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Guidelines for the Quality Assurance of TVET Qualifications in the Asia-Pacific Region

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Guidelines for the Quality

Assurance of TVET Qualifications

in the Asia-Pacific Region

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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 because 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 technical and vocational education and training (TVET) qualifications, UNESCO Bangkok took the initiative to work with Member States in the Asia-Pacific region to develop Guidelines for the Quality Assurance of TVET Qualifications in the Asia-Pacific region.

The formulation of these guidelines was based on findings from 13 country studies on the same topic and was carried out through a participatory process involving consultation with Member States, so as to best respond to their diverse contexts and needs.

The overall aim of these guidelines is to propose principles and indicators that can assist Member States in optimizing their quality assurance mechanisms for qualifications achieved through TVET. They provide a framework for documenting, developing, monitoring, evaluating and improving the currency and comparability of certificates, diplomas or degrees in TVET.

Member States are strongly urged to make efforts to implement the guidelines as appropriate to their specific national contexts. With its mandate to lead and coordinate the Education 2030 agenda, UNESCO Bangkok remains fully committed to providing technical support and capacity building, and to facilitating regional cooperation and exchange of experiences and best practices among Member States, with the aim of promoting quality education and lifelong learning for all.



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Acronyms

ASEAN	Association of Southeast Asian Nations
AQRF	ASEAN Qualifications Reference Framework
EAS	East Asia Summit
NQF	National qualifications framework
PQAF	Pacific Quality Assurance Framework
QA	Quality assurance
QAF	Quality assurance framework
RQF	Regional qualifications framework
TVET	Technical and vocational education and training
UNESCO	United Nations Educational, Scientific and Cultural Organization

Glossary of key terms

Term	Definition
Achievement standards	<p>Statements approved and formalized by a responsible body, which defines the rules to be followed in a given context or the results to be achieved.</p> <p>A distinction can be made between competency, educational, occupational and certification standards:</p> <ul style="list-style-type: none"> • Competency standards refer to the knowledge, skills and/or competencies linked to practising a job. • Educational standards refers to statements of learning objectives, content of curricula, entry requirements and resources required to meet learning objectives. • Assessment standards refer to statements of learning outcomes to be assessed and methodology used. • Occupational standards refer to statements of activities and tasks related to a specific job and to its practise. • Certification standards refer to statements of rules applicable to obtaining a qualification (e.g. certificate or diploma) as well as the rights conferred (Cedefop, 2011, p.109).
Certification	<p>The process of issuing a certificate, diploma or title of learning outcomes formally attesting that a set of learning outcomes (knowledge, know-how, skills and/or competences) acquired by an individual has been assessed and validated by a responsible body against a predefined standard (Cedefop, 2011, p. 16).</p>

Term	Definition
Educational institution	<p>Established institution that provides education as its main purpose, such as a school, college, university or training centre. Such institutions are normally accredited or sanctioned by the relevant national education authorities or equivalent authorities. Educational institutions may also be operated by private organizations, such as religious bodies, special interest groups or private education and training enterprises, both for profit and non-profit (ISCED, 2012, p. 79).</p> <p>For the purposes of these guidelines, an educational institution provides assessment and certification services and is referred to as an ‘assessment provider’ or ‘TVET provider’.</p>
Non-formal learning	<p>Learning that is embedded in planned activities that are not explicitly designated as learning (in terms of learning objectives, learning time or learning support). Non-formal learning is intentional from the learners’ point of view (Cedefop, 2011, p. 71).</p>
Programme	<p>A coherent set or sequence of educational activities designed and organized to achieve pre-determined learning objectives or accomplish a specific set of educational tasks over a sustained period. Within an education programme, educational activities may also be grouped into sub-components variously described in national contexts as ‘courses’, ‘modules’, ‘units’ and ‘subjects’. A programme may have major components not normally characterized as courses, units or modules – for example, play-based activities, periods of work experience, research projects and the preparation of dissertations (ISCED, 2012, p. 79).</p>

Term	Definition
Qualification	A formal certificate issued by an official agency to recognize that an individual has been assessed as achieving learning outcomes or competencies to the standard specified for the qualification title, usually a certificate, diploma or degree. Learning and assessment for a qualification can take place through workplace experience and/or a programme of study. A qualification confers official recognition of value in the labour market and in further education and training (OECD, 2006, p. 21-22).
Qualifications framework	An instrument for the development and classification of qualifications, at a national or sectoral level, according to a set of criteria (e.g. using descriptors) applicable to specified levels of learning outcomes (Cedefop, 2011, p. 82).
Qualifications systems	All aspects of activity that result in the recognition of learning. These systems include the means of developing and operationalizing national or regional policy on qualifications, institutional arrangements, quality assurance processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society. Qualifications systems may be more or less integrated and coherent. One feature of a qualifications system may be an explicit framework of qualifications (OECD, 2006, p. 22).
Quality assurance (QA)	A component of quality management that is 'focused on providing confidence that quality requirements will be fulfilled' (Joint Technical Committee QR-008, Quality Management Systems, 2006, p. 9). In relation to education and training services, quality assurance involves planning, implementation, education and training evaluation, reporting, and quality improvement, implemented to ensure that education and training (content of programmes, curricula, assessment and validation of learning outcomes, etc.) meet the quality requirements expected by stakeholders (Cedefop, 2011, p. 84-85).

Term	Definition
Quality assurance framework (QAF)	A set of principles, guidelines, tools and standards that guide the consistent application of quality assurance activities (Adapted from Cedefop 2011, p. 21).
Quality indicators	Formally recognized figures or ratios used as yardsticks to judge and assess quality performance (Cedefop, 2011, p. 88).
Quality principles	Overall intentions and approach of a quality framework or an organization with regard to quality assurance (Adapted from Cedefop 2011 and ASEAN 2015).
Quality standards	Technical specifications that are measurable and have been drawn up by consensus and approved by an organization recognized at the regional, national and/or international level. The purpose of quality standards is optimization of input and/or output of learning (Cedefop, 2011, p. 96).
Quality assurance system	Organisational structure, procedures, processes, and resources needed to implement activities to assure the quality of education and training (Adapted from Cedefop, 2011, p. 96).
Recognition	<p>Formal recognition is the process of granting official learning outcomes status to skills and competences, either through:</p> <ul style="list-style-type: none"> • awarding qualifications (certificates, diploma or titles) as a result of assessment, <p>or</p> <ul style="list-style-type: none"> • granting equivalence, credit units or waivers, validation of gained skills and/or competences. <p>Social recognition is the acknowledgement of the value of skills and/or competences by economic and social stakeholders (Adapted from Cedefop, 2011, p. 97).</p>

Term	Definition
Regional qualifications framework	A reference tool that describes levels of learning outcomes that is agreed across groupings of countries. A means of enabling one national framework of qualifications to relate to another and, subsequently, for a qualification in one country to be compared to a qualification from another country (Adapted from ASEAN 2015).
Responsible body	<p>Agency (or agencies) responsible for various aspects of the quality assurance of the TVET system, including:</p> <ul style="list-style-type: none"> • Agencies (such as national qualifications agencies, national accreditation agencies, official review boards or other nationally-approved bodies or agencies with the responsibility to approve qualifications) that manage the accreditation of programmes and qualifications, under national legislation. • Agencies that manage the accreditation of education and training providers (such as national qualifications agencies, official review boards and other nationally-recognised bodies and agencies), under national legislation (Adapted from ASEAN, 2015).
Technical and vocational education and training (TVET)	Comprises 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 the secondary, post-secondary and tertiary levels, and includes work-based learning and continuing training and professional development that may lead to attainment of 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 (UNESCO, 2015).

Term	Definition
Work-based education	Educational activities that take place in a work environment, usually in the context of vocational education programmes. The aim is to achieve specific learning objectives through practical instruction and participation in work activities under the guidance of experienced workers and/or trainers (ISCED, 2012, p. 84).

For the purposes of the guidelines, the below terms are defined as follows:

Term	Definition
Stakeholders	All actors within a quality assurance system at the national or education institution level, including employer and employee associations, professional bodies, licensing bodies, students, responsible body staff and institutional staff.
Organizations	Bodies at various levels of the TVET qualifications system that have a role in the quality assurance (QA) of TVET qualifications, e.g. accreditation bodies, qualification awarding bodies, QA bodies and assessment providers.

A large blue graphic element on the left side of the page, consisting of a semi-circle at the top and a larger, irregular shape below it that resembles a stylized letter 'C' or a bracket. The word 'Section' is written in white inside the top semi-circle, and the word 'Introduction' is written in blue to the right of the graphic.

Section Introduction

Background

At the Third International Congress on Technical and Vocational Education and Training (TVET), held in Shanghai in 2012, a recommendation was made to explore the possibility of developing quality assurance (QA) guidelines for the recognition of qualifications based on learning outcomes. This recommendation was echoed in UNESCO's new Strategy for TVET (2016-2021) and in the revised recommendation concerning TVET (UNESCO, 2015a), which calls for transparent and quality-assured TVET qualifications and the promotion of mutual recognition of qualifications at the national, regional and international levels.

A key concern for developing such guidelines is the quality assurance arrangements in TVET, which are essential for generating trust and ensuring transparency of qualifications for the labour market and individuals. Up-to-date and well-grounded information on QA of qualifications in TVET in different countries and regions was needed to formulate these guidelines.

The guidelines are the culmination of a phased approach, which began with the production of a discussion paper (Phase 1) that explored and identified the issues involved in assuring the quality and consistency of qualification processes. The discussion paper was followed by the development of country reports (Phase 2), which described approaches in each country that support the qualification process, and how these were understood by stakeholders and applied. The outcome of Phase 1 and 2 was a synthesis report of the country overviews, outlining common

characteristics, variances and issues and barriers facing implementation of quality assurance.

To develop the country reports, UNESCO Bangkok organized three expert meetings (in October 2015, July 2016 and October 2016) to bring together international experts and national representatives from the Asia-Pacific and beyond to share their experiences and the lessons learned from the country studies and to discuss the draft regional guidelines for effective quality assurance of qualifications systems (Phase 3).

The participating countries were:

- Afghanistan
- Brunei Darussalam
- Cambodia
- Indonesia
- Lao PDR
- Malaysia
- Myanmar
- Philippines
- Republic of Korea
- Samoa
- Tonga
- Thailand
- Viet Nam

The guidelines provide a commentary on the quality assurance process of TVET qualifications and follow this structure:

- Key principles underpinning quality assurance of TVET qualifications.
- Indicators for determining the progress of implementation and for evaluating the effectiveness of the quality assurance of TVET qualifications.
- Promising practices within and external to the region.
- Available resources within and external to the region.

To ensure that the guidelines remain current and reflect the needs of the Asia-Pacific community, it is anticipated that these guidelines will be subject to periodic review and evolve over time. UNESCO, being responsible for these guidelines, will initiate any actions for the review of the guidelines in consultation with the Asia-Pacific community.

Focus

The focus of these guidelines is on the quality assurance of **TVET qualifications**.

UNESCO (2015a) defines **TVET** as follows:

... 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 that 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.

In the context of TVET, quality assurance generally refers to planned and systematic processes that provide confidence in services provided by TVET institutions under the remit of responsible bodies. Quality assurance of the assessment and qualification processes allows stakeholders in TVET qualifications (e.g. graduates and employers) to have **confidence and trust** in those qualifications.

Quality assurance processes focus on the **consistency** of the assessment and qualification processes, so that qualifications have **currency**, and also on ensuring that assessment meets the required standards, raising the likelihood that a qualification is a **valid and reliable testament** to a learner's knowledge, skills and wider competences. The implementation of systematic quality assurance processes is paramount in any TVET qualifications system (UNESCO, 2016).

Recent empirical research (Cedefop, 2015a) highlights some of the key features to assure the quality of the TVET qualifications process in terms of its **validity, reliability, impartiality and transparency**:

- Addressing qualification as part of formal quality assurance mechanisms.
- Providing clear reference points for assessment.
- Providing information to stakeholders.
- Implementing appropriate selection requirements and training of assessors.
- Clearly defining the quality of assessment methods and procedures.
- Clearly defining the quality of verification and grading.
- Implementing appeal procedures.
- Conducting documentation, evaluation and monitoring of qualification procedures.

The process of issuing qualifications varies depending on the context, but in most cases it includes three components: assessment, validation and certification. These components are defined in Box 1. These elements are part of quality assurance of TVET qualifications and are also, in turn, quality assured within the TVET qualifications system.

Box 1

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 (i.e. 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 being awarded to candidates.

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.

Approach to quality assurance

Quality assurance of TVET qualifications focuses on achieving quality outcomes. It is the **responsibility of all key stakeholders, at all levels of the TVET qualifications system**: the international, regional, national awarding body and TVET education institution levels. Quite often these various levels are connected and interrelated.

At the regional level, a common understanding of quality and how it applies to TVET qualifications has been documented through **regional quality standards and agreed indicators and measures**. Such quality assurance frameworks serve to review and measure TVET systems, including qualifications, seeking continuous improvement.

At the national level, quality assurance of TVET qualifications should be seen as **an end-to-end process**, which applies to the conception and formation of qualifications, the assessors, the practical administration of assessment, and to the issuing of qualifications. Quality assurance of

qualifications therefore spans a long time-frame and encompasses many steps including the processes of designing, developing, implementing and monitoring qualifications (UNESCO, 2016).

Qualifications must be **fit for purpose**. That is, they should focus on the specific things that qualification-holders know, understand and can do. Fitness for purpose of TVET qualifications is heavily dependent on the link between the skills, knowledge and understanding specified in occupational standards or qualifications and that of labour market requirements (UNESCO, 2016). **Industry involvement** in all stages of the qualification process and quality assurance process is critical for strengthening the fitness for purpose of qualifications and the validation of and confidence in the outcomes.

Approaches to quality assuring outcomes should be **balanced and flexible** so as to foster **innovation and adaptability** of provision. A balance is also needed between centralized processes and local autonomy; with responsibility shared among all stakeholders to ensure that the system functions in a consistent and coherent way. The national approach should be clear to all stakeholders who have an interest in qualifications.

At the national and education institution levels, the quality assurance process also includes conducting **reviews of the entire qualification process**, to ensure continuous improvement. The process includes reviews of assessment methods, materials, tasks, consistency of results across time/location/institutions and assessors. **Strong data** is necessary for the evaluation process, and the use of relevant, up-to-date labour market data can inform the applicability and currency of TVET qualifications.

The quality assurance approach should be underpinned by **internal evaluations** of performance and by **external evaluations** of how effectively an organization uses self-assessment information, so as to understand performance and bring about improvements. This applies equally to responsible bodies and assessment providers responsible for the quality assurance of TVET qualifications.

International and regional contexts of QA of TVET qualifications

Quality assurance of TVET qualifications underpins qualifications systems. Qualifications systems and TVET qualifications are increasingly subject to external pressures and internationalization. There is greater awareness that qualifications and qualifications systems need to have **high international credibility**, not just for labour and student mobility but also to promote economic growth.

These pressures for **international comparability of standards and qualifications** have resulted in the creation of **international and regional quality assurance frameworks**. Examples of such frameworks include the following:

- **The European Quality Assurance Reference Framework for TVET.** This was developed through a community of practice: the European Quality Assurance in Vocational Education and Training (EQAVET). Established in 2009, the reference framework is a generic model for quality assurance that Member States and stakeholders can use to improve TVET provision.
- **The East Asia Summit Quality Assurance Framework for TVET.** This was developed in 2012 and focuses on standards for quality assurance bodies and indicators to assist countries in evaluating the effectiveness of their TVET systems.
- **The Pacific Quality Assurance Framework.** This approach to quality assurance is part of a broader strategy, which includes a regional register of qualifications and quality assurance bodies, along with standards for quality assurance bodies and for education and training providers.
- **The ASEAN Quality Assurance Framework.** This has four interrelated areas of focus: external quality assurance agencies, external quality assurance standards and processes, internal quality assurance and national qualifications frameworks.
- **The ASEAN Guiding Principles for Quality Assurance and Recognition of Competency Certification Systems.** This includes agreed guiding principles and protocols for quality assurance as it relates to competent bodies and to providers of assessment services.

- **The Proposed Indicators for Assessing Technical and Vocational Education and Training:** Working Document, developed by the Interagency Group on Technical and Vocational Education and Training (IAG-TVET, 2012).¹ These indicators focus on access, participation, quality, finance and relevance. The aim of these indicators is to support countries in assessing the applicability and effectiveness of their TVET systems.
- **Standards and Guidelines for Quality Assurance in the European Higher Education Area.** These outline quality standards for internal quality assurance and for external quality assurance, as well as quality standards for quality assurance bodies.²
- **Guidelines for Quality Provision in Cross-border Higher Education** (UNESCO, 2005). A series of guidelines for government, higher education institutions, student bodies, quality assurance agencies, academic recognition agencies and professional bodies.

Internationalization of qualifications has contributed to the development of **national qualifications frameworks** (NQFs). Many countries have developed NQFs, with more than 150 NQFs developed or in development worldwide as of 2015 (UNESCO, UIL, ETF and Cedefop, 2015). Qualifications frameworks are classifications of qualifications and, depending on the approach taken within countries, can be linked to quality assurance or have, in themselves, a quality assurance function.

1 The Interagency Group on Technical and Vocational Education and Training (IAG-TVET) was convened by UNESCO in 2008 to ensure coordination of activities by the key international organizations involved in the delivery of policy advice, programmes and research on TVET. It enhances knowledge-sharing and a common understanding of key issues. The group seeks to better leverage the work of each member organization to help countries design and implement more effective TVET policies to improve productivity, economic prosperity, sustainable development and employment opportunities. The IAG-TVET comprises the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Industrial Development Organization (UNIDO), the World Health Organization (WHO) and the World Bank (WB). Regionally-based members include the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Commission (EC), the European Training Foundation (ETF), the European Centre for the Development of Vocational Training (Cedefop), the Inter-American Development Bank (IADB), and the Islamic Development Bank (IDB).

2 European Association for Quality Assurance in Higher Education (ENQA), European Students' Union (ESU), European University Association (EUA), European Association of Institutions in Higher Education (EURASHE), In cooperation with: Education International (EI), BUSINESSEUROPE, European Quality Assurance Register for Higher Education (EQAR).

Internationalization of qualifications systems has also led to the development of **regional qualifications frameworks** (RQFs). The inter-agency 'Global Inventory' (UNESCO, UIL, ETF and Cedefop, 2015) describes seven frameworks.³ RQFs vary considerably in their characteristics and in their purposes, coverage of sectors, design and use (Keevy, Chakroun and Dejj, 2010; Tuck, 2007). Linking national qualifications systems to these regional frameworks is mostly a voluntary process, and RQFs are often used as a reference point to compare NQFs and national qualifications. Some of these frameworks also provide a direct link to regional quality assurance frameworks. For example, the ASEAN Qualifications Reference Framework (AQRF) has a referencing process that includes benchmarking the national quality assurance system with one of three quality assurance frameworks.

The focus on quality assurance within national qualifications systems has led to '**nationally agreed quality standards**'⁴ emerging as a core building block for quality assurance. In general, quality standards are documented in guidelines and policies (e.g. in New Zealand, Singapore and Malaysia), which may or may not be linked to legislation, or are described in a legislative instrument (e.g. in Australia). These quality standards are a common set of benchmarks and expectations and relate generally to the providers of TVET services, but can also relate to the performance of bodies responsible for quality assurance at a system level (UNESCO, 2016).⁵

There has been a shift towards describing learning and achievement in terms of what a learner knows and can do (Cedefop, 2009; Cedefop, 2016a), i.e. in terms of '**learning outcomes**'. Learning outcomes are increasingly used in describing curricula, qualifications specifications, assessment processes and NQF levels (UNESCO, 2016). Within TVET, the notion of competence has influenced the specifications of learning outcomes as they are often based on occupational standards.

3 The Association of Southeast Asian Nations Framework, the Caribbean Qualifications Framework, the European Qualifications Framework, the Gulf Qualifications Framework, the Pacific Qualifications Framework, the Southern African Development Community Qualifications Framework, the Transnational Qualifications Framework for the Virtual University of Small States of the Commonwealth.

4 Technical specifications are measurable and have been drawn up by consensus and approved by an organization recognized at the regional, national or international levels. The purpose of quality standards is optimization of input and/or output of learning (Cedefop, 2011).

5 More recent work within APEC aims to link a regional qualifications framework, a regional quality assurance framework and a regional occupational standards framework.

With the introduction of learning outcomes, the emphasis has shifted from the context of the learning to the **assessment or measurement of the specific learning outcomes**. The use of learning outcomes has made the learning goals and the expected outcomes of assessment clearer, and thereby increased the effectiveness of assuring the quality of learning and assessment. This shift to learning outcomes, which is a long process, has also resulted in a rebalancing towards objectivity and transparency of assessment, validation and certification processes (UNESCO, 2016).

This shift has not only impacted on the assessment of individuals, especially the practices and methods, but has also had an impact on the acceptance of **learning that is achieved through non-formal and informal contexts**. More and more countries now have practices in place to allow non-formal and informal learning experiences to be validated, so as to open up access to jobs and study. With such validation, the holders of such experiences can count them towards credit in, or completion of, qualifications (UNESCO, 2016). These practices, and the decisions made, also need to be quality assured, to ensure the integrity of the qualifications issued.

External to institutional assessment provision (including the validation of non-formal and informal learning), **international bodies representing standards of work in a specific sector have produced sets of standards that form the basis of qualifications** (Cedefop, 2012). These qualifications have existed for a long time and often act as gatekeepers to employment and operations in their specific sectors. These qualifications have often informed national provision, but they also stand separately from it through developing specific delivery processes and, in particular, their own qualification arrangements.

Many NQFs are yet to incorporate international sectoral qualifications. A consequence of this is that the quality assurance processes that operate on international qualifications remain almost invisible to national qualifications authorities (UNESCO, 2016).

In relation to the Asia-Pacific region, exploring QA and developing related guidelines is timely. With expanding socio-economic cooperation and integration within and between sub-regions in the Asia-Pacific, mechanisms for fair and transparent recognition of qualifications are

needed to facilitate learning and labour mobility. This need is reflected in the Kuala Lumpur Declaration, which called on Member States to ‘foster regional integration and labour mobility’ (UNESCO, 2015b) and enable mobility for study purposes, by setting up mechanisms for fair and transparent recognition of qualifications.

Typology of governance arrangements and stages of implementation

The analysis of the country reports, described in the synthesis report (UNESCO, 2017), led to the identification of five main types of approaches that countries in the Asia-Pacific region are taking with regard to governance arrangements for quality assurance of TVET qualifications. The five types are listed below.

- **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.

The countries in the Asia-Pacific are at different stages of planning and implementing their quality assurance arrangements. In some cases, the quality assurance system is of long standing and is linked to an established NQF, while in other countries the quality assurance system is being refined

and is linked to a recently-developed NQF or to an NQF that is still in the development stage.

Quality assurance arrangements can have five stages of implementation, as follows:

- **Emerging:** Initial discussions for a systemic approach are underway.
- **Entry:** An overarching vision of QA of TVET qualifications has been agreed upon.
- **Intermediate:** QA structures and processes have been agreed upon, communicated and are operational.
- **Advanced:** QA structures and processes have been established for five years.
- **Mature:** A review of QA structures and processes is underway.⁶

The situations at each of the stages are described in Table 1.

Table 1: Stages of implementation of quality assurance

Stage	Description	Situation
Emerging	A systematic approach to QA is desired, but no progress has been made.	Some quality assurance requirements of TVET qualifications may be documented and implemented, but the approach is ad hoc and not systematic. The approach may not be well understood by key stakeholders. A desire for a systematic approach to quality assurance of TVET qualifications has been voiced by various stakeholders and discussed in policy documents, but no authoritative commitment has been made to a systematic approach.

⁶ Adapted from the categories used in the initial research for the development of the ASEAN Qualifications Reference Framework (Bateman et al., 2012) based on a scale developed by Keevy, Chakroun and Deij (2010).

Stage	Description	Situation
Entry	An overarching vision of QA of TVET qualifications has been agreed upon.	Commitment to a systematic approach to quality assurance of TVET qualifications has been made by the responsible bodies or assessment providers. This commitment is documented in a policy paper or statement, vision statement, legislation and/or decree. The overarching design of the quality assurance of TVET qualifications has been documented, and has been shared with key stakeholders for feedback and confirmation.
Intermediate	QA structures and processes have been agreed upon and communicated, and are operational	The quality assurance structures and processes of TVET qualifications have been documented, agreed upon and made public. Documentation related to quality assurance of TVET qualifications could include: <ul style="list-style-type: none"> • Quality standards • Quality assurance policies and procedures • Data standards for the systematic collection of data. Pilot schemes are in the early stages of implementation. The agreed upon quality assurance structures and processes are being implemented across the scope of QA of TVET qualifications.

Stage	Description	Situation
Advanced	QA structures and processes have been established for five years	The quality assurance structures and processes of TVET qualifications have been operational for five years. Implementation includes harmonization ⁷ of quality assurance structures and processes, monitoring and continuous improvement, internal evaluation and external evaluation.
Mature	A review of QA structures and processes is underway	The responsible bodies and/or assessment providers are reviewing the fitness for purposes and sustainability of the quality assurance structures and processes of TVET qualifications. This review is a systemic one at the national or education institution level, and it includes all key stakeholders.

⁷ Harmonization is about bringing into agreement (harmony) related quality assurance structures and processes. It does not necessarily mean that all structures and processes are the same.

Section 2 The Guidelines

This section describes the guidelines, including their purpose and focus, how to use them, and the principles and indicators of the guidelines.

Purpose and focus of the guidelines

The purpose of the guidelines is to support countries to develop effective and harmonized quality assurance systems for TVET qualifications, and to enable countries to track their progress against national priorities and, where appropriate, uphold regional commitments such as to the ASEAN Qualifications Reference Framework or to the Pacific Qualifications Framework and related quality assurance arrangements. The guidelines provide a framework that can assist stakeholders within the Asia-Pacific region to document, develop, monitor, evaluate and improve the effectiveness of their TVET qualifications.

The guidelines focus on the **process of quality assurance of TVET qualifications**, including:

- Ensuring quality assessment outcomes through:
 - ▶ The **conception and formation** of qualifications, and how they are endorsed to promote clear and relevant skills, occupational and competency standards, and learning outcomes.
 - ▶ The **approval of assessment providers** and ensuring that assessors are competent to undertake assessments.

- ▶ The **assessment and validation of assessment outcomes** to promote valid and reliable assessment decisions.
- The certification processes to confirm the outcomes achieved.

How to use the guidelines

The guidelines are useful to various stakeholders, who can use them as described below:

- **TVET assessment providers** will find the guidelines useful when reviewing the assessment, validation and certification processes.
- **Assessment bodies** (private or public) will find the guidelines useful when carrying out assessments of learning and when validating assessment outcomes.
- **Employers or employee organizations** will find the guidelines useful when developing occupational standards for performance evaluations.
- **Professional associations** will find the guidelines useful when establishing professional standards and licensing processes.
- **Government ministries** will find the guidelines useful when conducting reviews of quality assurance of TVET qualifications.
- **Policy-makers** will find the guidelines useful when developing or reviewing the TVET qualifications system, including the development and review of TVET qualifications.
- **Regional communities and networks** will find the guidelines useful when supporting member countries to improve their TVET qualifications systems, and to develop a common understanding across the member countries of quality and quality assurance, and harmonize quality assurance of TVET qualifications processes and expectations.

The various stakeholders will need time to adapt the guidelines to their own contexts and for their own purposes, and to internalize them.

Scope of the principles and indicators

The principles and indicators in the guidelines were drawn from existing frameworks and indicators, including the East Asia Summit TVET Quality Assurance Framework, the European Quality Assurance in Vocational Education and Training Reference Framework (ENQA-VET, 2009), the Proposed Indicators for Assessing Technical and Vocational Education and Training (IAG-TVET, 2012) and Education 2030 (UNESCO et al., 2015).

The following **13 principles** underpin the quality assurance of TVET qualifications:

1. There is a clear vision for how QA of TVET qualifications operates across the TVET qualifications system.
2. Organizations involved in QA of TVET qualifications operate with clear and transparent governance arrangements.
3. QA of TVET qualifications practice is appropriately financed.
4. QA of TVET qualifications practice is based on clear and transparent quality standards.
5. QA of TVET qualifications practice addresses conception and formation of qualifications, assessment, validation and certification processes.
6. Key stakeholder groups are involved in key aspects of QA practice (e.g. conception and formation of TVET qualifications, assessment, validation and certification).
7. Economic, social and environmental dimensions are explicit in QA of TVET qualifications practice, so as to: maximize access, social inclusion, pathways, articulation, participation of vulnerable groups, and participant retention and completion rates, and prioritize key industry sectors.
8. Barriers to assessment, including for non-formal and informal learning, are minimized.
9. Professionalization of staff underpins QA of TVET qualifications practices.

10. Continuous improvement underpins QA of TVET qualifications practice; decisions are informed by data and research.
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.
12. QA of TVET qualifications practice remains fit for purpose and is sustainable.
13. QA of TVET qualifications practice is enhanced through national and international linkages and cooperation.

The principles and indicators apply specifically to the quality assurance of TVET qualifications, including to **the conception and formation of TVET qualifications, assessment of learning, validation of that assessment outcome and issuing of certificates**. Thus, these principles and indicators do not focus on the curricula or teaching and learning in schools, colleges and workplaces.

The principles and indicators have been designed to be applied **at all levels** of quality assurance of TVET qualifications: regional, national/systemic and assessment provider. The nature of the principles and indicators respects each country's particular circumstances and the levels of maturity of their qualifications systems, and acknowledges that both the responsible bodies and the providers of assessment services are responsible for quality outcomes.

The principles are written in general terms and need to be put into operation by countries. Consequently, they often describe possibilities for action and not the details of how that action can be carried out.

The indicators provide a yardstick to assess the level of implementation and effectiveness of the principles, and they provide a metric for judging progress in the implementation of a quality assurance system for TVET qualifications. There is no expectation that organizations will use all of the indicators, but rather that they will use those that best suit their contexts and the level of implementation of their TVET qualifications systems.

A summary of the principles and indicators can be seen in Appendix 1.

Principle 1:

There is a clear vision for how QA of TVET qualifications operates across the TVET qualifications system

Rationale

For TVET to be able to achieve its objectives, it is necessary to have an efficient, cohesive and coordinated TVET qualifications system, with a well-defined design and clear roles for those responsible for the quality assurance of TVET qualifications.

Indicators

Qualitative

Implementation is demonstrated by:

- 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.

Quantitative

Evidence that there is a clear vision for QA of TVET qualifications is measured by:

- Adoption of a legal framework, a blueprint or similar document for QA of TVET qualifications.
- The roadmap is endorsed by all key stakeholders.

Explanation and promising practices

Most TVET qualifications systems have multiple bodies responsible for quality assuring qualifications. These include ministries, inspection and monitoring bodies, regulatory bodies, certifying/awarding bodies,

assessment providers, testing centres and quality assurance bodies. They are quite often in conjunction with social partners and individuals. Countries differ in how they allocate quality assurance functions across the various bodies.

Research by Castejon et al. (2011) in European Union countries indicates that some countries are using legal instruments to 'define changes in the qualifications system that enables the system to recognize learning' (p. 40). Castejon et al. notes that the final critical stages in the process of changing the qualifications system are as follows:

- Defining the management of all or part of the new qualifications system, including the remit of relevant bodies (such as qualifications bodies, employment sector councils or certification bodies).
- Reviewing existing legislation to identify whether the existing legislation is capable of amendment or if new provisions are required.
- Drafting the legal instrument for consultation with stakeholders to resolve issues.
- Testing the legislation and the costs.

However, legislation is not necessarily the only avenue for countries to define their vision for the QA of TVET qualifications. Other documents could include: blueprints, policies and white papers.⁸

Once agreement as to the direction for the QA of TVET qualifications has been reached among the stakeholders, many countries develop a roadmap to outline the proposed steps or changes required to achieve the vision.

Strong engagement of stakeholders is considered important for the future acceptance, trust and fitness for purpose of the quality assurance arrangements of qualifications. Depending on the design of the TVET system, key stakeholders (beyond the key responsible body) can include various key ministries (such as education and labour ministries, other line ministries), quality assurance agencies, industry groups or sector bodies, professional associations and licensing bodies, civil society and community groups, employer and employee associations, TVET provider groups, and student groups.

8 A white paper is report or guide (often published by a government) that outlines an issue and lists strategies to solve it.

Resources available

National legislation is used in many countries (e.g. Samoa, Tonga, Australia, Hong Kong, New Zealand) to articulate the quality assurance arrangements, and these tend to be included in the functions of a responsible body. Many European Union reports on quality assurance make references to related legislation. For example, refer to https://ec.europa.eu/ploteus/documentation#documentation_73. Many countries also use blueprints (e.g. Malaysia; see: <https://www.mohe.gov.my/ms/muat-turun/awam/penerbitan-dan-jurnal/pppm-2015-2025-pt/6-executive-summary-pppm-2015-2025/file>).

Principle 2:

Organizations involved in QA of TVET qualifications operate with clear and transparent governance arrangements

Rationale

Trust in qualifications outcomes is promoted by strong governance arrangements and transparency of processes, along with a high level of accountability.

Indicators

Qualitative

Implementation is demonstrated by:

- Organizations involved in QA of TVET qualifications have appropriate governance arrangements documented through protocols and practices to:
 - ▶ 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.

Quantitative

Evidence of effectiveness of implemented protocols and practices is measured by:

- 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.

Explanation and promising practices

Castejon et al. (2011, p. 40) notes that one of the critical stages in the process of changing a qualifications system is defining the management of all or part of the new qualifications system, including the remit of the relevant bodies (such as qualifications bodies, employment sector councils and certification bodies). The governance of the quality assurance of TVET qualifications can be articulated in legislation or in guidelines or policy documents.

Many countries use websites to provide information about governance arrangements, including links to relevant documents. This ensures that the quality assurance of qualification arrangement is transparent. In some cases, countries not only provide documentation in their national language(s), but also provide it in English, so as to ensure international transparency.

Resources available

Examples of countries that have established responsible bodies for the management of quality assurance of TVET qualifications and have websites describing their governance arrangements include:

- Malaysia: The Malaysia Qualifications Authority. <http://www.mqa.gov.my/>
- The Philippines: The Technical Education and Skills Development Authority (TESDA). <http://www.tesda.gov.ph/>
- Tonga: The National Qualifications and Accreditation Board (TNQAB). <http://www.tnqab.com/>

See also the resources for **Principle 1**.

Principle 3:

QA of TVET qualifications practice is appropriately financed

Rationale

Funding of quality assurance can come from various sources, including the government budget, service fees, training levies and levies on the qualifications issued. Sources of funding for quality assurance of qualifications need to be independent of those with an interest in the qualifications outcome. Budget allocations need to be sufficient to meet the QA practices and policy goals, and to promote confidence in qualifications outcomes, so that TVET is able to meet its objectives.

Indicators

Qualitative

Implementation is demonstrated by:

- Annual plans for budget allocations are documented, communicated and made public.
- Budget allocations support and are aligned with QA of TVET policy goals and practices.

Quantitative

Evidence of the effectiveness of budget allocation and appropriateness of expenditure is measured by:

- 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.

Explanation and promising practices

Examples of promising practices include:

- Collecting and analysing data on funding arrangements, for potentially revising those arrangements based on criteria other than precedence.
- Testing funding allocation proposals prior to implementation.
- Researching international literature on funding of TVET quality assurance, including annual reports of responsible bodies, which generally include a statement of expenditure.
- Occupational standards or qualifications related to assessment for promoting the capacity of assessors.
- Qualifications related to quality assurance in education and training.

Resources available

The following policy and research documents are related to financing of TVET:

- Ziderman, A. 2003. *Financing vocational training in Sub-Saharan Africa*. The World Bank. <https://elibrary.worldbank.org/doi/abs/10.1596/0-8213-5461-2>

- Ziderman, A. 2002. *Financing vocational training to meet policy objectives: Sub-Saharan Africa*. The World Bank. <http://siteresources.worldbank.org/INTLM/214578-1103217503703/20295519/FinancingVET.pdf>
- Johanson, R. K. and Adams, A. V. 2009. *Skills development in Sub-Saharan Africa*. World Bank Regional and Sectoral Studies. Washington DC, The World Bank. http://siteresources.worldbank.org/EDUCATION/Resources/278200-1126210664195/1636971-1126210694253/Skills_Development_Africa.pdf
- Johanson, R. 2009. *A review of national training funds*. SP Discussion Paper No. 0922. Washington DC, The World Bank. <http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/0922.pdf>
- Department of Foreign Affairs and Trade (of Australia) reports related to financing TVET in the Pacific. <http://dfat.gov.au/about-us/publications/Pages/research-into-the-financing-of-technical-and-vocational-education-and-training-in-the-pacific.aspx>
- Peano, S., Vergel de Dios, B., Atchoarena, D., Mendoza, U. 2008. *Investment in Technical Vocational Education and Training (TVET) in the Philippines*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0018/001804/180405e.pdf>
- UNESCO. 2011. *EFA Global Monitoring Report 2011: The Hidden crisis: Armed conflict and education*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0019/001907/190743e.pdf>
- UNESCO. 2015c. *Unleashing the Potential: Transforming Technical and Vocational Education and Training*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0023/002330/233030e.pdf>
- Cedefop. 2016b. *Funding validation: A thematic report for the 2016 update to the European inventory on validation of non-formal and informal learning*. Luxembourg, Publications Office of the European Union. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4146>

Annual reports by the responsible bodies generally include a statement of expenditure, which can provide information related to the financing of quality assurance, including activities related to external evaluation and professional development of quality assurance staff.

Principle 4:

QA of TVET qualifications practice is based on clear and transparent quality standards

Rationale

Clarity and transparency of quality standards encourages trust in qualification outcomes among all stakeholders, both nationally and regionally.

Indicators

Qualitative

Implementation is demonstrated by:

- 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.

Quantitative

Evidence of effectiveness of quality standards and their application is measured by:

- 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.

Explanation and promising practices

Quality standards are technical specifications that are measurable and have been decided based on consensus and approved by an organization recognized at the regional, national or international level. These standards are a common set of benchmarks or expectations for the various inputs and outputs of the TVET system. They can relate to the relevant authority, the development of education and training standards, data collection standards for key indicators,⁹ and the capacities and behaviour of TVET providers in the provision of assessment, validation of assessment outcomes and certification processes (adapted from UNESCO, 2016).

The purpose of quality standards is the optimization of input and/or output of learning (Cedefop, 2011, p. 96). Quality standards can be articulated in various documents, e.g. guidelines or policies or in legislation.

Examples of promising practices include:

- Researching other country approaches to quality standards or guidelines.
- Outlining quality standards and seeking stakeholder feedback in regard to fitness for purpose.
- Trialling implementation of draft quality standards on a development or review of qualifications and on selected institutions.
- Responsible bodies accepting a quality standard approach to their QA of qualifications practices.
- Including quality standards on public websites, in the local language(s) and English.

Resources available

Quality standards have been developed at the regional and national levels. At the regional level these include:

9 Data standards are the rules/specifications for systematic data collection.

- The International Network for Quality Assurance Agencies in Higher Education (INQAAHE). 2016. *Guidelines of Good Practice*. <http://inqaahe.org/sites/default/files/GGP2016.pdf>

This document provides standards for the practices of 'external quality assurance agencies'.

- Educational Quality and Assessment Programme (EQAP). 2015. *The Pacific Quality Assurance Framework (PQAF)*. Suva, Secretariat of the Pacific Community. <http://www.eqap.org.fj/Accreditation---Standards/Quality-Assurance.aspx>

The framework introduces a baseline set of standards for accrediting agencies, institutions and programmes.

- Bateman, A., Keating, J., Gillis, S., Dyson, C., Burke, G. and Coles, M. 2012. *Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework*, Vol. II. Canberra, Department of Education, Employment and Workplace Relations (DEEWR). http://www.unevoc.unesco.org/e-forum/120619%20-%20East%20Asia%20Quality%20Assurance%20Framework_final%20concept%20paper_post%20workshop.pdf

This framework proposes quality standards for responsible bodies and quality indicators and measures, as well as advisory quality standards for providers.

- UNESCO. 2005. *Guidelines for Quality Provision in Cross-border Higher Education*. Paris, UNESCO. http://www.unesco.org/education/guidelines_E.indd.pdf

These guidelines are for government, higher education institutions/providers, student bodies, quality assurance agencies, academic recognition agencies, and professional bodies.

- ASEAN. 2016. *ASEAN Guiding Principles for Quality Assurance and Recognition of Competency Certification Systems*. Jakarta, ASEAN. <http://asean.org/storage/2012/05/Guiding-Principles-for-Quality-Assurance-and-Recognition-of-Competency-C....pdf>

These guiding principles are designed for responsible bodies and certifying bodies.

- ASEAN Quality Assurance Network. 2016. *The ASEAN Quality Assurance Framework*. Jakarta, ASEAN. <http://share-asean.eu/wp-content/uploads/2016/09/AQAF.pdf>

At the national level these include:

- Malaysia uses a code of practice for programme accreditation to outline quality requirements. <http://www2.mqa.gov.my/QAD/en/types2.cfm>
- New Zealand Qualifications Authority. 2013. *Guidelines for private training establishment registration*. Wellington, NZQA. <http://www.nzqa.govt.nz/assets/Providers-and-partners/Registration-and-accreditation/New-provider/guidelines-PTE-registration.pdf>
- Australia has quality standards for responsible bodies and providers enshrined in legislation. These can be seen on the following websites: <https://www.legislation.gov.au/Details/F2014L01375> and <https://www.legislation.gov.au/Details/F2014L01377>

Principle 5:

QA of TVET qualifications practice addresses the conception and formation of qualifications, assessment, validation and certification processes

Rationale

Quality assurance of qualifications focuses on the qualification processes, in particular:

- 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.

Indicators

Qualitative

Implementation is demonstrated by:

- Documented QA of TVET qualifications practice addresses:
 - 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 practices.

- 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.

Quantitative

Evidence of effectiveness of QA practices is measured by:

- 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.

Explanations and promising practices

Promising practices include:

- Clear documented processes for the development of occupational standards and/or qualifications that include engagement of industry and are linked to labour market needs.
- Collection and analysis of data on labour market needs, so as to strategically determine occupational standards and/or qualifications for development and endorsement.
- Guidelines for assessors, related to assessment and development of assessment tasks.
- Guidelines for the validation of assessment outcomes.
- Occupational standards and qualifications for assessors.
- Qualifications related to quality assurance in education and training.
- Implementing surveys to identify the perceptions, including the levels of satisfaction, of employers and students.
- Documented processes for the certification of qualifications for awarding bodies.
- Destination studies of graduates, implemented across all TVET provider types.

Resources available

The scope of quality assurance of qualifications has been explained in the following:

- UNESCO. 2016. *Quality assurance for TVET qualifications*. Unpublished.
- Cedefop. 2015a. *Ensuring the quality of certification in vocational education and training*. Research paper No. 51. Luxembourg, Publications Office of the European Union.
- UNESCO. 2017. *Towards Quality Assurance of Technical and Vocational Education and Training: Trends and challenges in the Asia-Pacific region*. Bangkok, UNESCO.

Involving stakeholders in the development of competency standards is discussed in the following:

- Cedefop. 2013. *Renewing VET provision: Understanding feedback mechanisms between initial VET and the labour market*. Research Paper No. 37. Luxembourg, Publications Office of the European Union. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/5537>
- International Labour Organization (ILO). 2016. *Updated Guidelines for Development of Regional Model Competency Standards*. Bangkok, ILO http://www.ilo.org/wcmsp5/groups/public/---asia/---ro_bangkok/djocuments/publication/wcms_496514.pdf

Principle 6:

Key stakeholder groups are involved in key aspects of QA practice (e.g. conception and formation of TVET qualifications, assessment, validation and certification)

Rationale

It is critical to have involvement of industry groups and sector bodies in key aspects of the quality assurance of qualifications, so as to ensure the veracity of qualification outcomes and to verify that the qualifications system can meet its objectives.

Indicators

Qualitative

Implementation is demonstrated by:

- Documented processes for the QA of TVET qualifications include the roles of the key stakeholders.
- The roles of key stakeholders are clear and made public.

Quantitative

Evidence of the commitment and engagement of key stakeholders is measured by:

- 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**).

Explanations and promising practices

Depending on the design of the TVET qualifications system, stakeholder engagement (beyond the key responsible body) can include:

- Key ministries (such as education and labour ministries)
- Quality assurance agencies
- Industry groups or sector bodies
- Professional associations and licensing bodies
- Civil society and community groups
- Employer and employee associations
- Social communities
- TVET provider groups
- Student groups

Promising practices include:

- Governments are responsible for design of the TVET qualifications system, and facilitate the participation by key stakeholders in the various stages of the certification process.
- The responsible boards, councils and committees include key stakeholders as members.
- External reviews of responsible bodies include representatives of stakeholder groups.
- Employers are heavily involved in training and assessment, dual track programmes etc.

Resources available

Involving stakeholders in quality assurance is discussed in the following:

- Cedefop. 2013. *Renewing VET provision: Understanding feedback mechanisms between initial VET and the labour market*. Research Paper No.37. Luxembourg, Publications Office of the European Union. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/5537>
- International Labour Organization. 2016. *Updated Guidelines for Development of Regional Model Competency Standards*. Bangkok, ILO. http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_496514.pdf
- UNESCO. 2015c. *Unleashing the Potential: Transforming Technical and Vocational Education and Training*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0023/002330/233030e.pdf>

Principle 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

Rationale

The role of TVET qualifications as being integral to economic and social well-being, for promoting lifelong learning, and for facilitating poverty alleviation is well understood.

Indicators

Qualitative

Implementation is demonstrated by:

- 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.

Quantitative

Evidence that QA management includes economic, social and environmental dimensions is measured by:

- Number enrolled in TVET qualifications as a proportion of total enrolments in the formal education system.
- Retention and completion rates per TVET qualification type, industry sector and field of study, and participant demographics.
- Withdrawal rates per 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.

Explanations and promising practices

Promising practices include:

- International research is undertaken to identify strategies to maximize access and social inclusion.
- A range of schemes to attract and support vulnerable groups has been developed.
- Credential evaluation services have been developed.
- Ensuring that the data standard for the collection of data sets includes information pertaining to vulnerable groups and the level and type of participation.
- Providing clear information on the responsible body's website in relation to funding schemes directly targeted to vulnerable groups.
- Evaluating the success of schemes by analyzing the level of participation and conducting satisfaction surveys among vulnerable groups.
- Providing performance reports of schemes on the website.

Vulnerable groups are identified at a national level by the responsible bodies or other agencies responsible for policy setting. Vulnerable groups could include: the elderly, disabled, poor and minority ethnic groups.

Resources available

Resources include:

- UNESCO. 2015c. *Unleashing the Potential: Transforming Technical and Vocational Education and Training*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0023/002330/233030e.pdf>
- Bateman, A., Keating, J., Gillis, S., Dyson, C., Burke, G. and Coles, M. 2012. *Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework*, Vol. II. Canberra, Department of Education, Employment and Workplace Relations (DEEWR). http://www.unevoc.unesco.org/e-forum/120619%20-%20East%20Asia%20Quality%20Assurance%20Framework_final%20concept%20paper_post%20worshop.pdf

This provides information in relation to indicators and measures for data sets, including vulnerable groups.

- National data standards e.g. Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS). These provide information in relation to data fields to be collected for vulnerable groups.
- Cedefop. 2016c. *Monitoring the use of validation of non-formal and informal learning: Thematic report for the 2016 update of the European inventory on validation*. Luxembourg, Publications Office of the European Union. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/4148>

Principle 8:

Barriers to assessment, including for non-formal and informal learning, are minimized

Rationale

Equity of access to assessment and qualifications means that there is no discrimination between users on any grounds other than performance, and acknowledges the various learning modalities (e.g. formal, non-

formal and informal) as being equally important in a qualifications system. Accordingly, TVET qualifications are underpinned by a focus on learning outcomes and the achievement of these learning outcomes, rather than on the context in which the learning is achieved.

Indicators

Qualitative

Implementation is demonstrated by:

- Decisions are informed by research into the 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.
- Documented guidelines for assessors, related to undertaking recognition of prior learning.

Quantitative

Evidence of effectiveness of implemented strategies is measured by:

- 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.

Explanations and promising practices

Promising practices include:

- International research into strategies to promote recognition of prior learning and credit opportunities.
- Policies in relation to recognition of prior learning and credit opportunities.
- NQF documentation, including information in relation to recognition of prior learning and credit opportunities.
- Schemes that reduce barriers to assessment of non-formal and informal learning, and evaluations of such schemes.
- Easily accessible information for potential applicants for assessment of non-formal and informal learning.
- Promotions targeting employers that explain the benefits of assessment of non-formal and informal learning.
- Analysis of data sets to determine success or otherwise of schemes or promotions.
- Guidelines to support assessors in undertaking recognition of prior learning.

Resources available

Resources include:

- Bateman, A., Keating, J., Gillis, S., Dyson, C., Burke, G. and Coles, M. 2012. *Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework*, Vol. II. Canberra, Department of Education, Employment and Workplace Relations (DEEWR). http://www.unevoc.unesco.org/e-forum/120619%20-%20East%20Asia%20Quality%20Assurance%20Framework_final%20concept%20paper_post%20workshop.pdf

This provides information in relation to indicators and measures for data sets.

- European Commission, Cedefop and ICF International. 2014. *The European inventory on validation of non-formal and informal*

learning 2014. Final synthesis report. Luxembourg, Publications Office of the European Union.

<http://www.cedefop.europa.eu/en/events-and-projects/projects/validation-non-formal-and-informal-learning/european-inventory-2014>

Principle 9:

Professionalization of staff underpins QA of TVET qualifications practices

Rationale

Having sufficiently-qualified QA staff and assessors is critical to the acceptance and value of TVET qualifications.

Indicators

Qualitative

Implementation is demonstrated by:

- 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.

Quantitative

Evidence that QA practice is maintained over time is measured by:

- 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.

Explanations and promising practices

Promising practices include:

- Endorsed occupational standards or qualifications related to assessment for promoting the capacity of assessors.
- Guidelines for assessors on assessment and development assessment tasks.
- Qualifications related to quality assurance in education and training.
- Research findings based on data sets in relation to professionalization of assessors.
- Professionalization schemes for assessors and quality assurance staff.
- Participation in international fora, including Asia-Pacific Quality Network (APQN) activities.
- Participation in benchmarking activities related to assessment, validation of assessment outcomes and certification processes.
- Participation in sharing professional practices, through staff visits and placements.
- A community of practice is established.

Resources available

Resources include:

- UNESCO. 2015c. *Unleashing the Potential: Transforming Technical and Vocational Education and Training*. Paris, UNESCO. <http://unesdoc.unesco.org/images/0023/002330/233030e.pdf>

- Cedefop. 2015a. *Ensuring the quality of certification in vocational education and training*. Research paper No. 51. Luxembourg, Publications Office of the European Union. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/5551>

Principle 10:

Continuous improvement underpins QA of TVET qualifications practice; decisions are informed by data and research

Rationale

Approaches to quality assurance of qualifications should include an improvement cycle of planning, implementation, evaluation/assessment and review/revision, to ensure that qualifications are fit for purpose, meet labour market needs, and align with national policy goals and broader TVET objectives.

Indicators

Qualitative

Implementation is demonstrated by:

- Data standards and data sets, and research strategies to inform continuous improvement of TVET qualification 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.

Quantitative

Evidence of effectiveness of continuous improvement on QA practice is measured by:

- 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.

Explanations and promising practices

A data set is an organized collection of data. Analysis of data can provide significant information, such as the level of effectiveness of strategies to increase participation, and the extent of participation in assessment by individuals in specific qualifications. Data standards outline the requirements for data collection, and ensure the consistency and accuracy of the data collected.

Promising practices include:

- Responsible bodies:
 - ▶ Define data requirements for assessment providers.
 - ▶ Provide a facility for the collection and analysis of data.
 - ▶ Publish annual reports of TVET qualifications outcomes on their websites.
- Research reports related to qualifications are published and available on relevant websites.
- Evaluations of the performance of the TVET qualifications system and/or the responsible body are published and made available on relevant websites.
- Cooperation in data-collection and use of data.

Resources available

Data standards can be informed by international classification systems such as:

- UNESCO Institute for Statistics. 2011. *International Standard Classification of Education ISCED 2011*. Montreal, UIS. <http://www.uis.unesco.org/Education/Documents/isced-2011-en.pdf>
- International Labour Organization. 2007. *International Standard Classification of Occupations (ISCO)*, version ISCO-88. <http://www.ilo.org/public/english/bureau/stat/isco/>
- Bateman, A., Keating, J., Gillis, S., Dyson, C., Burke, G. and Coles, M. 2012. *Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework*, Vol. II. Canberra, Department of Education, Employment and Workplace Relations (DEEWR). http://www.unevoc.unesco.org/e-forum/120619%20-%20East%20Asia%20Quality%20Assurance%20Framework_final%20concept%20paper_post%20workshop.pdf.

This provides information in relation to indicators and measures for data sets.

Examples of TVET sector data standards include:

- The Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS), which aims to ensure consistent collection of TVET data across all providers.

Principle 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

Rationale

Transparency and accountability are two key principles of good governance. Ensuring that organizations commit to both internal and external evaluation enhances trust in TVET qualifications outcomes among all stakeholders.

Indicators

Qualitative

Implementation is demonstrated by:

- Internal and external evaluation methods are documented.
- Internal evaluation is implemented and findings are actioned.
- External evaluation is undertaken; independent findings in relation to the QA of TVET qualifications are communicated and made public, and findings are actioned.

Quantitative

Evidence of the effectiveness of self-assessment and external evaluation is measured by:

- 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 evaluation.

Explanations and promising practices

Promising practices include:

- Ensuring the legislative basis or blueprint for quality assurance of TVET qualifications includes internal and external evaluation of responsible bodies.
- An external audit method has been developed by responsible bodies that acknowledges and incorporates internal evaluation as an important function of the role of an institution.
- Organizations have documented processes for internal evaluation and the link to continuous improvement processes.
- QA standards for assessment providers and responsible bodies require public reports of assessment findings.
- Internal and external evaluation reports are made public and include the organizations' responses to the findings.

Resources available

A number of international frameworks promote internal quality assurance processes and external quality assurance processes both for responsible bodies and assessment providers.

At a regional level these include:

- The International Network for Quality Assurance Agencies in Higher Education (INQAAHE). 2016. *Guidelines of Good Practice*. <http://inqaah.org/sites/default/files/GGP2016.pdf>
This provides standards for the practices of 'external quality assurance agencies'.
- Educational Quality and Assessment Programme (EQAP). 2015. *The Pacific Quality Assurance Framework (PQAF)*. Suva, Secretariat of the Pacific Community. <http://www.eqap.org.fj/Accreditation---Standards/Quality-Assurance.aspx>
This introduces a baseline set of standards for accrediting agencies.
- Bateman, A., Keating, J., Gillis, S., Dyson, C., Burke, G. and Coles, M. 2012. *Concept Paper: East Asia Summit Vocational Education and Training*

Quality Assurance Framework, Vol. II. Canberra, Department of Education, Employment and Workplace Relations (DEEWR). http://www.unevoc.unesco.org/e-forum/120619%20-%20East%20Asia%20Quality%20Assurance%20Framework_final%20concept%20paper_post%20workshop.pdf

This proposes quality standards for responsible bodies and quality indicators and measures.

- ASEAN. 2016. *Guiding Principles for Quality Assurance and Recognition of Competency Certification Systems*. Jakarta, ASEAN. <http://asean.org/storage/2012/05/Guiding-Principles-for-Quality-Assurance-and-Recognition-of-Competency-C....pdf>

These guiding principles are designed for responsible bodies and certifying bodies.

- ASEAN. 2016. *ASEAN Quality Assurance Framework*. Jakarta, ASEAN. This has a focus on internal quality assurance.

Examples of national quality standards for assessment providers include:

- The New Zealand guidelines for education institutions. <http://www.nzqa.govt.nz/assets/Providers-and-partners/Registration-and-accreditation/New-provider/guidelines-PTE-registration.pdf>
- Australian legislation relating to quality standards for education institutions. <https://www.legislation.gov.au/Details/F2014L01377>
- The Malaysian code of practice to outline the quality requirements for internal and external quality assurance. <http://www2.mqa.gov.my/QAD/en/types2.cfm>
- The Hong Kong guidelines for assessment agencies. http://www.hkcaavq.edu.hk/files/services/accreditation/four-stage-qa-process/RPL_AA_guideline_Eng.pdf

Support resources for assessment providers in relation to internal quality assurance include:

- Cedefop. 2015b. *Handbook for VET providers: Supporting internal quality management and quality culture*, Cedefop reference series 99, Luxembourg, Publications Office of the European Union. <http://www.cedefop.europa.eu/en/publications-and-resources/publications/3068>

Principle 12:

QA of TVET qualifications practice remains fit for purpose and is sustainable

Rationale

QA of TVET qualifications practice should be specific to each country's context, be sustainable and should not change rapidly or often, so as to maintain the confidence of stakeholders.

Indicators

Qualitative

Implementation is demonstrated by:

- 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.

Quantitative

Evidence that QA practice is maintained over time is measured by:

- 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.

Explanations and promising practices

Promising practices include:

- Ensuring that the legislative basis or blueprint for quality assurance of qualifications includes periodic review of the system design to ensure that it remains fit for purpose and is sustainable.
- Outlining in a roadmap how the quality assurance of TVET qualifications will be reviewed over time, including when, how and by whom.
- Publishing, on websites, review reports of QA of TVET qualifications practices and options for adaptation.
- Undertaking stakeholder reviews and publishing the findings, including surveys of satisfaction with QA practices and confidence levels.
- Studying QA practices in similar countries to identify fit for purpose and sustainable QA practices that can be adapted locally.
- Sharing sustainable QA practices through communities of practice.

Resources available

Resources include:

- The UNESCO Teaching and Learning for a Sustainable Future programme, which is part of the United Nations Decade of Education for Sustainable Development, provides professional development for student teachers, teachers, curriculum developers, education policy makers, and authors of educational materials, at <http://www.unesco.org/education/tlsf/index.html>
- European Association for Quality Assurance in Higher Education. 2009. *Standards and Guidelines for Quality Assurance in the European Higher Education Area*. 3rd edition. Helsinki, ENQA. http://www.enqa.eu/wp-content/uploads/2013/06/ESG_3edition-2.pdf

Principle 13:

QA of TVET qualifications practice is enhanced through national and international linkages and cooperation

Rationale

There is much to gain for all countries in participating in collaboration and the sharing of experience in quality assurance of qualifications. Sharing and benchmarking approaches to quality assurance can build a common understanding of expectations and build trust in qualifications within and across borders.

Indicators

Qualitative

Implementation is demonstrated by:

- 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 of qualifications systems.
- Joint projects (nationally and internationally) are undertaken related to QA of TVET qualifications.
- Establishment and involvement in a community of practice.

Quantitative

Evidence that QA practice is maintained over time is measured by:

- 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.

Explanations and promising practices

Organizations:

- Participate in international fora, including the Asia-Pacific Quality Network (APQN) activities.
- Participate in benchmarking activities.
- Participate in sharing professional practice through staff visits or placements.
- Share research opportunities.
- Establish a community of practice.
- Participate in mutual recognition arrangements within the region.
- Engage in exchanges and partnerships.
- Undertake bilateral and multilateral qualifications frameworks linkage projects (referencing).

Resources available

Regional frameworks provide standards and guidance in relation to collaboration and building cross border relationships. These include:

- The International Network for Quality Assurance Agencies in Higher Education (INQAAHE). *Guidelines of Good Practice 2016*. <http://inqaahе.org/sites/default/files/GGP2016.pdf>

This provides standards for the practices of external quality assurance agencies.

- UNESCO. 2005. *Guidelines for Quality Provision in Cross-border Higher Education*. Paris, UNESCO. http://www.unesco.org/education/guidelines_E.indd.pdf

These guidelines are applicable by governments, higher education institutions/providers, student bodies, quality assurance agencies, academic recognition agencies and professional bodies.

- Bateman, A., Keating, J., Gillis, S., Dyson, C., Burke, G. and Coles, M. 2012. *Concept Paper: East Asia Summit Vocational Education and Training Quality Assurance Framework*, Vol. II. Canberra, Department of Education, Employment and Workplace Relations (DEEWR). http://www.unevoc.unesco.org/e-forum/120619%20-%20East%20Asia%20Quality%20Assurance%20Framework_final%20concept%20paper_post%20worshop.pdf

This proposes quality standards for responsible bodies.

- ASEAN. 2016. *Guiding Principles for Quality Assurance and Recognition of Competency Certification Systems*. Jakarta, ASEAN. <http://asean.org/storage/2012/05/Guiding-Principles-for-Quality-Assurance-and-Recognition-of-Competency-C....pdf>

This is directed at responsible bodies and for certifying bodies.

- The European Quality Assurance Reference Framework. <http://www.eqavet.eu/gns/home.aspx>
- The European Commission's notes on the EQF process. https://ec.europa.eu/ploteus/documentation#documentation_76

These outline various aspects of QA arrangements.

Appendix 1: Summary of the principles and indicators

Table 2: 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><i>Implementation is demonstrated by:</i></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><i>Evidence that there is a clear vision for QA of TVET qualifications is measured by:</i></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><i>Implementation is demonstrated by:</i></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><i>Evidence of effectiveness of implemented protocols and practices is measured by:</i></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.

	Principles	Indicators	
		Qualitative	Quantitative
3.	QA of TVET qualifications practice is appropriately financed.	<p><i>Implementation is demonstrated by:</i></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><i>Evidence of effectiveness of budget allocation and appropriateness of expenditure is measured by:</i></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><i>Implementation is demonstrated by:</i></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><i>Evidence of effectiveness of quality standards and their application is measured by:</i></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><i>Implementation is demonstrated by:</i></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. 	<p><i>Evidence of effectiveness of QA practices is measured by:</i></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.

	Principles	Indicators	
		Qualitative	Quantitative
		<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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><i>Implementation is demonstrated by:</i></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><i>Evidence of the commitment and engagement of key stakeholders is measured by:</i></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><i>Implementation is demonstrated by:</i></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><i>Evidence that QA management includes economic, social and environmental dimensions is measured by:</i></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.

	Principles	Indicators	
		Qualitative	Quantitative
			<ul style="list-style-type: none"> • 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><i>Implementation is demonstrated by:</i></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><i>Evidence of effectiveness of implemented strategies is measured by:</i></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.

	Principles	Indicators	
		Qualitative	Quantitative
9.	Professionalization of staff underpins QA of TVET qualifications practices.	<p><i>Implementation is demonstrated by:</i></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><i>Evidence that QA practice is maintained over time is measured by:</i></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><i>Implementation is demonstrated by:</i></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><i>Evidence of effectiveness of continuous improvement on QA practice is measured by:</i></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><i>Implementation is demonstrated by:</i></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><i>Evidence of the effectiveness of self-assessment and external evaluation is measured by:</i></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.

	Principles	Indicators	
		Qualitative	Quantitative
12.	QA of TVET qualifications practice remains fit for purpose and is sustainable.	<p><i>Implementation is demonstrated by:</i></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><i>Evidence that QA practice is maintained over time is measured by:</i></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><i>Implementation is demonstrated by:</i></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><i>Evidence that QA practice is maintained over time is measured by:</i></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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