adoption of a legal framework, a blueprint or similar document for QA of TVET qualifications. • The roadmap is endorsed by all key stakeholders.

	Principles	Indicators	
		Qualitative	Quantitative
2	Organizations involved in QA of TVET qualifications operate with clear and transparent governance arrangements.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Organizations involved in QA of TVET qualifications have appropriate governance arrangements documented through protocols and practices to: <ul style="list-style-type: none"> – Guide their work in a transparent way – Ensure independence of decisions – Avoid conflicts of interest – Identify clear roles and lines of responsibility and accountability – Ensure accountability through public reporting • Organizations have made their protocols and practices public and have implemented them. • Organizations have undertaken internal and/or external evaluation to inform their practice. 	<p>Evidence of effectiveness of implemented protocols and practices is measured by:</p> <ul style="list-style-type: none"> • Proportion of organizations that have made public their protocols and practices in relation to QA of TVET qualifications. • Proportion of organizations that have undergone internal and/or external evaluation that demonstrate appropriate governance arrangements are in place and are systematically implemented. • Proportion of organizations that have made the findings of internal and/or external evaluations public.
3	QA of TVET qualifications practice is appropriately financed.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Annual plans for budget allocations are documented, communicated and made public. • Budget allocations support and are aligned with QA of TVET qualifications policy goals and practices. 	<p>Evidence of effectiveness of budget allocation and appropriateness of expenditure is measured by:</p> <ul style="list-style-type: none"> • Level of investment in assessment resources, services and facilities. • Level of investment in assessor capacity and capability, including professional development. • Level of investment in quality assurance staff capacity and capability, including professional development. • Level of investment in monitoring, review and continuous improvement.

	Principles	Indicators	
		Qualitative	Quantitative
4	QA of TVET qualifications practice is based on clear and transparent quality standards.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Quality standards are documented, communicated and made public. • Quality standards are applied to QA of TVET qualifications practice. • Quality standards are applied to evaluation processes. • Quality standards are reviewed and refined in response to evaluation. • Quality standards enable comparisons to be made between qualifications systems, both within the country and externally. • Level of transparency and stakeholder awareness of quality assurance objectives and standards in relation to TVET qualifications. 	<p>Evidence of effectiveness of quality standards and their application is measured by:</p> <ul style="list-style-type: none"> • Proportion of assessment providers (e.g. education institutions, TVET providers, assessment centres, certifying/awarding bodies) that meet quality standards. • Proportion of TVET qualifications that meet accreditation quality standards. • Proportion of TVET qualifications that have been re-evaluated against quality standards. • Proportion of assessment providers that have been re-evaluated against quality standards.

	Principles	Indicators	
		Qualitative	Quantitative
5	QA of TVET qualifications practice addresses conception and formation of qualifications, assessment, validation and certification processes.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Documented QA of TVET qualifications practice addresses: <ul style="list-style-type: none"> – Conception and formation of qualifications that are based on learning outcomes and are linked to labour market needs. – Assessment and validation of assessment outcomes, ensuring that valid and reliable assessment decisions are made in accordance with clear outcomes-based standards. – Certification processes, to confirm that the outcomes of the predetermined standards have been met and an accurate record of achievement is issued. • Implementation of QA of TVET qualifications practice. • A plan for evaluation of the effectiveness of QA of TVET qualifications practices is agreed upon and undertaken (refer to Principles 10, 11, 12). • Findings and reports of evaluations are made public. 	<p>Evidence of effectiveness of QA practices is measured by:</p> <ul style="list-style-type: none"> • Proportion of TVET qualifications that meet accreditation quality standards. • Proportion of TVET qualifications aligned to labour market needs. • Proportion of TVET qualifications with professional association approval. • Proportion of assessors that meet quality standards or have assessment qualifications. • Proportion of assessors participating in professional development. • Level of activity related to evaluation and review of assessment outcomes. • Evidence of improvements to assessment practice as a result of evaluation and review. • Proportion of quality assurance staff participating in professional development. • Proportion of quality assurance staff with quality assurance qualifications. • Level of satisfaction of participants and employers with qualification outcomes. • Proportion of graduates employed or who have progressed to further study.
6	Key stakeholder groups are involved in key aspects of QA practice (e.g. conception and formation of TVET qualifications, assessment, validation and certification).	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Documented processes for the QA of TVET qualifications include the roles of the key stakeholders. • The roles of the key stakeholders are clear and made public. 	<p>Evidence of the commitment and engagement of key stakeholders is measured by:</p> <ul style="list-style-type: none"> • Proportion of key stakeholders participating in the conception and formation of TVET qualifications, assessment, validation, and certification processes (refer to Principle 5). • Proportion of key stakeholders participating in reviews of QA of TVET qualifications practice (refer to Principle 10).

	Principles	Indicators	
		Qualitative	Quantitative
7	Economic, social and environmental dimensions are explicit in QA of TVET qualifications practice to: maximize access, social inclusion, pathways, articulation, participation of vulnerable groups, and participant retention and completion rates; and prioritize key industry sectors.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> Public policy documentation links quality TVET provision with facilitating the economic, social and environmental aspirations of the country. Information is provided to stakeholders about access and social inclusion schemes. Information is provided to stakeholders about credential evaluation services. Number and range of schemes implemented. Participant demographics are linked to quantitative measures. 	<p>Evidence that QA management includes economic, social and environmental dimensions is measured by:</p> <ul style="list-style-type: none"> Number enrolled in TVET qualifications as a proportion of total enrolments in the formal education system. Retention and completion rates by TVET qualification type, industry sector and field of study, and participant demographics. Withdrawal rates by TVET qualification type, industry sector and field of study. Level of investment in strategies to maximize access and social inclusion. Proportion of participants from vulnerable groups. Range of pathways/articulation for each qualification and field of study within the TVET sector and for other education sectors within the country, e.g. basic education, higher education. Proportion of participants moving between and into TVET qualifications and/or other education sectors. Proportion of TVET qualifications that address priority sector areas. Proportion of TVET qualifications aligned to labour market needs. Proportion of TVET qualifications with a formal workplace learning component. Proportion of participants that have achieved all or part of a TVET qualification through the recognition of prior learning, e.g. assessment of non-formal or informal learning. Number of applications for credential evaluation, e.g. of international qualifications.

	Principles	Indicators	
		Qualitative	Quantitative
8	Barriers to assessment, including for non-formal and informal learning, are minimized.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Decisions are informed by research into barriers to assessment. • Barriers to assessment, including for non-formal learning, are documented, and preventative strategies or schemes have been proposed. • Schemes and communication of the schemes are implemented. • Document guidelines for assessors, related to undertaking recognition of prior learning. 	<p>Evidence of effectiveness of implemented strategies is measured by:</p> <ul style="list-style-type: none"> • Number of schemes to reduce barriers to assessment of non-formal and informal learning. • Proportion of TVET qualifications offering recognition of prior learning or agreed credit. • Proportion of successful applications for recognition of prior learning or credit. • Proportion of participants that achieved all or part of a TVET qualification through the recognition of prior learning, e.g. assessment of non-formal or informal learning. • Proportion of TVET qualifications that include formal credit arrangements with other relevant qualifications within TVET or in other sectors. • Non-formal and work-based participation rates.
9	Professionalization of staff underpins QA of TVET qualifications practices.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • Selection, recruitment and remuneration of QA staff and/or assessors are documented. • Professional development strategies for QA staff and/or assessors are documented. • Budget allocations support and align with the professional development needs of QA staff and/or assessors. 	<p>Evidence that QA practice is maintained over time is measured by:</p> <ul style="list-style-type: none"> • Proportion of investment and allocations for assessor capacity and capability, including professional development. • Proportion of investment and allocations for quality assurance staff capacity and capability, including professional development. • Proportion of quality assurance staff with quality assurance qualifications. • Proportion of assessors that meet quality standards or have assessment qualifications. • Rate of staff assessor retention/turnover. • Proportion of quality assurance staff participating in professional development. • Rate of quality assurance staff retention/turnover.

	Principles	Indicators	
		Qualitative	Quantitative
10	Continuous improvement underpins QA of TVET qualifications practice; decisions are informed by data and research.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> Data standards and data sets, and research strategies to inform continuous improvement of TVET qualifications decisions are agreed upon and used. Monitoring and continuous improvement processes are implemented. Outcomes of monitoring and continuous improvement activities are communicated and made public. 	<p>Evidence of effectiveness of continuous improvement on QA practice is measured by:</p> <ul style="list-style-type: none"> Consistency and completeness of data sets. Proportion of use of data sets in research and decision-making. Number of reviews of QA of TVET qualifications practice.
11	Organizations involved in QA of TVET qualifications commit to internal evaluation and cyclical external evaluation, as well as to making public the findings of external evaluations.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> Internal evaluation and external methods are documented. Internal evaluation is implemented and findings are actioned. External evaluation is undertaken; independent findings in relation to the QA of TVET qualification are communicated and made public, and findings are actioned. 	<p>Evidence of the effectiveness of self-assessment and external evaluation is measured by:</p> <ul style="list-style-type: none"> Proportion of organizations applying internal evaluation and making public findings and improvements. Proportion of organizations applying cyclical external evaluation and making public the findings of external evaluations.
12	QA of TVET qualifications practice remains fit for purpose and is sustainable.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> QA of TVET qualifications practice is documented, demonstrating that practices are proportional to the context. There is a plan for sustainable QA practices. QA of TVET qualifications practice is reviewed to evaluate fitness for purpose, potential sustainability, and for continuous improvement (refer to Principles 10 and 11). QA of TVET qualifications practice remains stable and is consistently applied over time. 	<p>Evidence that QA practice is maintained over time is measured by:</p> <ul style="list-style-type: none"> Number of system reviews of QA of TVET qualifications practice (refer to Principle 10). Key stakeholders' satisfaction and confidence levels in QA of TVET qualifications practice remain consistent or improve over time. Key stakeholders' satisfaction and confidence levels in TVET qualification outcomes remain consistent or improve over time.

	Principles	Indicators	
		Qualitative	Quantitative
13	QA of TVET qualifications practice is enhanced through national and international linkages and cooperation.	<p>Implementation is demonstrated by:</p> <ul style="list-style-type: none"> • The strategy for harmonizing the QA practices of TVET qualifications with other education sectors within the country, e.g. higher education and basic education, is documented, communicated and made public. • TVET quality standards are benchmarked to other education sector QA systems within the country. • The internationalization and cooperation strategy is documented, communicated and made public. • TVET quality standards are benchmarked to other countries' QA qualifications systems. • Joint projects (nationally and internationally) are undertaken related to QA of TVET qualifications. • Establishment and involvement in a community of practice. 	<p>Evidence that QA practice is maintained over time is measured by:</p> <ul style="list-style-type: none"> • Number of benchmarking and harmonization activities with other education sector QA systems within the country that have been undertaken and made public. • Number of benchmarking activities with other countries' QA systems that have been undertaken and made public. • Number and level of participation in collaborative projects related to QA of TVET qualifications, nationally and internationally. • Level of participation in community of practice activities.



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