A synthesis of best practices in TVET quality assurance

in selected South Asian countries

The following report has been compiled by Janaka Jayalath based on input provided by national stakeholders who took part in the workshop on *TVET Systems for Sustainable Development: Innovations and Best Practices in Quality Assurance of TVET in South Asia* held from 20 to 22 February 2017 in Colombo, Sri Lanka.

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Acknowledgements

Contents

Executive Summary

Technical and vocational education and training (TVET) plays a pivotal role in economies of South Asian countries and needs rational and effective mechanisms to deal with the challenges and provide education and readiness for the world of work in formal, non-formal and informal labour markets. Strengthening the TVET systems' quality assurance is the key to sustainable development in the region. This publication is evidence of the remarkable efforts by UNESCO-UNEVOC to share insights and experiences on quality assurance of TVET systems in the South Asian region.

The outputs that came out of the rich deliberations at the sub-regional workshop "TVET Systems for Sustainable Development: Innovations and Best Practices in Quality Assurance of TVET in South Asia" held in February 2017, were instrumental in synthesizing this report. This has special focus on practices and approaches in quality assurance of TVET systems and qualifications at the national level with practices that could be useful for policy learning or even adaptation within the countries in region.

In this exercise, country-level reports detailing national qualification systems, their quality assurance, and associated challenges and prospects were collected before the workshop. Afterwards, a synthesis of country-level experiences, promising practices and lessons learned that can guide and support future review and implementation of actionable reforms across the cluster was performed considering rich deliberations at the workshop. Therefore, this report will help capacity development, policy learning, knowledge exchange and even adaptation of promising practices at the institution level.

Quality assurance frameworks in Afghanistan, Bangladesh, India, Iran, Pakistan and Sri Lanka were selected for the study and comparative analysis was conducted to highlight mutual learning points, especially in innovations and best practices in quality assurance of TVET in each country, focusing on qualification frameworks. Quality assurance criteria, validation and accreditation, and mechanisms for assessments in non-formal and informal settings were discussed in the report, with inquiry into national capacity to support assuring the quality of TVET qualifications.

The role of quality assurance at the training delivery plays an important role for making TVET systems more responsive and relevant to the labour market. Effective approaches and strategies of advocacy and vision building through awareness, human capital building, necessary training and learning activities, are key to the effective and efficient TVET systems for sustainable development.

1. Introduction

South Asian countries with diverse geographic, economic and demographic backgrounds are on the verge of achieving the Sustainable Development Goals (SDGs), which were adopted in September 2015. Skills development is at the heart of SDGs, and education and training has been the cause and consequence of high rates of growth. Rapid technological change and the opening of the economy has posed greater challenges to governments to develop skills that fulfil labour market needs. In addition, governments have to address inequality, inequity and imbalance in terms of unemployment to eradicate poverty and address climate change and pollution. Technical and vocational education and training (TVET) is a rational and effective mechanism to deal with these challenges and prepare the labour force to the world of work in formal and informal labour markets.

At the country level, UNEVOC Centres aim to provide frameworks and vital institutional mechanisms for collaboration to thematically address local issues with a global impact. At the international level, the UNEVOC Network fosters South–South and North–South–South cooperation and learning, which provides an environment for exchange and mutual assistance among TVET experts and institutions in different parts of the world. Given the main objectives of this effort as stated, four core outputs are targeted in short- and medium-term:

- Share country-level experiences, good practices and lessons learned that can guide and support future review and implementation of actionable reforms across the cluster;

- Invite countries from the region to learn experiences of neighbouring countries to improve their current qualification frameworks and quality assurance;

- Develop and activate a robust channel for thematic liaison and mutual capacity building through policy learning and knowledge exchange, and develop a roadmap for regional standardization of qualification frameworks and quality assurance;

- Explore the possibility of developing a regional qualification framework with relevant partners in some selected countries in the region in liaison with UNESCO and UNESCO-UNEVOC International Centre.

- Ensuring that TVET systems contribute to sustainable development is central to all of the objectives above, and the focus of the workshop was on "Innovations and Best Practices in Quality Assurance of TVET in South Asia". The workshop intended to share experiences in South Asia, and to strengthen the quality assurance of TVET systems in the region.

The objective of this synthesis report is to provide insights and experiences on quality assurance of TVET qualifications in selected South Asian countries. The insights were collected from TVET and skills development agencies in six countries that are part of the UNEVOC Network. The information collected from the UNEVOC network sub-cluster countries i.e. Afghanistan, Bangladesh, India, Iran, Pakistan and Sri Lanka, have been synthesized as a useful input for a sub-regional workshop on 'TVET Systems for Sustainable Development: Innovations & Best Practices in Quality Assurance of TVET in South Asia' held in Colombo, Sri Lanka from 20 to 22 February 2017 (Annex 1).

Table: Lead Agencies and Qualification Frameworks of Selected Countries in South Asia

Country	Lead Agency	Qualification Framework
Afghanistan	Afghanistan National Qualifications Authority (ANQA) – (Under development)	ANQF(Under development)
Bangladesh	Bangladesh Technical Education Board (BTEB)	NTVQF
India	National Skill Development Agency (NSDA)	NSQF
Iran	Supreme Council of Education	-
Pakistan	National Vocational & Technical Training Commission (NAVTTC)	NVQF
Sri Lanka	Tertiary and Vocational Education Commission (TVEC)	NVQF

Nations in Asia have placed great importance on developing their human resources as one of the main economic and social development strategies in their respective countries. The development of TVET is at the core of these strategies and directly addresses the needs of young people to become active contributors and agents of development in the context of the 2030 Agenda. Providing demand-driven and quality-assured TVET ensures the creation of flexible pathways for learners, meets the skills needed in the labour market, and addresses the aspirations of youth. This observation corresponds with a UNESCO report (2015) which reviewed the Asia-Pacific region's progress in following up the call for action that had been made in Shanghai in 2012. The review assessed progress in instituting mechanisms to raise the relevance of TVET in the region, and how countries have made good progress in strengthening TVET students' linkages to the world of work, improving the recognition of formal TVET qualifications, and developing pathways to further education, employment and self-employment for TVET graduates. The review highlighted areas for improvement including reforming qualification and certification systems, while more actions are also needed to recognize and validate the learning gained in informal and non-formal settings.
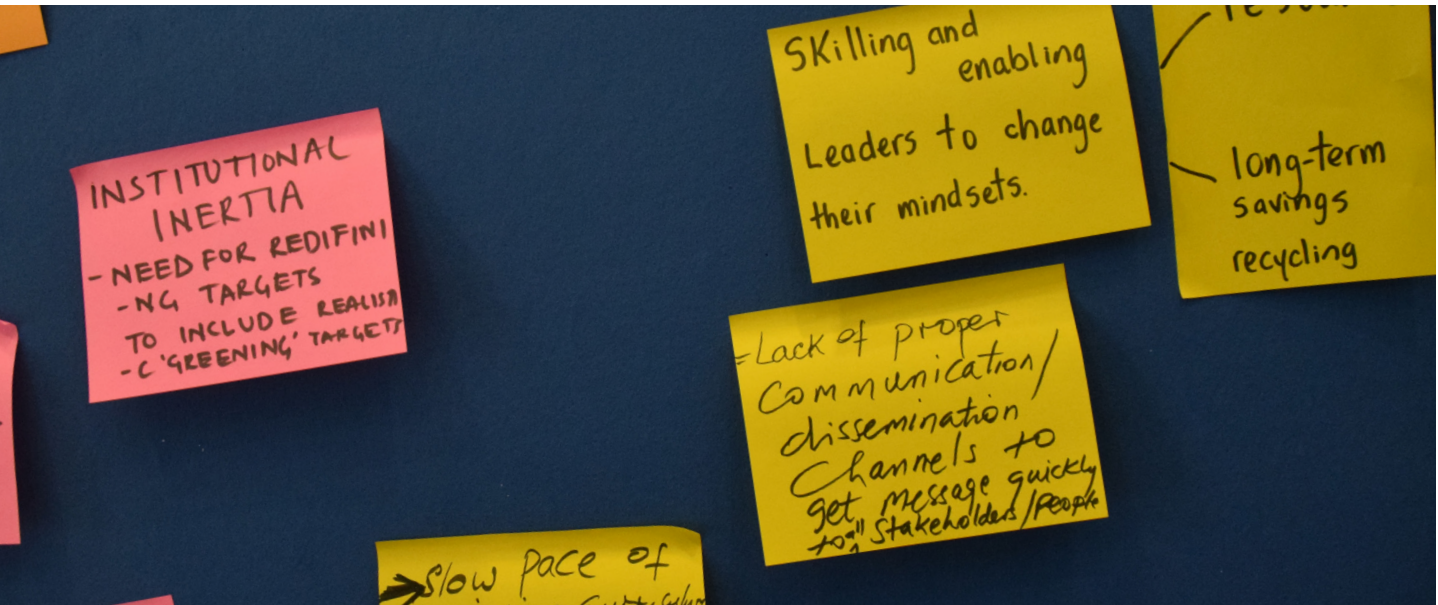
2. Comparative Analysis

Countries selected for this study are Afghanistan, Bangladesh, India, Iran, Pakistan and Sri Lanka (Table 1). TVET quality assurance frameworks in these countries fall under different lead agencies and apex bodies, which shapes the quality landscape. This analysis includes comparisons of qualification frameworks, quality assurance criteria, validation, accreditation, and assessment of non-formal and informal learning. The study further reviews the national capacity to support quality assurance of TVET, and support data and systems on labour market information and availability of skills forecasting etc. The aggregation of common challenges from different regimes of quality assurance are briefly discussed to identify best practices applied in selected countries.

Afghanistan

Afghanistan intends to establish a TVET board for general guidance, an Afghanistan National Qualifications Authority (ANQA) responsible for the quality assurance and qualification framework, and an Afghanistan National Qualifications Framework (ANQF). The Afghanistan National Qualifications Authority Act has been developed and sent to the Ministry of Justice to be processed. Regulations for the TVET Board, which will be a cornerstone of the Afghanistan National Qualifications Authority, have been developed.

The proposed objectives of the ANQF will be to:

- Establish and develop standards of knowledge, skill and competence;

- Promote the quality of further education and training, and higher education and training;

- Provide a system for coordinating and comparing education and training awards;

- Promote and maintain procedures for access, transfer and progression;

- Facilitate lifelong learning access and opportunities;

- Enhance economic competitiveness;

- Strengthen the dialogue between industry and education;

- Ensure the relevance of qualifications to the labour market;

- Raise the skill levels of the workforce;

- Enable people to gain recognition for the skills they achieve through formal and non-formal education and training, and throughout lifelong learning;

- Give priority to needs of learners, not just institutions or course providers.

ANQA will have three main areas including quality assurance and standardization of education, financial and administrative activities, and awarding of qualifications. The proposed key activities by ANQA regarding quality assurance are as follows:

- Develop and establish standards for training and an assessment system;

- Ensure that all recognized qualifications in the ANQF are subject to a quality-check;

- Adopt an integrated approach to education with the industry, and improve industry relevance of qualifications;

- Training and skills development by registering all qualifications and competency standards;

- Assessment of non-formal or informal learning, developing a comprehensive policy on the recognition of prior learning (RPL);

- Provide flexible and user-friendly pathways to higher levels of qualifications.

The Afghan system currently does not have the capacity to fully develop a standard system of qualifications. This situation is likely to be addressed with the establishment of national assessment centres, the TVET Board and the ANQA.

The assessments system in Afghanistan provides clear guidance to assess trained students and workers from non-formal and informal settings through a RPL scheme. Six boards will be established under the first objective of the ANQA to provide the requirements for accreditation and validation of training programmes. The ANQF will have eight levels from basic to Ph.D. which spreads in to four segments, namely basic education, secondary or higher education, TVET and the Islamic education.

The ANQA will become the dedicated national apex body for the development of the ANQF with a responsibility for monitoring, analysis, research, advocacy and international cooperation.

Years of instability have caused difficult challenges in the TVET sector in Afghanistan and a few selected challenges include (Agrawal, 2013):

- Shortage of qualified teachers and the need to establish teacher training institutions specifically to prepare TVET teachers;

- Lack of legislative framework regarding the TVET system management;

- Need to decentralize institutions and establish new funding arrangements;

- Lack of involvement by the private sector in the management of TVET institutions;

- Poor necessary infrastructure such as buildings, classrooms, laboratories, IT, libraries and recreational facilities and the urgent need to construct, rehabilitate and reconstruct these facilities;

- Outdated curricula;

- Lack of materials for practical work;

- Weak linkages between industry and the training centres.

Bangladesh

The National Technical and Vocational Qualification Framework (NTVQF) established in 2011 under the Bangladesh Technical Education Board (BTEB), is a comprehensive, nationally consistent yet flexible framework for all qualifications in TVET in Bangladesh. Further, the National Skills Quality Assessment (NSQA) system was established to ensure the quality of demand-based skills development in Bangladesh.

NTVQF's selected features are:

- National reform agenda and strategy for skills development;

- Improved quality and relevance of skills development;

- Established more flexible and responsive delivery mechanisms that better service the needs of labour markets, individuals and the community at large;

- Improved access to skills development for various groups of citizens including women and people with disabilities, encourage participation in skills development by industry organizations, employers and workers, and improve skills acquisition in communities;

- Enabled more effective planning, coordination and monitoring of skill development activities by different ministries, donors, industry, and public and private providers.

A Competency-Based Assessment (CBA) system was established, including the procedures for registration as a training organization and accreditation of learning programmes under the NTVQF. The NTVQF consists of six levels plus two prevocational levels, making it an eight-level framework. The descriptors for each of the six main levels are based on knowledge, skills and responsibilities. The two pre-vocational levels cater to the underprivileged and low-educated groups in society who have not completed eight years of school. Further the NTVQF ensures all stakeholders, industry partners, and technical and vocational institutions and instructors have a shared understanding of the activities to be undertaken in the registration of a training organization and the accreditation of learning programmes.

The challenges (Haolader et al., 2017) of the quality of TVET system are:

- Insufficient training of trainers;
- Procurement barriers of latest and modern equipment;
- Difficulties in regular updating of curricula and training programmes;
- Female students have limited access to TVET and employment due to social stigma and lack of gender-friendly environment in TVET institutions and employment;
- TVET providers are far behind the international standards in certification and quality assurance;
- Low linkages to international labour market;
- Weak governance of TVET system;
- Participation of private sector and employers with TVET providers is inadequate;
- Lack of monitoring and performance evaluation of TVET.

The National Skills Development Policy in Bangladesh guides skills development strategies and facilitates improved coordination of all elements of skills training and the parties involved. The ISCs also house computer equipment to be used to collect demand-side data on industry skills needs as part of the new skills data system. The Bangladesh Bureau of Educational Information and Statistics (BANBEIS) holds the data on institutions. Other activities to improve the quality of TVET in Bangladesh includes the development of a quality assurance system, the modernization of a TVET data system, and establishing parameters for the recognition of prior learning in the TVET system.

India

India's TVET system comprises formal, non-formal and informal learning for the world of work, and with the efforts of the National Skill Development Agency (NSDA) supports the achievement of the country's socio-economic development targets.

The National Skills Qualifications Framework (NSQF) organizes all qualifications according to a series of levels of knowledge, skills and aptitude. The NSQF is supported by the NSDA and is implemented through the National Skills Qualifications Committee (NSQC), which comprises of all major stakeholders and entrusted with approving accreditation norms, prescribing guidelines to address the needs of disadvantages sections, reviewing inter-agency disputes, and aligning the NSQF with international qualification frameworks.

Some features of the NSQF are as follows.

- Designed to cater to diverse Indian education and training systems;
- Provide structure for development and maintenance of progression pathways;
- Provide opportunity for individuals to progress through education and training, and support the recognition of prior learning;
- Provide regulatory and quality assurance arrangements for education and training;
- Facilitate the awarding and transfer of credits and progression routes;
- Follow measures and documentation aimed at standardization and quality assurance of the qualification framework;
- Develop Competency-Based Assessments as defined in the assessment policy;
- Accreditation covers the application and self-evaluation process, site visits, NQAF Compliance and Skill India Accreditation rating levels, quality improvement plans, data collection and dissemination responsibilities, governance requirements, skills of teachers and assessors, equipment requirements, etc.;
- Learners can acquire the certification for competencies needed at any level through formal, non-formal or informal learning;
- The NQAF acts as a regulatory framework that defines the norms, quality standards and processes to be followed by various stakeholders in TVET in the country. It comprises of eight manuals which capture all the components for quality assurance in the skill development ecosystem;

- The National Skill Development Agency under the Ministry of Skill Development and Entrepreneurship has launched a single window platform to aggregate supply and demand trends in the Indian skill development ecosystem, referred to as the National Labour Market Information System (LMIS);

- LMIS has been facilitated by integrating the National Career Services Portal and institutional MIS systems in a systematic approach.

Challenges for the quality of TVET sector in India include (Kumar, 2015):

- Amount of different regulations, certifications and curricula;

- Demand and supply mismatch in the labour market;

- Poor perception and public mind-set;

- Lack of coordination among government agencies and regulatory bodies;

- Inadequate academia-industry linkage;

- Lack of updated curricula;

- Shortage of qualified teachers;

- Lack of proper infrastructure;

- Lack of autonomy.

The NSQF and allied quality assurance mechanisms for synergizing skill initiatives in the context of India's skills development policy has highlighted the importance of continually improving both the quality of education and training and its relevance to the labour market and population. Streamlined processes with documented manuals provide guidance for different groups of organizations, describing what each needs to do to meet the quality criteria.

Iran

Since the 1850s, starting from the Academy of Science, Iran has had a comprehensive system of education for theoretical as well as technical/vocational education, equipped with the basic and advanced levels of knowledge and technical know-how to directly enter the labour market.

The Iranian Ministry of Education (MoE) is responsible for formal TVET programmes at the upper secondary schools, including technical and vocational programmes. The curricula of the flexible vocational programmes (Kar-o-Danesh) are determined by the individual vocational schools. The Ministry of Cooperatives, Labour and Social Affairs (MCLS) is responsible for non-formal TVET programmes. The Technical and Vocational Training Organization (TVTO) provides services

regarding to quality assurance. The TVTO offers advice on curriculum development, and specifically:

- Develops skills standards (profession and training) for all existing trades in the country;

- Reviews skills standards based on technological developments and workplace requirements;

- Develops assessment standards for all trades;

- Monitors the implementation of standards based on professional qualifications;

- Evaluates standards according to the needs of the various stakeholders.

The Supreme Council of Education is the highest legislative body and approves all policies and regulations concerning non-university education, including TVET. The number of technicians under each discipline is evaluated and decided by the MCLS. The number of technicians will be trained by the TVTO to further be recruited in different industry sectors around the country.

The Shahid Rajaee Teacher Training University (SRTTU) is mandated to train teachers for vocational and technical schools as well as high schools. Teacher quality is maintained by providing teacher training with well-equipped laboratories and workshops with the ultimate task of educating young students in the TVET sector.

The TVET system in Iran still faces challenges to cater to the increasing number of student enrolments, provide access to rural villagers and women to TVET programmes, and provide more access to rural women in new demand-oriented courses. Other challenges include the following list (PID, 2005):

- Low quality and relevance, reflecting sub-standard training inputs;

- Out-of-date skill standards as a benchmark for quality;

- Absence of effective quality assurance mechanisms, supply-oriented programme designs;

- Lack of stakeholder and beneficiary involvement and weak institutional capacity etc.;

- Current TVET programmes are largely supply-driven and still lack relevant training for available jobs;

- Lack of coordination among government agencies and regulatory bodies.

Quality assurance enhances the access to TVET programmes, especially for villagers and women, and improves the TVET curriculum in women-only educational centres, as currently the curriculum focuses on women's traditional businesses and crafts, generating few job opportunities. There is a need to

strengthen links between TVET and the industry to minimize the supply and demand mismatch. Further, the access to relevant skills development is uneven, having a negative impact on women and those living in rural areas who are actually more likely to participate in skills training.

Pakistan

The National Vocational and Technical Training Commission (NAVTTC) is the national apex body entrusted with regulating, facilitating and providing policy directives in the TVET sector of Pakistan. The National Vocational Qualification Framework (NVQF) was developed to promote the National Skills Strategy and implement competency-based and demand-driven training. This aimed to bring a paradigm shift by making an efficient and marketable TVET system.

The reforms in the TVET sector of Pakistan aimed to:

- Provide skills demanded by industry and economic development;

- Improve access, equity and employability of the workforce by making training delivery flexible;

- Integrate informal economy workers in the TVET system and enhance the mobility of skilled workers by improving their status;

- Assure quality by establishing a National Qualifications Framework, registering and accrediting institutes and reforming institute management with training of trainers for competency-based training.

The NVQF provides well-defined landscape for policies, guidelines, classifications to ensure the quality of TVET delivery and possible pathways for entry, progress and achievement of a qualification including credit accumulation, equivalences and transfer of qualifications. The NVQF facilitates both horizontal and vertical mobility and basis for improving quality, accessibility and recognition of qualifications at national and international levels.

The main features of the NVQF are as follows:

- Enhance the quality of TVET with clear qualification levels establishing transparency for all stakeholders;

- Align TVET to the labour market demand;

- Establish a structured system for learning achievements based on defined levels and characteristics;

- Standardize the system by defining characteristics and the value of qualifications and linkages between qualifications;

- Promote up-skilling and facilitate horizontal and vertical mobility, as well as facilitate credit accumulation and transfer;

- Facilitate the recognition of prior learning to provide a mechanism that allows individuals to gain recognition of the skills that they have;

- Create recognition of the NVQF nationally and internationally by improving the credibility and portability of qualifications;

- Establish the validity and reliability of certificates through a comprehensive and coherent quality assurance system that assures the quality of training and assessment.

In line with the NVQF, the NAVTTC is engaged in accrediting training providers. In terms of TVET institutes, accreditation is considered as quality assurance, where credit is given to institutes that perform at standard service delivery.

The National Skills Information System (NSIS), maintained by NAVTTC, is being updated daily and contains information on TVET institutes, programmes, trades, technologies, graduates, enrolled trainees, registered industry (employer) and the number of workers in the industries. It has been recognized that TVET's role is pivotal in economic development of the country. Therefore, developments such as having an uniform curricula, skills standards, upgrading TVET institutions, mobilizing resources towards improving the TVET sector, and improving the labour workforce quality, are taking place to enhance the quality of the labour force and thereby increase the opportunities of employment in local and international markets.

The last few years Pakistan has taken many steps to overcome the challenges faced through, for example, the introduction of national level body (the NAVTEC) and drafting the National Skill Strategy (NSS). Some of the identified challenges include (Ansari & Wu, 2013):

- Issues in relevancy, access, quality and equity of TVET practices;

- Quality of TVET institutions;

- Lack of linkages between TVET providers and industries;

- Quality and financing of the system, having an ineffective funding model;

- Strong mismatch between demand and supply side factors;

- Mismatch between labour market needs and vocational courses.

Sri Lanka

The Sri Lankan National Vocational Qualifications Framework (NVQF) was established in 2005 as an unified national system and implemented by the Tertiary and Vocational Education Commission (TVEC), covering all programmes providing

vocational and tertiary level education and training. In 2012, Sri Lanka established the Sri Lankan Qualifications Framework (SLQF), which is a nationally consistent framework for all higher education qualifications. The SLQF integrated the NVQF developed earlier.

The features of the NVQF are:

- Competency-based qualifications;

- Certified competencies or ability to work;

- Demand-driven qualifications;

- Transparent qualifications;

- Atomized qualifications;

- Portable qualifications;

- Facilitates the upward laddering in an occupation;

- Facilitates the recognition of prior learning;

- Encourages lifelong learning;

- Recognizes the workplace or work site as a place of learning and training.

The TVEC is responsible for quality assurance of the TVET sector. The quality assurance policies and processes of the TVEC promotes the quality of the TVET sector in Sri Lanka, and is responsive to the requirements of industry, learners and other stakeholders. TVET quality assurance has the following stages respectively: (i) registration of TVET institutions; (ii) accreditation of courses; (iii) installation of a Quality Management System (QMS); and (iv) institutional quality audits. Competency-based assessments with qualities such as validity, reliability, objective and fairness with transparency were maintained to ensure the quality of assessments.

As validation and accreditation requirements, it is expected that there is a clear understanding of the required learning outcomes, and that it ensures satisfactory performance outcomes: T1 (Scheme of Training); T2 (Lesson Plan); adequate equipment; qualified and competent academic staff; conduct of formative assessment; conduct of summative assessment; and arrangements for on-the-job training.

The recognition of prior learning is used to assess informal and non-formal learning. This assessment checks on competencies acquired through informal or non-formal learning at the workplace (as opposed to formal learning in centre-based or apprenticeship-based courses).

As per *Tertiary and Vocational Education Act No. 20 of 1990*, the TVEC is entrusted with planning, coordination and development of tertiary education and vocational education (TE &VE) at all levels, keeping in mind the human resource needs of the economy. It is also responsible for the development of a nationally recognized system for granting of technical and vocational education awards, including certificates and other academic distinctions, and for maintaining academic and training standards in institutes, agencies and all other establishments providing technical and vocational education.

When data systems are concerned, TVEC publishes two LMI bulletins each year, which depicts a comprehensive analysis of Sri Lanka's labour market trends covering the second half of previous year and the first half of the current year respectively. The LMI bulletin consists of five sections including demand for labour, local employment, foreign employment, supply of labour, and labour market trends and research, which includes skills forecasting. As a recent development, TVEC publishes the National Skills Development Report to analyse and forecast skills landscapes and skills development activities of public, private and NGO sectors. The TVEC collects information from training providers using an online portal and other means at the time of registration. These data are used to produce management and national level reports for planning and decision-making activities of the TVET sector.

Sri Lanka's labour force has been growing by two percent a year since 1990 and the working age population (15–59 year) grow more slowly, from 13.3 million in 2011 to 13.9 million in 2026 (estimated). Sri Lanka faces challenges such as graduate youth unemployment, low rate of female participation in the labour force, and underemployment of educated females and youth. Some of the identified challenges include (World Bank, 2014):

- Lack of an integrated skills development strategy to acquire job-specific skills;

- Low quality of current TVET services and attractiveness for youth and relevance for employers;

- Lack of diversification and active engagement with employers to make the system demand-driven;

- Poor performance of the TVET system and inadequacy of resources;

- Lack of flexible and accountable governance mechanisms at all TVET levels, with their components coordinated with each other and system stakeholders;

- Lack of attention for skills requirements in non-formal and informal sectors;

- Poor enterprise-based training where monitoring and evaluation issues exists.

Investments in skills development is vital to increase productivity in all sectors of the economy.

3. Rationale

The 2030 Agenda for Sustainable Development, a shared vision of the international community lead by United Nations, announced an integrated approach for development while eradicating hunger and poverty. The targets could be strategized by means of combating inequality within and among countries; preserving the planet; creating inclusive and sustainable economic growth; achieving full and productive employment and decent work for all women and men; and ensuring full gender equality and fostering social inclusion etc.

As agreed in the Incheon Declaration, Sustainable Development Goal 4[1] paved the way to achieve the "Education 2030" goals, with a special focus towards quality and relevance in technical and vocational education and training (TVET). This agenda on TVET addresses multiple demands of an economic, social and environmental nature by helping youth and adults develop the skills they need for employment, decent work, entrepreneurship, promoting equitable, inclusive and sustainable economic growth, and supporting transitions to green economies and environmental sustainability.

Establishing qualification frameworks aim to bring coherence and clarity to qualifications systems. Placing the qualifications in a classification system enables an easier comparison by individuals, employers and other stakeholders. National Qualification Frameworks (NQFs) also go beyond other classification systems by bringing together qualifications issued by different bodies within the same national context and based on levels of learning outcomes. Furthermore, linking the NQFs of countries in a region, directly or via a common reference, increases the potential for labour mobility while also enabling a better understanding of skill levels of those possessing these qualifications and promotes the notion of mutual parity of esteem.

UNESCO-UNEVOC International Centre, in collaboration with the Tertiary and Vocational Education Commission of the Ministry of Skills Development and Vocational Training Sri Lanka, organized a workshop in February 2017, attended by key stakeholders and UNEVOC Centres from the South Asian region, to discuss their qualification systems and the quality assurance of these systems against regional and international trends. This effort is being made as a step to ensure that countries in the South Asian sub-region stand to gain from the constructive developments that are taking place at the global and regional levels, and identify specific country approaches to advance quality of TVET qualification systems, and foster learning across the UNEVOC network. A strong interest in this area has been generated from a regional meeting organized by UNESCO-UNEVOC in Tehran in 2016 whereby UNEVOC Centres in the cluster expressed intent to deepen their engagements in the network, and identify a common agenda for mutual policy learning, knowledge exchange and collaboration.

Capitalizing on this collective effort to resolve knowledge base in the cluster, the workshop has served as a platform to display the rich experiences in the sub-region in implementing quality assurance of TVET qualifications, creating flexible pathways, and share them as part of a whole-government process.

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1   "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"

Country reports

Best practices in TVET quality assurance in selected countries in South Asia

AFGHANISTAN

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1. Introduction

It is anticipated that the number of applicants will significantly increase in the future, and with the current rate of population growth, the work force between 15-65 years of age may include half of the country's population in less than 20 years.

In fact, awarding qualification levels will not be appropriate without any credible and proper standard operational procedures. Therefore, two standards are developed for determining the requirements for awarding qualification levels to the applicants. One of these standards is for academic applicants and the other one is for non-academic applicants, both of which should be implemented by the Leadership Committee of the ANQA, with reference to ANQF awarding levels criteria.

The main objectives of the ANQF are to:

- Establish and develop standards of knowledge, skill and competence;

- Promote the quality of further education and training, and higher education and training;

- Provide a system for coordinating and comparing education and training awards;

- Promote and maintain procedures for access, transfer and progression;

- Facilitate lifelong learning access and opportunities;

- Enhance economic competitiveness;

- Strengthen dialogue between industry and education;

- Ensure the relevance of qualifications to the labour market;

- Raise the skill levels of the workforce;

- Enable people to gain recognition for the skills they achieve through formal and non-formal education and training, and throughout lifelong learning;

- Give priority to the needs of learners, not just institutions or course providers;

- Motivate people to improve their skill levels and continue learning;

- Provide flexible and user-friendly pathways to levels of qualifications from basic education to doctoral degrees.

The NQF provides a structure (a framework) aimed at simplifying the Afghan qualifications system in an effort to

In general, the Afghanistan National Qualifications Authority's functions fall in three main categories as follows:

The **first** set of functions is related to the activities of six professional boards and their relationship with the world of education. These activities are the most important functions of the authority, where its effectiveness and success criteria are quality improvement of education. Indeed, standardization of these activities based on areas of operation, sensitivity and variation is a major issue.

The **second** set of functions are related to the financial and administrative activities of the authority, where due to the nature of these functions and existence of credible national and international standards in the areas, i.e. accounting, finance, recruitment and international relations, there is no need for developing new SOPs for such activities.

The **third** category of functions are the activities which comprise the main reason for the establishment and existence of the authority, which is awarding qualifications and certificates to applicants at different levels of age, education and work experience. The first group of this category includes academic applicants who have formal education and vocational training certificates. The second group are non-academic applicants, who have no formal education, but have considerable work experience, having been active in the labour market. Qualifications for both the categories mentioned above should be determined based on ANQF Levels.

increase understanding amongst all stakeholders. The NQF is going to be a system of specific levels of learning achieved, based on standards of knowledge, skill and competence and incorporates awards made for all kinds of learning, wherever it is gained. Qualifications achieved in school, further education and training, and higher education and training are all included.

The eight levels and the six education programmes of the proposed ANQF, that is, basic education, secondary education, technical and vocational education, Islamic education, literacy and non-formal education and higher education, is a sound model and worthy of being advanced to the next stage of its development. The proposed framework caters for all various society groups who need to be addressed - the major one being the under-privileged members of society.

2. ANQF principles

A policy for strengthening ANQF implementation aims to make the ANQF more efficient and responsive to the needs of the country. In particular, the ANQF must assist citizens who were historically excluded from the national education, training and skills development system so that they have the opportunity to reach their potential. A model or architecture for the implementation of the ANQF is needed so that it will be simple as well as coherent, participatory and accessible. The new model must be clear and unambiguous as far as the roles of the government, the respective statutory bodies responsible for advice or implementation, and other participants in the ANQF processes are concerned.

With these considerations in mind, the revised architecture will be based on the following principles:

- An integrated approach to education, training and skills development will be served through the incremental registration of qualifications and competency standards acquired throughout the learning system on the ANQF, the recognition and appreciation of distinctions between different forms of learning and their specific contributions to the entire spectrum of education and training and expanding access, progression and mobility within and across all learning sectors;

- The current system of standards generation and quality assurance will be reviewed and streamlined in six boards;

- There will be eight ANQF levels in order to allow proper scope for the full range of qualification types in the education, training and skills development system;

- Education and labour market interests, occupational and professional bodies, will be appropriately represented by experts and knowledgeable individuals on the bodies responsible for standards generation and quality assurance;

- The authority of government over all ANQF statutory agencies will be affirmed. In particular the determination of ANQF policy and regulations will be a ministerial prerogative in terms of the relevant law;

- The cabinet will approve ANQF qualifications criteria at all levels;

- Each ANQF-registered qualification, whether incorporating unit standards or not, will be designed as a whole to serve a specified purpose;

- Recognition is needed that various forms of learning are required in an integrated education, training and skills development system;

- Prior learning, properly assessed, will receive due recognition in terms of a comprehensive recognition of prior learning policy.

In order to enhance the recognition of learning achievements and the progress of learners in the system, a national credit accumulation and transfer system will accord credit value to registered unit standards and other components of qualifications for access purposes or towards the award of a qualification. Such a system will build on the present provisions for credits, but will be more responsive and more easily understood by different role players in the education, training and skills development system.

Standards of occupational or professional competence required for registration by, or membership of, a recognized occupational or professional body are the business of that body in terms of its own rules, Acts or international conventions. However, such requirements are expected to advance ANQF objectives. Ministers associated with occupational and professional bodies will be responsible for ensuring that this is the case, and for intervening where such bodies act in a manner that undermines the broad principles of the ANQF. The ANQF structures will foster close collaboration with occupational and professional bodies in order to advance the ANQF objectives and achieve compatibility with ANQF standards.

Structure of the Afghanistan National Qualifications Authority

The ANQA will be an apex body accountable to the President. The cabinet will develop national policies, legislation, and appoint an ANQA Chief Executive Officer. The ANQA will continue to be the apex ANQF organ, accountable to the cabinet, with a range of important functions listed below. The six boards will undertake quality assurance of qualifications, and the provision and learning achievements. The detailed work of standards generation and quality assurance of qualifications and providers will be performed by credible fit-for-purpose panels of expert practice in the case of trades and occupations appointed by or under the authority of the Boards in terms of the ANQF policy framework.

The governing bodies of the ANQA and the six boards will each include competent and knowledgeable individuals from education, labour market and other sectors of the economy and society, commensurate with the importance of their tasks and responsibilities.

Like its international counterparts, the ANQA will continue to be the dedicated national oversight body for the development of the ANQF with a particular responsibility for monitoring, analysis, research, advocacy and international liaison. The ANQA will be the custodian of the values on which the ANQF has been established and will report to the related authorities on the effectiveness and impact of the ANQF. The ANQA will also represent Afghanistan in the international and regional community concerning qualification frameworks.

3. Structure of the NQF/ NVQF

3.1 ANQF Chart

ANQF Levels	Literacy and Basic Education	Secondary and higher Education	TVET	Islamic Ed.
L8		H. E. / Ph.D		
L7		H. E. / Master Degree		
L6		H. E. / Bachelor Degree		
L5		Tertiary Education / Grade 14 Diploma	Tertiary TVET Grade 14 Diploma	Tertiary Islamic Education Grade 14 Diploma
L4		Advanced Certificate High School / Grade 12	Advanced Certificate TVET High School	Advanced Certificate Islamic High School
L3	Intermediate Education / Grade 9 Certificate		Intermediate Vocational Education and Training Certificate	Intermediate Islamic Education Grade 9 Certificate
L2	School Preparation literacy LC		Vocational training Certificate	
	Progression Literacy LB			
	Foundation Literacy LA			
L1	Basic Level		Aprenticeship	

3.2 ANQF Levels and Level Descriptors

The levels and the level descriptors together describe a NQF. The proposed ANQF has eight levels and associated level descriptors.

There is no set of rules for writing level descriptors and each country tends to use a different method of describing them. However, they are all related in one way or another to the following three areas:

1 Knowledge, both theoretical and/or factual and the application of that knowledge;

2 Skills, including both cognitive (thinking skills), and practical;

3 Attitudes, in terms of responsibility for ones owns actions and the level of supervision required to perform tasks, that is, the degree of autonomy permitted.

Level descriptors are written in terms of learning outcomes.

In assigning an ANQF level to a qualification, existing or being developed, including the units of competence that the qualification consists of, all elements must be referenced to the learning descriptors for that qualification framework level.

In other words, the knowledge, skills and responsibilities expected of the graduate of a learning programme at a specific level should align to the knowledge, skills and responsibilities expressed in the level descriptors for that specific qualification framework level.

3.3 National Basic Level Certificate – Apprenticeship

This is a very basic level, which indicates the learners' ability and general cognitive and vocational skills learnt through apprenticeship. This level does not have any literacy component.

3.4 National School Preparation Certificates

In the proposed ANQF model the second National Basic Certificate with some vocational training, targets basic level literacy, numeracy and practical life skills. On successful completion of the course learners will have the skills to contribute effectively to community life or to go on to further study.

The second National School Preparation Certificate Level 2 and concentrates on general and practical life skills to enable participation in:

- Further education and/or training;

- Self-employment or paid employment;

- Work within the community.

This is a very important qualification for the low educated and underprivileged sectors of society. This course provides the learner with the knowledge and skills to perform a defined range of activities, most of which may be routine and predictable.

Applications may include a variety of employment-related skills including preparatory access and participation skills, broad-based induction skills and/or specific workplace skills. The ability to work in a team environment is a major outcome for this course. Progression from this qualification to the next level, may require a bridging programme to raise the literacy and numeracy levels of the certificate holders on successful completion of the course, learners will have the skills to contribute effectively to community life, or start their own business, or to go on to further study. Students have the opportunity to progress to the intermediate National Qualifications Level 3.

3.5 National Skills Intermediate Certificates

The certificates can be delivered as stand-alone programmes to basic education programme grade 9 graduates of general education. It also encompasses the vocational component of programmes of study. It is anticipated that intermediate vocational and Islamic education and training will be embedded into this level. Formal basic education graduates and indentured apprentices, could be enrolled directly into L3 and effectively will complete their formal on-the-job training in a technical training centre or similar institution. For example, a craftsperson that has completed basic formal education and electrical fitters course could complete an instrumentation and control to broaden their skill-base and subsequently enhance their job opportunities. Similarly, a machinist could complete a Computer Numerical Controlled (CNC) machining programme to upgrade their skills.

3.6 National Advanced Certificates

Advanced certificates target Level 4 of formal high school programmes in general education, TVET and Islamic education. This could be the middle-level supervisor segment of the workforce. These are the first half of the full Diploma course and provide an exit point for those students attempting the Diploma but for one reason or another must cease their studies at high school level and return to the workforce.

3.7 National Diplomas

These encompass tertiary Level 5 of general education and the highest qualification in the vocational sector. The following outlines are expected outcomes of a Diploma programme of learning:

- The self-directed application of knowledge and skills, with substantial depth in some areas where judgment is required in planning and selecting appropriate equipment, services and techniques for self and others;

- Breadth, depth and complexity covering planning and initiation of alternative approaches to skills or knowledge applications across a broad range of technical and/or management requirements, evaluation and coordination;

- Applications involve participation in development of strategic initiatives, as well as personal responsibility and autonomy in performing rather complex technical operations or organizing others. It may include participation in teams including teams concerned with planning and evaluation functions. Group or team coordination and training is involved.

3.8 National Higher Education Degrees

Entry to University Bachelor (Level 6), Master (Level 7), and Ph.D. (Level 8) degrees, remain as is in the main stream. For more information please refer to Annex 1, levels descriptions.

Qualifications concepts

Qualifications based on learning outcomes is the capability of a learner at the end of the learning process to perform specific tasks, where learning outcomes must be defined in terms of knowledge, skills and competence, as follows:

- Knowledge = facts, theories, principles, understanding

- Skills = the application of knowledge

- Competence = the application of skills in an occupational / professional context

Qualifications must be matched to the **Level descriptors** of the Afghanistan National Qualifications Framework (ANQF). A Level descriptor denotes a level of difficulty that learners are challenged with in a learning process. Qualifications can also be expressed through the validation of informal and non-formal learning.

Coordination and management of the ANQF

The Afghanistan National Qualifications Authority will be established as an autonomous body under the first Vice President of Afghanistan for the purpose of coordination, organization, quality assurance, participation and quality improvement of the education system in Afghanistan.

The Afghanistan National Qualifications Authority (ANQA) is going to be an entity given a legal personality by the law. The Afghanistan National Qualifications Authority is going to be a Committee of nine members, where, the CEO is appointed by the cabinet. The members include the secretariat, a deputy, and six directors of the following boards: Higher Education Board, TVET Board, Islamic Education Board, Secondary Education Board, Basic Education Board and Literacy Education / Non-Formal Training Board. The members are nominated by national stakeholders in education and training and are appointed by open competition based on their knowledge, skills and competences.

Institutional structure of QF establishment and monitoring

Operational structure of ANQA

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                    ┌──────────────────────────────┐
                    │ High Commission of Coordination │
                    └──────────────────────────────┘
                                  ↕
                              ┌───────┐
                              │  CEO  │ ←──────────────────┐
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    ┌─────────────┐              ↕                         │
    │ Secretariat │ ←──────────────────────→              │
    └─────────────┘              ↕                   ┌──────────────┐
         ┌──────────────────────────────────┐        │ Admin Deputy │ ←─┐
         │ Committee of Boards' Directors    │        └──────────────┘   │
         └──────────────────────────────────┘        ┌──────────────┐   │
          ↕        ↕        ↕        ↕                │ Directorate   │   │
                                                      │ Admin /       │ ←─┤
                                                      │ Finance, HR   │   │
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| National Board of Higher Education | National Board of Secondary Education | National Board of Basic Education | Directorate Registration and Documentation |

| National Board of Islamic Education | National Board of Literacy & non-formal Education | National Board of TVET | Policy and Planning, on the job training and international Liaison |

Boards Functions:

- Identification of labor market needs

- Accreditation of Institutions/ Programs/ Teachers

- Monitoring, Inspection and Quality Assurance

- Development of guidelines for certification

- Research and Development

- Compilation and Authoring Reference books

BANGLADESH

By

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Bangladesh

1. Introduction

Bangladesh is the eighth most populous country in the world having over 168 million people (2015 est.), which presents an immense opportunity in terms of work force. Quality technical and vocational education and training (TVET) is essential to ensure the country's competitiveness in the global labour market and ensuring decent work for all.

Skills, knowledge and innovation are important driving forces of economic growth and social devel¬opment in any country. Countries with higher levels of education and skills adjust more effectively to challenges and opportunity in the global economy. In Bangladesh, 23 ministries and agencies perform formal and non-formal trainings in the context of industry and community development. Many private training organizations, NGOs and donor agencies also deliver skill trainings both formal and non-formal. Skill trainings also occur on and off the job in enterprises and as pre-departure trainings for expatriated workers. The skills development system in Bangladesh can be classified into five main seg¬ments namely: public, private with government subsidies, private with commercial mode, NGOs, and industry based in the workplace.

In the current system, there is a lack of coordination among the training providers. Significant im¬provements can be made by implementing more effective and nationally consistent policies, system management and quality control.

Developing countries are facing unequal and aggressive competition in the world of business, trans¬port, marketing of products, export of skilled labour and communication in the international market. For a near midlevel economic country like Bangladesh, opportunities of economic devel¬opment will be created in this state of unequal competition and the value of physical labour will be enhanced. Therefore, the highest importance will be given to turn students into competent labour through vocational and technical education and training.

It needs competent labour to meet internal needs and there is a high demand of skilled labour abroad, which will increase gradually over the coming years. The export of skilled labour can increase Bangladesh's foreign currencies earnings. Development programmes will be undertaken to build up competent labour force in view of national and international demands. The mission of the Bangladesh government is to develop skills in Bangladesh to support rapid and inclusive economic growth, and to develop higher quality skill outcomes to maintain employability, increase productivity and support high-er standard of livings.

The government has already made commitment in the *National Strategy for Accelerated Poverty Reduction-II* (NSAPR II) to the effect that TVET students shall comprise 20% of all secondary students by 2020. The document also calls for policies, plans and strategies to be formulated and implemented in collaboration with all stakeholders in education and trainings, particularly the employees, in order to maintain an efficient technical education and training system that meets the challenges, and the needs, of the industry. The main objectives of TVET in Bangladesh is to standardize vocational skills locally, internation-ally match skills with market demand, and create an internationally competitive workforce.

The National Education Policy adopted in Bangladesh in 2010 and the National Technical and Vocational Qualification Framework (NTVQF) approved in 2011 is a comprehensive, nationally consistent yet flexible framework for all qualifications in technical and vocational education and training in Bangladesh. The National Skills Quality Assessment System ensures the quality of demand-based skills development in Bangladesh. Since 2012, the Bangladesh Technical Education Board certified more than 15000 NTVQF graduates of different occupations in 12 sectors. Until now, the BTEB approved 192 competency standards of 70 occupations, and assesses trainees under RTO and RPL mode 162 registered training organizations.

2. The Scope and the national context of TVET

2.1 Demographics

Bangladesh has a population of over 168 million people (2015 estimate). Close to 19% of the population is aged between 15 and 24, and 38% are in the 25-54 age group. About 7.75 million children are enrolled in school, and the secondary completion rate is close to 39%. The school dropout rate, however, is at 61%.

Now close to 35 million individuals are not included in the labour force (84% of which are females). In the labour market, 35% of employed are young people aged between 15 and 29. Close to 20% of the labour force does not have primary education, while 25% of them has not completed secondary education. Only 5% of the labour force has completed technical and vocational education. There are also many Bangladesh nationals working abroad, although close to 75% of these workers are unskilled.

2.2 Economy and labour market

Bangladesh has continued to make economic gains with an annual GDP growth rate of around 6.6 % over the last five years. This growth has generated new jobs in the service and manufacturing sectors. Remittances contribute about 10% of GDP. Despite these positive trends, the economy and employment face serious challenges. The economic base depends on garments and remittances. Half of the labour force is working in low skill agricultural activities. While unemployment was reported at 5% in 2009, underemployment was at 29% signifying a mismatch between the supply of skills and demand in the labour market. Close to 5% of the workforce is employed in the informal sector experiencing unproductive, uncertain, and unregulated underemployment. The economy needs to diversify and expand. To benefit from the demographic dividend, productivity increase of the labour force needs to be accelerated with an emphasis on soft skills and market-responsive TVET.

2.3 Education and training

Recognizing the importance of TVET in the context of Bangladesh, the UNESCO office in Dhaka provided support for quality improvement of TVET teachers in 2005 by training 3000 teachers. In collaboration with the ILO and Ministry of Education (MOE), an analysis and capacity building programme preparation for the TVET sub-sector is ongoing. Under this joint programme, officials from the MOE and Department of Technical Education and Training are trained to conduct analyses of the education sector and prepare TVET sub-sector programmes for Bangladesh. These officials are now better equipped to integrate the outcomes of the three ongoing TVET projects:

1 Technical and Vocational Education and Training Reform in Bangladesh;

2 Skills and Training Enhancement Project;

3 Skills Development Project for producing quality graduates.

Since Government staff are transferred frequently, it has been a big challenge to retain the capacity developed through these training activities at the organization level.

The country has identified that TVET will be one of the major areas for developing quality human resources to increase the productivity of the workforce. The priority areas are: reviewing and strengthening TVET policies, systems and legislations at the central and decentralized levels, strengthening the capacity of key institutions (Department of Technical Education and Training and Bangladesh Technical Education Board (BTEB), and Bureau of Manpower, Employment and Training) which play important role in the management and quality assurance of TVET sector, and increasing access of underprivileged populations where UNESCO can provide further technical support.

3. Structure of the TVET system in Bangladesh

3.1 Overview of the TVET system

There are a variety of government providers of TVET in the country; indeed at least 23 ministries run various types of technical training providing short and long courses. Two of the most significant ministries involved and which are associated with the projects are the Ministry of Education (Directorate of Technical Education), and the Ministry of Expatriate Welfare and Overseas Employment (Bureau for Manpower Employment and Training). The former runs a number of technical schools and colleges and polytechnics, while the latter operates numerous Technical Training Centres (TTCs).

3.2 National Qualification Framework

The National Technical and Vocational Qualifications Framework (NTVQF) consists of six levels, plus two prevocational levels, making it an eight-level framework (see Table 1 below). The descriptors for each of the six main levels are knowledge, skills and responsibility. The table also illustrates the relationship of the NTVQF to the existing qualifications structure.

Table: National Qualification Framework

NTVQF Levels	Pre-vocational education	Vocational Education	Technical Education	Job Classification
NTVQF 6			Diploma in engineering or equivalent	Middle-level manager
NTVQF 5		National Skill Certificate 5 (NSC 5)		Highly skilled worker/supervisor
NTVQF 4		National Skill Certificate 4 (NSC 4)		Skilled worker
NTVQF 3		National Skill Certificate 3 (NSC 3)		Basic-skilled worker
NTVQF 2		National Skill Certificate 2 (NSC 2)		Basic-skilled worker
NTVQF 1		National Skill Certificate 1 (NSC 1)		Basic worker
Pre-Voc. 2	National Prevocational Certificate NPVC 2			Pre-Vocational Trainee (2)
Pre-Voc. 1	National Prevocational Certificate NPVC 1			Pre-Vocational Trainee (1)

The two prevocational levels cater to the underprivileged and low-educated groups in society who have not completed eight years of school (eight years is the minimum to gain entry into a vocational training institute) and who lack the basic literacy and numeracy skills necessary to enter the lowest level of the qualifications framework. The following five levels, NTVQF 1–5, lead to certificates that closely align with existing TVET programmes for school students. Under the NTVQF, registered training organizations will also be able to conduct training for specific units of competences. In general education, a new system of dual certification will be introduced so that students who achieve the skills component of vocational education programmes will receive an NTVQF qualification in addition to, and separate from, the school qualification (Ministry of Education, 2011).

4. Overview of quality assurance arrangements

4.1 Quality assurance frameworks

a) Overview

The national TVET system had problems with the quality of the graduates and with the relevance of their skills and with the range and scope of programmes delivered. Training was not necessarily relevant to the needs of industry and did not respond to industry demands for sufficient numbers of trainees with the right skills. Students often graduated without having the skills, knowledge and attitudes required by employers and necessary for productive activity. In the past, the system focused mainly on formal training institutions and focused less on all the other pathways for developing skills (workplace training, apprenticeships, public training institutions, private organizations, community groups and NGOs). As a result the system could not develop the skills of the target audience fast enough to meet the needs of local and overseas employers, workers and the community at large. The changes to the skills development system make it more flexible and responsive to those needs.

The National Skills Development Policy improves the development of human resources by establishing an expanded and reformed system of skills development that integrates and applies to formal and non-formal vocational, technical and a skill based education and training for employment and or self-employment. It includes:

- Pre-employment and livelihood skills training, including TVET, apprenticeships and school-based TVET;

- Education and training for employed workers, including workplace training;

- Employment oriented and job-related short courses not currently affiliated with BTEB servicing both domestic and international markets.

The Objectives of the National Skill Development Policy are to:

- Outline the national reform agenda and strategy for skills development in Bangladesh;

- Improve the quality and relevance of skills development in Bangladesh;

- Establish more flexible and responsive delivery mechanisms that better service the needs of labour market, individuals and the community at large;

- Improve access to skills development for various groups of citizens, including women and people with disabilities, encourage participation in skills development by industry organizations, employers and workers, and improve skills acquisition in communities;

- Enable more effective planning, coordination and monitoring of skill development activities by different ministries, donors, industry, and public and private providers.

b) Assessment

All RTOs that wish to conduct NTVQF courses will have their TVET trainers certified under the NTVQF for Competency-Based Training and Assessment (CBT&A), with either a certificate IV in CBT&A in TVET, or a certificate V in Advanced CBT&A in TVET. Both of these qualifications are based on one set of competency standards and from this set, there are several pathways for instructors, e.g. direct trainer, training developer, and master trainer (please refer to the next section for the details of the pathways). Both qualifications can be achieved through the accumulation of Certificate of Competency for each of the units of competency in the qualifications. As a rule, an individual must demonstrate competence through assessment. An individual may undergo training first before undergoing assessment, or may use the recognition of prior learning system to go straight to the assessment stage.

A person or entity who complies with the requirements for an NTVQF assessor must administer assessment. These requirements are:

- Certain number of years of work experience and possession of a technical qualification under the NTVQF;

- Possession of Certificate IV in CBT&A in TVET, Certificate V in Advanced CBT&A in TVET or the set of competencies required to be an NTVQF assessor (four in total). An industry expert can be an assessor as long as they attain the units of competencies required.

Competency Standard → Training → Assessment → Certification
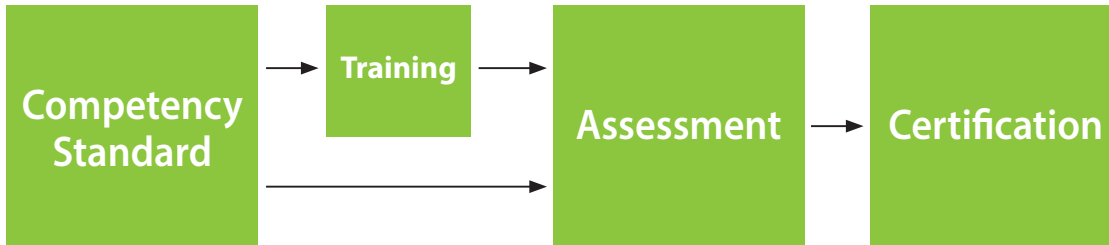
An individual who has gained relevant competencies through formal/informal training, previous work, or life experience may apply for certification subject to compliance with assessment requirements. However, for the initial implementation of this programme, all instructors are required to undergo training prior to assessment. Assessment is based on the collection of evidence of the performance of work to the industry-required standard.

c) Validation / Accreditation

The procedures for registration as a training organization and accreditation of learning programmes under the NTVQF.

Objective

This procedure provides a set of instructions to ensure all stakeholders, industry partners, technical vocational institutions and instructors, have a shared understanding of the activities to be undertaken in the registration of a training organization and the accreditation of learning programmes under the NTVQF.

Scope

Providers of TVET training and/or assessment services must: (i) comply with the National Skills Quality Assurance System and seek registration and accreditation if they provide education, training and/or assessment services that lead to an achievement of units of competency or qualifications registered on the NTVQF; (ii) receive funding or wish to receive funding from the Government of Bangladesh in respect of any of the TVET education and training programmes provided by the organization; and (iii) use or wish to use a term protected by Bangladesh legislation in the name of the organization or in the names of any of the courses, programs or qualifications that it provides.

d) Assessment of Non-Formal or Informal Learning's

Many Bangladeshis leave school before completing grade eight of general education, and as a result are not able to enrol in formal skills programmes. In order to overcome this barrier, the government will work with its partners to introduce reforms to remove the grade eight prerequisite from formal courses and replace it with course-specific entry requirements and challenge tests in which workers are challenged to demonstrate what they say they know with respect to the courses they expect to be admitted into. Reforms will help to determine the qualification level workers are expected to acquire, and the courses they get entry into. In this way, the NTVQF will allow those with limited education to undertake formal courses leading to nationally recognized qualifications.

The NTVQF is related to the existing qualifications structure. This permits transfer between general education and TVET. Students who fail the academic component of the Senior Secondary School Certificate (Vocational) or Higher Secondary School Certificate (Vocational), may nevertheless be assessed as competent in the National Skills Certificate of the NTVQF. They will receive the appropriate NSC award and can continue their studies to gain National Skills Certificates at the higher NTVQF levels. Vocational education programmes in schools such as the SSC (Voc), HSC (Voc) and HSC (BM) will be revised to ensure that their vocational components are based on industry competency standards, and that students only receive NTVQF qualifications if they have been assessed as competent. Prevocational Levels 1 and 2 are available in all training institutions to encourage students with low education levels to enter skills training courses. The NSDC, with the support of the BMET, is improving the level of skills in the informal economy. In coordination with the ILO, a project on the recognition of prior learning has been undertaken. It is hoped that public sector training will change greatly. Job descriptions are now required to feature descriptions of opportunities for training and promotion. This requirement includes general TVET level qualifications in management, planning, leadership, budgeting and communication. Private providers affiliated with the BTEB will be required to offer RPL to all prospective students.

4.2 National capacity to support QA of TVET qualifications

The National Skills Development Policy in Bangladesh will guide skill development strategies and facilitate improved coordination of all elements of skills training and the parties involved. A national skills demand survey in targeted sectors will be completed in 2017.

4.3 Data systems (LMIS, Skills Forecasting etc.)

There are a numbers of existing datasets that are relevant to managing the TVET sector in Bangladesh. These include:

- BBS census – the national census provides information on population characteristics including educational attainment and occupation;

- BSS labour force survey – a household-based survey which is undertaken every three to four years and collects information about educational attainment, occupation, and average hours worked and earnings. Again, this is useful for population wide summary measures but is not sufficiently detailed to be of direct use in planning optimal TVET enrolments;

- BBS census of manufacturing industries (CMI) – this survey occurs every three or four years and collects occupational data which can be cross tabulated by industry. This is useful information but perhaps insufficiently detailed for broader skill demand forecasting purposes;

- BTEB holds data on an individual student unit record basis for BTEB affiliated courses;

- Data on TVET training delivered by various ministries – this is likely to be relatively detailed administrative data and the relevant ministries are likely to be the only source of non-affiliated data on training in the public sector;

- Data on institutions held by the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) – a central resource for data on all aspects of the education system that does not specialize on the TVET sector but appears to replicate some data held by the BTEB relating to some public TVET providers including course details, enrolments and graduations. These are published irregularly but have been assessed as reliable;

- Data on private providers are also not published regularly. Private providers do collect their own data but do not publish it.

5. Governance and financing of TVET

5.1 Funds allocation (public and private) to TVET

The Development Budget finances major TVET development projects as well as the initial recurrent funding for new institutions. For example, 26 TTCs are still operating under the Development Budget, although they are already operational. The resources of Development Budget institutions are coming either from the Bangladesh government or from international donors. Minor investments and recurrent expenditures of public TVET institutions are financed through the non-development or revenue budget. After the start-up phase, development projects are transferred from the development budget to the revenue budget.

Private funding of public TVET institutions

Although students who are enrolled in formal programmes of public TVET institutions pay a nominal fee of about 20 Bangladesh-Taka (approx. 0.2 USD) per semester , these funds flow to the public revenue. In addition, public providers can also run the 'self-supporting' short courses, conducted usually in the afternoon or evening. Students and sometimes employers finance these courses through fees. The funds are mainly spent on teacher salaries and for those items required to run the courses, i.e. teaching and raw materials.

5.2 Other financing channels (Donor support)

Private institutions can be divided into three segments. The first group receives its basic funding in the form of Monthly Payment Orders (MPO) from the government. This MPO covers all of the teachers' salaries. Other recurrent expenditures are financed mainly through student fees. Donations from public or private sources may also cover part of the expenditures. The second group of private schools does not receive any public support and is dependent on the fees collected from students or donations. It should be noted that MPO-funding is related to certain programmes so that private schools can run MPO as well as non-MPO programmes, sometimes in general education as well as in TVET. It appears that some cross-subsidization happens between MPO and non-MPO funded classes, possibly resulting in misuse of public funds. Finally, a third group of public and private TVET providers receive endowments from national or international donor agencies, and some of them collect student fees. Public institutions in this group receive their recurrent budgets from the government. For example, UCEP or MAWTS are private institutions while Bangladesh-German TTC or Bangladesh Korean TTC are public institutions.

6. Conclusion and Outlook

The TVET system is the main ways to achieve sustainable development in Bangladesh. Asian countries have placed importance on the development of their human resources through TVET. Technical and vocational education and training is the major socio- economic development programmes for countries like Bangladesh. The main objectives of the Programme are:

1 To increase the institute - industry linkage;

2 To reach a benchmark target in the global market;

3 Produce quality skilled labour;

4 Collect country level experiences;

5 Produce parallel current qualification framework and quality assurance;

6 Improve capacity building through policy learning and knowledge exchange, and develop a roadmap for regional standardization of qualification framework and quality assurance.

Bangladesh is making progress on TVET reform, for example through the development of the new TVET Act, the National Technical and Vocational Qualification Framework, the National Skills Development Policy, the establishment of industry skills councils, and new competency-based training courses. Though significant reforms are underway, it is too early to tell which reforms will yield the best dividends. However, early indications show positive response from industry and excitement from trainees.

There are still challenges, for example, financing TVET, the shortage of TVET instructors and strengthening links to industry that need on-going attention. Reviewing TVET pilots and the sharing of best practices with other countries on skills development can assist in finding the right mix of interventions.

Different projects that contribute to the TVET reform agenda have multiple inter-related outputs, including:

- Modified TVET legislation;

- National Skills Development Policy;

- National Technical and Vocational Qualifications Framework;

- Bangladesh TVET quality assurance system;

- Modernization of TVET data system;

- Rearrange and validate all parameters of TVET system;

- Recognition of prior learning;

- Model for competency standards development and new demand-driven courses;

- New training programmes for TVET teachers and principals;

- Enhanced work based learning including apprenticeships.

INDIA

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1. Introduction

The TVET system in India is undergoing large-scale reforms. The economy is growing at the rate of 8% annually and industry is facing a huge shortage of skilled workers. As per a 2011 Census, India has 563 million people aged 10 to 35, which is 27.5% of the population (Planning Commission, 2013). However, only 5% of them have any TVET qualifications. Over 90% of India's trades workforce is employed in the non-formal sector picking up skills and knowledge in the work place. Government and industry recognize that the current rapid economic development is being affected by the lack of educated employees, which is why TVET systems have to be upgraded to provide a skilled workforce (Nagenra, Radha and Naidu, 2012).

Education overall is a concurrent responsibility between the central and state governments. The provision of TVET is largely the responsibility of state governments, but they alone cannot achieve the changes required. The government has begun responding to this challenge by developing policies to expand and improve the TVET system during the current 11th Five Year Plan for the country's economic development. The central government is working closely with state governments, as well as industry and community groups, to increase access to, and quality of TVET, across the country (Short, 2008).

2. The scope and the national context of TVET

2.1. Demographics

India is the second most populous country in the world, with nearly one-fifth of the world's population, and is expected to become the first political entity in history to be home to more than 1.5 billion people. More than 62% of the population are in the working age group (15-59 years), and more than 54% of those below 25 years of age (Ministry of Skill Development and Entrepreneurship (MSDE), 2015). The government, in the National Policy for Skill Development and Entrepreneurship 2015, has emphasized the need to undertake skilling in India at scale with speed, standard (quality), and sustainability.

2.2 Economy

The economy of India is the sixth-largest economy in the world (measured by nominal GDP) and the third largest by purchasing power parity. The country is classified as a newly industrialized country, one of the G-20 major economies, a member of BRICS and a developing economy with an average growth rate of approximately 7% over the last two decades (International Monetary Fund, 2014). The long-term growth prospective of the Indian economy is positive due to its young population, corresponding low dependency ratio, healthy savings and investment rates, and increasing integration into the global economy. The Indian economy has the potential to become the world's 3rd-largest economy by the next decade, and one of the two largest economies by mid-century (Economic Times, 2015). India also topped the World Bank's growth outlook for 2015-16 for the first time with the economy having grown 7.6% in 2015-16, and is expected to grow more than 8.0% in 2016-17 (Schneider, 2015).

2.3 Labour market

India's economy has returned to high rates of growth, according to the latest figures. In 2015-2016, the GDP growth rate reached 7.6%, up from 5.6% in 2012-13. The challenge continues to ensure that economic growth translates into better labour market conditions. The vast majority of workers in India are in informal jobs. Although there has been a shift out of agriculture, construction has absorbed more workers than other sectors in recent years. Most of the new jobs being created in the formal sector are

actually informal because the workers do not have access to employment benefits or social security (ILO, 2016). Overall, the labour-force to population ratio (in the age group 15 years and above) is at 56%, which is low in India compared to nearly 64% for the rest of the world. Levels of education and vocational skills are extremely low. Less than 30% of the workforce has completed secondary education or higher, and less than one-tenth have had vocational training, either formal or informal (Institute of Human Development, 2014).

2.4 Education and training

Education in India is provided by the public and private sectors, with control and funding coming from three levels: central, state and local. Under various articles of the Indian Constitution, free and compulsory education is provided as a fundamental right to children between the ages of 6 and 14. The ratio of public schools to private schools in India is 7:5. The country has more than 1.4 million schools with over 227 million students enrolled and more than 36,000 higher education institutes. India has one of the largest higher education systems in the world (Department of Industrial Policy and Promotion, 2017). The present education system in India mainly comprises of primary education, secondary education, senior secondary education and higher education. The central and most state boards uniformly follow the "10+2+3" pattern of education. Elementary education consists of eight years of education. Each of secondary and senior secondary education consists of two years of education. Higher education in India starts after passing the higher secondary education or the 12th standard.

Depending on the stream, graduation in India can take three to five years. Postgraduate courses generally last two to three years. A scope for doing research in various educational institutes also remains open after completing post-graduation (Goel, n.d).

3. TVET system in the country

3.1 Overview of the TVET system (Work-based/secondary/tertiary education, governance structure, etc.)

Technical and vocational education and training comprises of formal, non-formal and informal learning. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of world of work. As a consequence, policy attention to TVET is increasing worldwide. In order to meet increase skill needs of the country, the Indian government is taking many initiatives to increase the share of TVET in education and training. The mission of TVET in India is to transform its increasing labour force to a skilled and competent workforce for propagating country's economic and social development. The structure of TVET in India is follows (Figure 1):

General Education

- Compulsory education in India is until 8th standard;

- After completion of compulsory education, students proceed to lower secondary education (9th to 10th class). Vocational education is introduced in government schools from Class IX – XII through Ministry of Human Resources and Development (MHRD) scheme – Vocationalisation of School Education'. Vocational courses are also offered in private schools, but not under this scheme;

- Students then progresses to higher secondary education and followed by tertiary education (graduation and post-graduation).

Technical Education

- After completing10th grade, students can join polytechnic diploma;

- After completing the diploma from polytechnic, students can gain lateral entry into 2nd year of engineering degree;

- Students can directly join engineering courses after completion of higher secondary education i.e. 12th grade.

Vocational Education

- Several vocational education courses are offered by vocational training providers. Sector skill councils (SSCs), which are autonomous industry-led bodies, create occupational standards and qualification bodies, conduct training, conduct skill gap studies and assess and certify trainees on the curriculum aligned to national occupational standards developed by them. The SSCs run qualifications for 2 months to 2 years. The eligibility of SSC courses ranges from 5th to 12th grade. After completing compulsory education, candidates can join SSC courses. However, candidates should be more than 14 years;

- Another branch of the Ministry of Skill Development and Entrepreneurship (MSDE) is the Directorate General of Training (DGT), which consists of the Directorate of Training and Directorate of Apprentice Training. This includes a network of Industrial Training Institutes (ITIs) in states; Advanced Training institutes (ATIs), Regional Vocational Training Institutes (RVTIs) and other central institutes. ITIs are affiliated to the National Council for Vocational Training (NCVT). ITIs run skill development qualifications of 1 to 2 years duration in engineering and non-engineering trades;

- Students can join ITI qualification after completion of 10th or 12th grade, depending upon the course;

- After completion of respective SSC and ITI training, candidates can join apprenticeship training offered by National Apprentice Promotion Scheme of DGT.
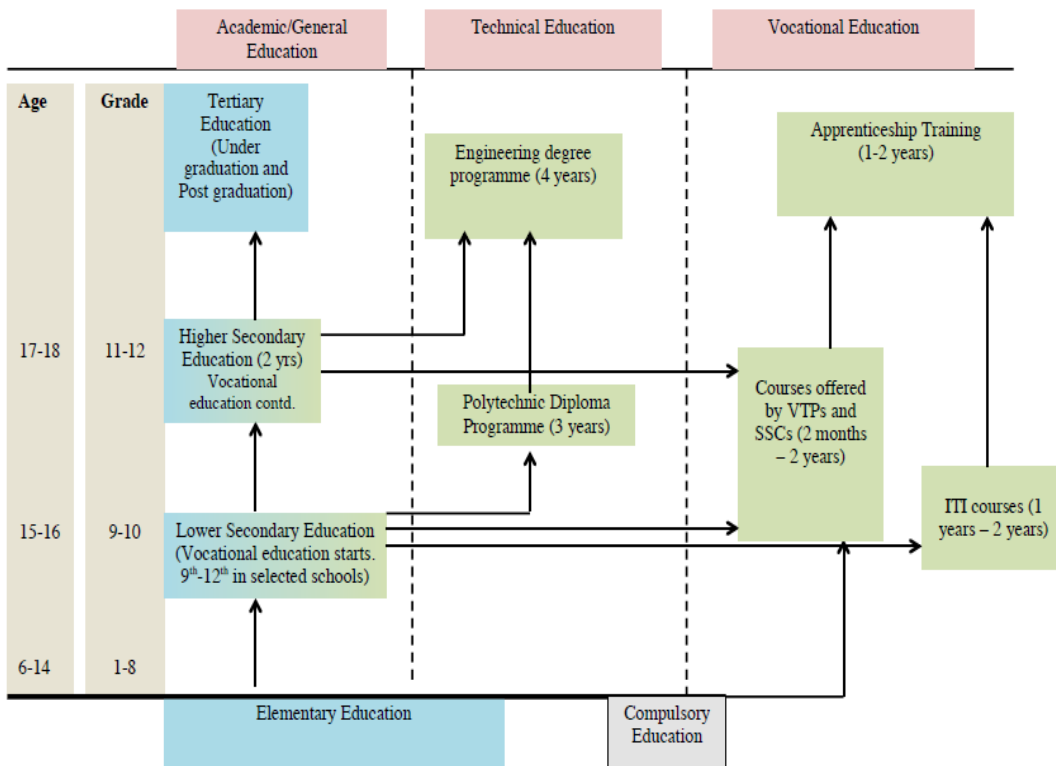
3.2 Opportunities and challenges of the TVET System

India's population is huge at 1.21 billion. It is fast expanding at a rate of 17% and integrating rapidly into the global economy. India is among the 'young' countries in the world, with the proportion of the work force in the age group of 15-59 years, increasing steadily. However, presently only 2% of the total workforce in India has undergone skills training. India has a great opportunity to meet the future demands of the world, it can become the worldwide sourcing hub for skilled workforce. However, challenges get magnified, as it needs to reach out to the million plus workforce ready population, while facing an ever-increasing migration of labour from agriculture to manufacturing and services. There is a need for the effective implementation of schemes at the grass root level with equal participation from the stakeholders concerned (FICCI Skill Development Forum, 2016).

The following are the existing challenges to the Indian TVET system:

- General education versus vocational education: vocational training is treated as distinct and separate from general education. However, to work in a professional environment and do many jobs effectively, one needs to have a certain minimum of both, i.e. theoretical knowledge of systems as well as practical experience (skills training);

- Connect with industries: vocational training institutes that aim to prepare students for jobs are facing challenges in establishing strong industry linkages for candidate placement and training;

- Redundant and inadequate curricula and faculty: the curriculum has remained static for years, not reflecting current requirements. Moreover, the quality and robustness of curricula varies and often leads to uneven delivery depending upon the teacher's interpretation and capability;

- Establishing quality: there is a need to establish a strong quality assurance mechanism to ensure that all aspects of the TVET system, like curricula, training, and, are quality assured and effective.

4. National Qualification Skill Qualification (NSQF) and role of National Skill Development Agency (NSDA)

4.1 NSQF

The National Skills Qualifications Framework (NSQF) is a competency-based framework that organizes all qualifications according to a series of levels of knowledge, skills and aptitude. These levels, graded from one to ten, are defined in terms of learning outcomes, which the learner must possess regardless of whether they are obtained through formal, non-formal or informal learning. The NSQF in India was established on 27 December 2013. All other frameworks, including the NVEQF (National Vocational Educational Qualification Framework) under the Ministry of HRD, stand superseded by the NSQF.

Under the NSQF, learners can acquire certificates at any level through normal, non-formal or informal learning. In that sense, the NSQF is a quality assurance framework. Presently, more than 100 countries have, or are in the process of, developing national qualification frameworks. The NSQF is anchored at the National Skill Development Agency (NSDA) and is being implemented through the National Skills Qualifications Committee (NSQC), which comprises of all key stakeholders. The NSQC's functions, amongst others, include approving NOSs/QPs, approving accreditation norms, prescribing guidelines to address the needs of disadvantages sections, and align the NSQF with international qualification frameworks (Ministry of Finance, 2013). The objective of National Skills Qualification Framework is to:

- Cater to the diversity of the Indian education and training systems;

- Allow the development of a set of qualifications for each level based on outcomes that are accepted across the nation;

- Provide structure for the development and maintenance of progression pathways, which provide access to qualifications and assist people to move easily between different education and training sectors, and between those sectors and the labour market;

- Give individuals an option to progress through education and training and gain recognition of their prior learning and experiences;

- Underpin national regulatory and quality assurance arrangements for education and training;

- Support and enhance the national and international mobility of persons with NSQF-compliant qualifications through increased recognition of the value and comparability of Indian qualifications;

- Facilitate the awarding and transfer of credits and progression routes within the Indian education and training systems.

4.2 Role of NSDA

The NSDA is an autonomous body under the Ministry of Skill Development and Entrepreneurship that anchors the National Skill Qualifications Framework and allied quality assurance mechanisms in order to synergize skill initiatives in the country (MSDE, 2017). The functions of the NSDA are as follows:

- Take all possible steps to meet skilling targets as envisaged in the 12th Five Year Plan and beyond;

- Coordinate and harmonize the approach to skills development among various central ministries and departments, state governments, the NSDC, and the private sector;

- Anchor and operationalize the NSQF to ensure that quality and standards meet sector specific requirements;

- Be the nodal agency for state skills development programmes;

- Raise extra-budgetary resources for skills development from various sources, such as international agencies, including multilateral agencies, and the private sector;

- Evaluate existing skills development schemes with a view to assessing their efficacy and suggest corrective action to make them more effective;

- Create and maintain a national database related to skills development, including the development of a dynamic Labour Market Information System (LMIS);

- Take affirmative action for advocacy;

- Ensure that the skilling needs of the disadvantaged and the marginalized groups like women, minorities, and people with disabilities are taken care of;

- Discharge any other function as may be assigned to it by the Government of India.

5. Overview of Quality Assurance Arrangements

5.1 Quality Assurance Framework

The NSDA is developing a comprehensive quality assurance framework, the NQAF. The Gazette Notification on the National Skill Qualification Framework (NSQF) mandates the NSDA to anchor and operationalize the NSQF. It also defines the responsibility of the NSDA to ensure that the NSQF acts as a quality assurance framework and facilitates capacity building. The NQAF will act as a regulatory

framework and define the norms, quality standards and processes to be followed by various stakeholders in the vocational education and training sector in the country. It comprises a set of manuals for different stakeholders including all the components for quality assurance in the skill development ecosystem.

The National Quality Assurance Framework (NQAF) places particular emphasis on the evaluation and improvement of outputs and outcomes of TVET and general education in terms of increasing employability, improving the match between demand and supply, and promoting better access to lifelong learning. Thus, quality in the context of the NQAF means: processes, procedures and outcomes for ensuring that qualifications, assessment and programme delivery produce graduates who meet industry's current and future skill needs. The Manuals will be referred by various stakeholders, implementers, regulators and policy makers to ensure that the NSQF is implemented in its full spirit and is able to build and maintain the confidence of all the stakeholders.

The Manuals in the NQAF series cover:

- **National Quality Assurance Framework Overview Manual:** the manual provides an overview of the entire NQAF and incorporates the NQAF vision, objectives, operating principles and indicators of quality. This manual is supported by a subset of seven other manuals. This overview manual provides a synopsis of each of the other seven manuals that, along with the overview manual, constitute the complete set of NQAF manuals. This sub-set of seven Manuals are as follows:

  → **Registration of NSQF Qualifications Manual:** the manual provides information on the quality assurance process for registering NSQF qualifications, evidence requirements (industry needs, avoidance of duplication), use of NSQF qualifications, alignment to NSQF levels, and pathway information etc.;

  → **Accreditation of Training and Education Institutions Manual**: the manual covers the application and self-evaluation process, site visits, NQAF compliance and Skill India Accreditation rating levels, quality improvement plans, data collection and dissemination responsibilities, governance requirements, skills of teachers and assessors, equipment requirements, etc.;

  → **Accreditation of Assessment Bodies Manual**: along with the requirements that are similar to those for training/education institutions, this manual includes processes to ensure consistency in assessment decisions and assessor skills;

  → **National Quality Assurance Framework Auditor's Manual:** The manual defines the audit processes and procedures and is meant to assist quality auditors with the process of auditing training/education institutions and assessment bodies for Skill India Accreditation. The manual covers the kinds of evidence that auditors should collect from training/education institutions and assessment bodies;

  → **Risk Assessment Framework Manual**: the manual covers using the risk assessment rubric and indicators to identify an organization's risk profile to determine frequency of audits and risk of noncompliance;

  → **Quality Assurance of Industry Bodies Manual**: the manual provides quality assurance information on NOS development and industry consultations, qualification evidence and data collection requirements, information on communication about the NSQF and alignment to NSQF levels;

  → **Quality Assurance for National and State Level Bodies Manual**: the manual specifically covers NSQF implementation and provides information on how the NQAF objectives can be monitored and quality improvements evaluated by appropriate national and state level bodies. It also lays down data collection requirements and interim arrangements for implementation of NQAF.

5.2 Data System: Labour Market Information System (LMIS)

The National Skill Development Agency, under the Ministry of Skill Development and Entrepreneurship, has launched a single window platform to aggregate supply and demand trends in the Indian skill development ecosystem, referred to as the National Labour Market Information System (LMIS). LMIS is an integrated set of institutional arrangements, procedures, mechanisms and data systems designed to produce labour market information as per global standards and best practices. The system brings together statistical (quantitative) and non-statistical (qualitative) information concerning labour market actors and their environment, and generate key analysis and reports which can be used for various

policy interventions by different government stakeholders, as well as by the industry at large. The data on the National LMIS is displayed in the form of 10 National Repositories namely: Trainers, Training Centers, Training Providers, Assessors, Assessment Agencies, Employers, Trained Candidates, Courses and Prospective Candidates. Each contributes to build a holistic picture of the skill development ecosystem in the country. As of now, 65 lakh trained candidate data from four different central ministries are reflected on the LMIS, which includes seven major central skill development schemes. The NSDA has developed a roadmap for integrating all remaining data sources including states, central ministries and other agencies working in the sill development space.

The LMIS will make citizen services accessible over the internet, mobile phones, kiosks, call centres as well as through personal computers, setting forward a vision for electronic service delivery that does not do away with the need for personal contact, but rather supports better management with the infusion of technology. The system provides a consolidated and unified view of various stakeholders at any given point of time and empowers the government and agencies to take informed decisions by providing intelligent and insightful reports, as required.

6. Conclusion

Technical and vocational education and training has gained importance in India over the last decade. In response to skill shortages in the labour market, unemployment, and low educational outcomes amongst youth, and demographic shifts, policy makers have focused on expanding TVET provision in the country. Vocational programmes in India have traditionally been perceived as low status and the TVET sector has been underutilized.

India's development of the NSQF in the context of its skills development policy has underlined the importance of continually improving both the quality of education and training and its relevance to the labour market and population. The NSQF is at the centre of the biggest nation-wide skills transformation, with simultaneous emphasis being placed on increasing the volume of opportunities, improving access, and enhancing the quality of provision through activities and partnership across the sub-sectors. Progress has been made towards clarifying the functions and design of the NSQF. The NSDA anchors the National Skill Qualifications Framework and allied quality assurance mechanisms in order to synergize skills initiatives in the country. By doing so, it plays a pivotal role in harmonizing the skills development efforts of the Indian government and the private sector to achieve the skilling targets of the 12th Plan document and beyond. India intends to build on the wealth of expertise in vocational education and training already present in the country rather than starting anew. The NSQF provides a forum for this partnership through the Sector Skills Councils. Within the NSQF, India will pay greater attention to creating a balance between public and private sector provision. It hopes to achieve this by developing national standards in training delivery common to public and private stakeholders. The shift from learning input to learning outcomes in training delivery will be an important move towards quality assurance.

Across India, many learners are studying for qualifications by taking part in education and training/skills programmes. Through these programmes, they develop the knowledge, skills and competence they need for jobs and future careers. Quality lies at the heart of effective education and training/skills programmes. The NQAF, developed by NSDA, aims to improve the quality of all education and training/skills programmes in India. It provides the benchmarks or quality criteria, which the different organizations involved in education and training must meet in order to be accredited to provide education and training/skills activities. This is applicable to all organizations offering NSQF-compliant qualifications. The NQAF Manuals provide guidance for different organizations, describing what each needs to do to meet the quality criteria. Learners, employers and the public need to be assured that the training and qualifications provided through education and training/skills programmes are of a high quality, regardless of where they are delivered and assessed.

IRAN

By

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Iran

1. Introduction

The history of TVET activities and teacher training in Iran goes back to 1850 when the "Academy of Science" (Darol-fonoun) was established. It was upgraded to Professional Teacher Training Centres for boys and girls in 1962. Iran has a comprehensive system of education for theoretical and technical/vocational education that teaches students basic and advanced levels of knowledge/technical knowhow to enter into the nation's workforce.

2. The scope and the national context for TVET (mission, strategy and legislation)

In the Fifth Development Plan of the Islamic Republic of Iran, a great emphasis was put on education, technical and vocational training, transfer of knowledge-based technology to be used for educational and TVET purposes. In this regard, and due to the vast oil, mineral, and natural resources in Iran, the TVET mission, strategy, and legislation are defined as follows:

TVET mission

The mission of TVET in the Islamic Republic of Iran is to develop a competent and skilled labour force for the various sectors of the economy and infrastructural industries.

TVET strategy

TVET strategies are supported by a few documents including:

1 The **Fifth Five-Year National Development Plan 2011-2016**

2 The **Education for All Mid-Decade Assessment Report (2008)** was developed in the context of the Education for All (EFA) objectives and emphasizes the importance of TVET in reaching the EFA targets. Specifically, the report sets a number of TVET related objectives, including:

- Develop and implement TVET programmes linked to the needs of industry and the labour market;

- Enhance teacher's capabilities and professional skills;

- Reassess teaching methods and curricula;

- Encourage the use of information technology in educational programmes;

- Improve the cooperation between the Ministry of Education and other organizations and institutions responsible for TVET;

- Enhance the quality of TVET programmes and institutions by revising standards, instructor requirements, and by adding flexibility in the curricula and educational programmes based on the requirements of the labour market.

3. TVET systems in Iran (formal, non-formal and informal)

Upon completing six years of primary education, students proceed to six years of secondary education that completes 12 years of schooling. The secondary education level is divided into two cycles; a lower secondary course and an upper secondary course, each lasting three years. The nine years encompassing primary and lower secondary education are basic education.

Formal TVET system

The technical and vocational stream consists of three main fields; industry, agricultural and services. Technical and vocational programmes are offered by technical schools and the aim of the curricula is to prepare students for further studies in programmes of applied sciences. Subject fields include manufacturing and production, metal industries, electronics, graphics, food industries, and farming and horticulture. The programme normally requires on-the-job training and work experience in a workshop.

The flexible vocational programme (Kar-o-Danesh) focuses on competence-based and modular education. Programmes are normally on an individual basis and each vocational school (Kar-Danesh) develops its own curriculum covering different skills in the fields of industry, agriculture, and services. The aim of flexible vocational programmes is to train semi-skilled and skilled workers, forepersons and supervisors.

Non-formal and informal TVET systems

Non-formal TVET programmes are provided by the Technical and Vocational Training Organization (TVTO), under the supervision of the Ministry of Cooperatives, Labour and Social Affairs. Courses normally last up to 18 months and take place in public sector centres, prisons, garrisons, industries, Instructor Training Centres (ITC) and in private institutions. Short-term training courses normally include 300 to 900 hours of training and graduates receive a skills certificate. TVET programmes are also offered in remote areas by mobile training teams. TVTO programmes aim to train a skilled and semi-skilled labour force for the industrial, agricultural and service sectors.

In addition, other short-term and modular training courses conducted by ministries and governmental organizations are developed by open private schools and focus on art, music, crafts, culture, foreign languages, computer, accounting, tailoring, and embroidery.

4. Shahid Rajaee Teacher Training University (SRTTU)

The Shahid Rajaee Teacher Training University (SRTTU) is the sole university in Iran to train teachers for vocational and technical schools, as well as high schools. The SRTTU has vast and well-equipped laboratories and workshops that provide a productive training environment.

Mission and Vision:

To train and educate teachers to be recruited in vocational and technical schools and high schools affiliated to the Ministry of Education. The SRTTU also wants to be the leading teacher training university in the region to train and educate teachers to be recruited in their countries.

National and international activities:

Over the past three and a half decades, the SRTTU is involved in training and educating teachers across Iran. The SRTTU also has experience in training students from Afghanistan.

5. Governance and financing

Governance

The **Ministry of Education (MoE)** is responsible for formal TVET programmes. The Supreme Council of Education is the highest legislative body and approves all policies and regulations concerning non-university education. Other government ministries involved in TVET include:

- *The Ministry of Cooperatives, Labour and Social Affairs (MCLS)* is responsible for non-formal training;

- *The Ministry of Science, Research, and Technology (MSRT)*, in collaboration with relevant ministries, organizes courses and diplomas in various sectors, including agriculture, industry, and petroleum. The ministry is also responsible for science, art, and technology programmes at the tertiary education level;

- *The Ministry of Health and Medical Education* supervises medical schools and universities, and is responsible for training medical assistants.

Other actors involved in TVET governance include:

- *The Technical and Vocational Training Organisation (TVTO)* – under the MCLS – was established in 1980 and is the main institution responsible for short-term TVET programmes. The TVTO conducts training programmes according to the needs of the labour market, and implements its training programmes in both public and private sectors;

- *The University of Science and Technology (UAST)* – under the supervision of the MSRT – is responsible for coordinating the activities of tertiary level institutions across the Islamic Republic of Iran. Specifically the UAST develops policies, curricula, training standards, and quality assurance mechanisms in the field of TVET.

Financing

Education in the Islamic Republic of Iran is free until the end of upper secondary education. Formal and non-formal TVET programmes are mainly financed by the government through the Ministry of Education (MoE) and the Ministry of Cooperatives, Labour and Social Affairs (MCLS).

6. TVET teachers and trainers

TVET teachers and trainers are trained in Teacher Training Centres. In order to be considered for admission in Teacher Training Centres, potential TVET teachers and trainers are required to have undergraduate diploma.

The training of TVET instructors in non-formal technical and vocational centres, enterprises, industries and the private sector is conducted by Instructor Training Centres (ITC) run by the TVTO.

7. Qualifications and Qualifications Frameworks

Quality assurance

The Ministry of Education (MoE) is responsible for formal TVET programmes at the upper secondary schools, including technical and vocational programmes. The curricula of the flexible vocational programmes (*Kar-o-Danesh*) are determined by the individual vocational schools. The Ministry of Cooperatives, Labour and Social Affairs (MCLS) is responsible for non-formal TVET programmes.

The Technical and Vocational Training Organisation (TVTO) also provides numerous services regarding quality assurance. For example, the TVTO offers advice on curriculum development, and specifically:

- Develops skills standards (profession and training) for all existing trades in the country;

- Reviews skills standards based on technological developments and workplace requirements;

- Develops assessment standards for all trades;

- Monitors the implementation of standards based on professional qualifications;

- Evaluates the standards according to the needs of the various stakeholders.

The number of students graduating from technical schools is constantly monitored by the Ministry of Education. This forms the basis for the number of technical teachers that should be trained at the SRTTU. Each year, the Ministry of Education evaluates and announces the number of technical teachers to be enrolled at SRTTU. Once graduated, they will be recruited at technical schools around Iran. Nearly the same procedure is performed in the MCLS for technical/vocational training of technicians to be recruited in the industry sector. The number of technicians under each discipline is evaluated and decided by MCLS to be reported to TVTO. Technicians are then trained by the TVTO to be recruited in different industry sectors around the country.

Challenges

According to the **Education for All Mid-Decade Assessment Report (2008)**, TVET in the Islamic Republic of Iran faces a number of challenges, including to:

- Increase the number of trainees in TVET programmes and in courses offered by the Technical and Vocational Training Organisation (TVTO);

- Enhance access to TVET programmes, especially for villagers and women;

- Improve the TVET curriculum in women-only educational centres, as currently the curriculum focuses on women's traditional businesses and crafts, generating few job opportunities.

PAKISTAN

By

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Pakistan

1. Introduction

Pakistan is blessed with tremendous human resource potential as around 60% of the population are below 30 years old. The youth need to have employable skills under a credible, reliable and internationally recognized TVET system to be able to convert them into a valuable dividend for Pakistan's economy. The economy of the country is based on the agriculture sector, and about 70% of the total population livelihood depends directly or indirectly on this sector.

The National Vocational and Technical Training Commission (NAVTTC) is an apex body at the national level to regulate, facilitate and provide policy direction in vocational and technical training. The Commission establishes and promotes linkages among various stakeholders existing at the national and international level. Since its inception, the NAVTTC has given a high priority to unaddressed areas and challenges faced by the TVET sector in Pakistan.

The NAVTTC is entrusted with promoting the TVET sector in Pakistan with:

Vision

"Skills for Employability, Skills for All"

Mission

"To provide policy direction, support and an enabling environment to the public and private sectors to implement training for skills development to enhance social and economic profile"

The NAVTTC is involved in policy-making, strategy formulation, and the regulation and revamping of the TVET system.

The present era marks a resurgence of TVET in Pakistan. Several reform-based initiatives are being undertaken to develop the TVET system in collaboration with the private sector and with technical assistance of valued development partners from the international community.

2. The scope and the national context for TVET

The NAVTTC has started the Youth Skills Development Programme which offers vocational and technical courses that meets the needs of the labour market in the following sectors:

- Construction;
- Energy and renewable energy;
- Textile including garments;
- Agriculture, horticulture, livestock, dairy, poultry and fisheries;
- Manufacturing (small, medium and large industry);
- Hospitality, tourism and hotel management;
- Transportation and logistics;
- Business and information technology skills;
- Health and paramedics;
- Fashion designing / stitching /beautician;
- Creative arts;
- Electronic and print media;
- Regional / traditional trades.

Pakistan is an emerging economy in South Asia. With the introduction of the China-Pakistan Economic Corridor (CPEC), a new era of prosperity is prevailing. The present GDP growth rate is at 4.2% (2017), and is estimated to be 5.5% for forthcoming financial year (2018). The improvement of the TVET sector will definitely increase the GDP rate as well as economic development of the country.

3. Labour Market

Pakistan is 10th largest country in the world according to the size of the labour force. The employment statistics quoted in Pakistan Economic Survey 2014-15 reveals:

Year	2012-13	2013-14	2014-15
Labour Force (million)	59.74	60.10	61.04
Employed (million)	56.01	56.52	57.42
Unemployed (million)	3.73	3.58	3.62

Labour force participation rate (indicators):

Gender	Crude activity participation (%) rate	Refined activity participation (%) rate
Male	48.1	67.8
Female	15.8	22.0
Total	32.3	45.2

The demand of skills and nature of work are changing at the global level and employment opportunities are shifting across sectors and occupations. According to the main findings of the Pakistan Bureau of Statistics (*Pakistan Labour Force Survey 2014-15*), the distribution of employed persons by major industries are:

No	Sector	2012-13(%)	2014-15(%)
1	Agriculture	43.7	42.3
2	Manufacturing	14.1	15.3
3	Construction	7.4	7.3
4	Wholesale and Retail trade	14.4	14.6
5	Transport/storage and communication	5.5	5.4
6	Community/Social and Personal services	13.3	13.2
7	Others	1.6	1.9

The manufacturing sector is considered one of the major sources of economic growth and development. The expansion of this sector can generate millions of jobs for unskilled, semi-skilled and skilled workforce.

Pakistan and China have initiated the construction of Pakistan-China Economic Corridor (CPEC) between the two countries. The CPEC, as a driver of economic activity in the area, is also expected to generate substantial demand for skilled labour in the coming years.

The share of construction in the industrial sector is 12% and is one of the potential components of industries. The construction sector in Pakistan has registered a significant growth in last a few years and this trend is expected to continue in the coming years, which will create demand for skilled workers in the sector.

4. Education and training

Several studies highlight the importance of technical and vocational training in Pakistan. As per NAVTTC's *2006 Survey of the annual requirement of human labour*, the Medium-term Development Framework (2005-10) fixed the target capacity of technical and vocational training institutions at 0.95 million trainees per annum by the year 2010, by utilizing the existing and new network of training institutes/facilities to meet the upcoming skilled workforce demand. Enrolment in public and private sector technical and vocational training institutions reached 320,167 trainees per annum (NAVTTC, NSIS census 2014-15) and is now tentatively around 400,000.

According to the Pakistan Economic Survey 2015-16, an increase of 12.9% in secondary enrolment meant that it increased to 3.5 million in 2015, as compared to 3.1 million in 2014. Enrolment is estimated to increase by 5.7% and reach 3.7 million in 2016.

TVET System in the Country

Strengths and weaknesses of the TVET system

Although several TVET reforms have taken place, still there are certain problems faced by the TVET sector. This includes low productivity, low skills, low enrolment, teacher shortage, lack of quality vocational training programmes, and a lack of modern training equipment. These issues constrain the development of technically competent workforce in the country. It is generally felt that the existing TVET system has not been able to cater to the challenges posed by the new work environment, and is unable to meet the modern TVET requirements of industry. This has resulted in skills shortages.

Challenges

- Residual institutes lack opportunities of employability;
- Minimum or no linkage with employers;
- Lack of financial resources to upgrade machinery and laboratory equipment;
- Redundant trades and methodology implemented;
- Human resources lack export-based skills;
- Lack of market/demand-driven skills;
- Private sector institutes are profit motivated and have no linkages with the industry.

Creation of ownership of employer

- Demands of employer/industry need to be identified and highlighted;

- Discussions with chambers/trade bodies/associations;

- Data in respect of number of required employees, the required kind and type may be collected from the prospective employers.

Need based curriculum

- Training should be **need based**;

- Needs will be defined by the employers which may directly affect already set models of theoretical education in training;

- Marginal changes need to be made in the curriculum to meet contemporary demands;

- Add new dimensions to theoretical part of training, taking into account employer needs;

- New demand-driven trades may be introduced by the NAVTTC in consultation with chambers/ associations and industrial units, with curricula be developed accordingly.

The NAVTTC intends to implement its internationally set training standards (Skill Standards and Curricula, Teaching Learning Materials (TLMs), Teaching Learning References (TLRs), Competency Standards, tutorials etc.) to bridge the technological gap to the industry.

5. Opportunities and new developments in TVET

The NAVTTC, in light of the directives of the Prime Minister of the Islamic Republic of Pakistan, successfully launched/completed the following phases of the Prime Minister's Youth Skill Development Programme across the country:

No	Name of Program	Year	Target Trainees
1.	PMYSDP Phase-I)	2013-14	25,000
2.	PMYSDP Phase-II)	2014-15	25,000
3.	PMYSDP Phase-III) Batch-01	2015-16	25,000
4.	PMYSDP Phase-III) Batch-02	2016-17	25,000 (Under Training)

The NAVTTC now plans to continue the practice of imparting hands-on skills to deprived youth and intends to launch its Phase-IV for 100,000 youth in two batches.

The successful completion of the PMYSDP (Phases I and II), and the first batch PMYSDP (Phase III) enhanced the economic status of approximately 75,000 families in the country, and contributed towards improving their socio-economic conditions. In continuation of the Prime Minister's Youth Skill Development Programme (Phase-I) 2013-14, (Phase-II) 2014-15, (Phase-III) 2015-17, Phase IV (2016-2017 and 2017-2018) targets 100,000 youth and is another initiative of the present government to expand the pool of skilled workers in the country, by providing the operating machinery for small, medium and large enterprises in the country and abroad.

Phase IV of this programme envisages to produce 100,000 trained human resources in two batches (50,000 each), particularly in the construction, energy and renewable energy, production and manufacturing industry, agriculture and horticulture, health and nutrition, services, business and IT, creative skills, energy and mining, fashion and beauty, garments, gems and jewellery, leather, health and emergency sciences, hospitality and tourism, and paramedics and telemedicine sectors. Programmes will keep in mind the emerging needs of industry to ensure continuous economic growth.

The trained individuals will have an opportunity to be employed in numerous local construction projects, including the Pakistan-China Economic Corridor, power and energy projects, mining and mineral, agriculture, construction and manufacturing industry, paramedics and emergency health sciences, services and women related trades. Further, the skilled human resources working abroad will contribute to the development of the economy by sending remittances, which is the second largest source of foreign exchange after exports.

According to the *Pakistan Vision 2025 (Planning Commission, Govt. of Pakistan)*, under the Prime Minister's Youth Skill Development Programme, the government is providing young people with skills training and access to finance to set up their own businesses.

Concerned stakeholders, provincial TVET governing authorities, and private industry through local and federal Chambers of Commerce, Commercial Welfare Attachés of the Pakistan and Planning Commission, in purview of current developmental projects like the CPEC and power and energy projects, suggested selected trades. The proposed programme is vital, to its own degree of contribution, for the achievement of above objectives and to bring a paradigm shift in Pakistan's economic and social orientation.

The global GDP is forecasted to accelerate compared to the last year, with a pickup in high-income economies along with some improvements in developing countries. The comparison of Pakistan with its neighbouring countries in terms of GDP growth trajectory is:

Country	2014 (Past)%	2015(Present)%	2016 (Projected)%
India	7.2	7.5	7.5
Bangladesh	6.1	6.3	6.8
China	7.4	6.8	6.3
Pakistan	**4.0**	**4.2**	**5.5**

The increase in GDP growth correlates to the increase in demand for skilled workforce.

6. NAVTTC Initiatives

One of the greatest initiatives taken by the NAVTTC to strengthen linkages with local industry includes organizing a series of *Skills Competitions* on provincial and national levels across Pakistan. Competitions in the following 10 market/demand-driven trades were organized by NAVTTC: welding; plumbing; electrician; auto cad; computer applications; civil/quantity surveyor; computer graphics; cooking; beautician; and dress making.

This unity in diversity was a source of great inspiration for the youth of Pakistan. Industrialists, prominent personalities, representatives of Chambers, principals and teachers of training institutes, students of colleges and universities, civil society and media personnel were visiting the stalls and gathering information regarding various courses offered by NAVTTC. It was a great endeavour to bridge the gap between trained youth and industry. It is important that industry help remove the stigma attached with blue-collar jobs, as the skilled labour could become a big source of earnings both for their families and for the country in form of remittances.

7. Pakistan National Qualification Framework

Pakistan is facing a variety of challenges in the skills development sector. The existing workforce is largely characterized by low productivity relative to international standards and requirements. More than 70% of workforce is trained in the informal sector and the current TVET system needs to be reformed to produce a skilled labour force for national and international market needs.

The National Skill Strategy 2009-2016 identified specific reforms in the TVET system including reforms related to the development and implementation of a national vocational qualifications framework for Pakistan. The first reform element is to provide relevant skills for industrial and economic development through competency-based and demand-driven training, besides reforming the apprenticeship system. The second reform element is to improve access, equity and employability of the workforce by making training delivery flexible, integrating informal economy workers in the TVET system, and enhancing the mobility of skilled workers with improved status. The third reform element is to assure quality by establishing a National Qualifications Framework, registering and accrediting institutes and reforming institute management with training of trainers for competency-based training.

One of the important TVET reforms in Pakistan has been the development and implementation of National Vocational Qualification Framework (NVQF), which aims to bring a paradigm shift by making TVET delivery efficient and marketable around the world. It has been developed in terms of the National Skills Strategy to promote competency-based and demand-driven training.

The Pakistan NVQF provides a coherent structure of policies and guidelines that ensure the quality of delivery and achievements in TVET by providing a national system of defining and classifying qualifications. The NVQF also provides policies and guidelines to ensure the quality of skills development in TVET. It sets out possible pathways for entry, progress and achievement of a qualification including credit accumulation, equivalences and transfer from one qualification to another. It is designed to facilitate both horizontal and vertical progress by learners within the TVET system. It provides the basis for improving quality, accessibility and recognition of qualifications at national and international levels.

8. Overview of quality assurance arrangements

Quality Assurance Frameworks

a. Overview

The Pakistan National Vocational Quality Framework (NVQF) is the first step forward in promoting the TVET sector. The purpose of the Pakistan NVQF is to:

- Enhance the quality of vocational and technical education and training by determining clear qualification levels and by creating transparency for employers concerning the qualifications of applicants;

- Improve the alignment between qualifications, training programmes and skills demand;

- Establish a structured national framework for vocational and technical learning achievements based on defined levels and characteristics;

- Standardize the system of defining characteristics and value of qualifications, and the relationships between qualifications;

- Promote up-skilling of the population to facilitate horizontal and vertical movement within the skills development system through expanding pathways for progression and facilitating credit accumulation and transfer;

- Facilitate the recognition of prior learning to provide mechanisms that allow individuals to gain recognition of the skills that they have;

- Contribute to international recognition of Pakistani qualifications by improving the credibility, portability and recognition of NVQF qualifications nationally and internationally;

- Establish validity and reliability through a comprehensive and coherent quality assurance system that assures the quality of qualifications, training and assessment programmes and certification;

- Support new ways of standardizing technical and vocational training.

b. Validation / Accreditation

In line with the NVQF, the NAVTTC is engaged in the accreditation of stakeholders. In terms of TVET institutes, accreditation has often been defined as quality assurance where credit is given to institutes that are performing in terms of real service delivery. TVET is not just theory, it requires more hands-on practice and application of mind (practice).

TVET institutes shall have clear strategies as how to train workforce as per internationally acceptable standards. TVET institutes must honestly pursue its objectives by efficiently utilizing available means and strive for excellence. Quality TVET institutes can build confidence in an employer (domestic/international). TVET institutes must know the criteria for accreditation. Accreditation is the only solution to produce excellent workforce.

9. Data systems

The NAVTTC maintains the National Skills Information System (NSIS), which is being updated on a day-to-day basis. It contains information on number of TVET institutes, programmes / trades / technologies, graduates, enrolled trainees, registered industry (employer) and the number of workers in the industries. The data has been collected from provincial Technical Education and Vocational Training Authorities, Boards of Technical Education, Trade Testing Boards, provincial Industries Departments, Bureau of Statistics, FPCCI, Employers Federation of Pakistan and various surveys, including the Labour Force Survey and Census of Manufacturing Industries. The detail of sector wise industries as well as ratio of occupational groups is tabulated as:

Type of Industry	No. of Industry
Agriculture	16
Chemical, Petroleum, Rubber and Plastic Goods	2,451
Food, Beverages and Tobacco	4,455
Metal and Metal Products	4,946
Mineral Products	1,221
Other Manufacturing Industries	68
Other	53
Paper and Paper Products	624
Textile, Wearing Apparel and Leather Products	4,572
Wood and Wood Products	191

Occupation	Percentage
Legislators, Senior Officials and Managers	11.5
Professionals	1.7
Technicians and Associate Professionals	5.5
Clerks	1.4
Service, Shop, Market and Sales Workers	6.5
Skilled Agriculture and Fishery Workers	37.6
Crafts and related trades workers	14.7
Plant / Machine Operators/Assemblers	4.8
Elementary (Unskilled)	16.3

10. Resource mobilization / Financing of quality assurance of TVET qualifications

Public and private funds allocation to TVET

The Government of Pakistan is committed to rapidly growing the TVET sector and utilizing optimum resources to cater to the needs of the labour market, national as well as international.

11. Conclusion and outlook

The promotion of the TVET sector in any country, especially in economies like Pakistan, is pivotal for economic development. The challenges faced by the TVET sector may be tackled by adopting policies being implemented in developed economies, including uniform curricula, skills standards, upgrading TVET institutions, mobilizing resources toward improving the TVET sector, and improving the labour workforce quality. TVET reforms implemented by Government of Pakistan not only enhance the quality of labour force but also increase the opportunities of employment in local as well as international markets. Pakistan's major economic partners are getting a better outlook, which will have a positive impact on the Pakistan economy, opening wide opportunities to utilize its human resources. With the increase in GDP growth, the demand for properly skilled workforce will also rise.

SRI LANKA

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1. Introduction

Sri Lanka has a population of about 21 million people (2015), possesses a labour force of around 9 million, and the labour force participation rate is about 53.8%. The unemployment rate was as low as 4.6% in 2015 and GDP per capita has increased to 3924 USD. Major contributors by employment and economic activity are the agriculture, industry and services sectors; it was observed that the service sector contribution is about 45.8% of the total economy in 2015. The demand for labour increased by 1.5% in 2016 compared to 2015, due to the expansion of the industry and services sectors. While the agriculture sector showed a 27.1% decline compared to the previous year, the employment in the industry and services sectors increased up to 46.5% (percentage as part of the total employment). Compared to 2015, unemployment has decreased in 2016 from 4.7% to 4.4%. The labour force growth was at 1.2%.

About
25.8%
of youth
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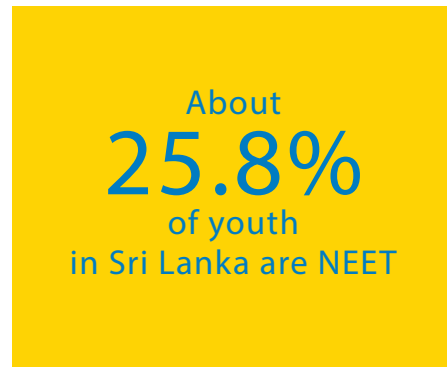
Youth not in employment, education or training (NEET) is a new indicator for Sri Lanka, introduced by the Department of Census and Statistics in its Labour Force Survey Annual Report 2015. About 25.8% of youth in Sri Lanka are NEET, which indicates youth inactivity and vulnerability. Young people who are NEET are at a risk of becoming socially excluded, with an income below the poverty line and without an opportunity to improve their skills that would help them to overcome their economic condition.

2. TVET System in the country

Established in 2005, the Sri Lankan National Vocational Qualifications Framework (NVQF) is 'a unified national system implemented through statute, covering all agencies providing vocational and tertiary level education and training except for religious education, occult sciences, sports and recreation, dancing, music, performing arts or any other form of aesthetics and education or training in leadership' (ILO, 2010a, p. 25).

In 2012, Sri Lanka established the Sri Lankan Qualifications Framework (SLQF), which is a nationally consistent framework for all higher education qualifications offered in Sri Lanka. The SLQF integrates the NVQF developed by the Tertiary and Vocational Education Commission. The socio-economic challenges facing Sri Lanka include high youth unemployment and a lack of career development opportunities for young people. Most learning takes place in non-formal and informal settings, yet there are no mechanisms in place for the recognition of such learning. The formal education and training system, meanwhile, is limited in both capacity and relevance, so much so that some certificates are not even accepted within the education system itself. Courses are out of touch with both the demands of industry and the learning needs and socio-economic circumstances of young people.

In the past, TVET was often seen as dead end. Few secondary school leavers opted for TVET courses, which created excessive pressure on university admissions. Raising the profile of TVET is therefore a priority for the Sri Lankan government. In line with *the 2009 National Policy on Higher Education and TVET*, the government plans to take measures to make TVET a more attractive and clear alternative to university education and thus to combat the widespread perception that TVET is an inferior option. Efforts will be made to encourage private sector training providers to take a more active role in both training and employing TVET graduates.

3. Main policy objectives

The government sees the NVQF as a tool to:

- Coordinate the multiplicity of TVET training providers currently operating under different ministries;

- Provide quality-assured qualifications with clearly described competency levels and learning demands, enabling trainees to make informed decisions about which qualifications to choose and employers to understand the level of attainment of their prospective employees;

- Ensure high standards in both acquisition and assessment of competencies;

- Align TVET to national development goals, with an eye towards fulfilling the skills needs of emerging economic sectors;

- Foster stronger linkages with industry and commerce through greater stakeholder participation in the development of skills standards, assessment processes and curricula;

- Make training more responsive to industry needs by bringing industry's use of skills standards and competency-based training into the educational sphere;

- Streamline application and assessment processes in order to increase access to competency-based training for potential trainers;

- Develop a competency-based curriculum;

- Foster better links between workplaces and TVET centres;

- Provide recognized certificates for Sri Lankans wishing to work or study abroad, thus improving international links for the Sri Lankan TVET sector;

- Increase collaboration between well-resourced and less well-equipped training centres through student and trainer transfers and resource sharing;

- Enhance quality, relevance, effectiveness, efficiency and transparency. With the establishment of the SLQF in 2012, the thrust of SLQF shifted from the TVET system towards enhancing quality, access and equity in higher education, and training and employment opportunities at all levels;

- Help employers to understand the levels of knowledge, skills and competences of qualification holders;

- Develop positive attitudes and all-round personal development of qualification holders;

- Facilitate lateral and vertical mobility, and progression within higher education and career pathways;

- Make qualifications offered by different institutions comparable to each other;

- Promote the development of higher education and vocational training programmes appropriate to the different qualification levels;

- Recognize prior learning and promote lifelong learning;

- Encourage stakeholder involvement.

4. Scope of the NQF / NVQF

The development of the SLQF was initiated in 2009 with assistance from the World Bank funded Improvement of Relevance and Quality of Undergraduate Education (IRQUE) project and continued with the funding from the Higher Education for the Twenty-first Century (HETC) project. Preparatory work for the development of SLQF was undertaken by a National Committee comprising a:

- Representative of the Ministry of Higher Education, nominated by the Minister of Higher Education;

- Representative of the University Grants Commission, nominated by its chair;

- Director-General of the Sri Lanka Institute of Advanced Technological Education or his nominee;

- Director-General of the Tertiary and Vocational Education Commission of Sri Lanka;

- Representative of the Quality Assurance and Accreditation Council;

- Representative of the Committee of Vice- Chancellors and Directors.

The NVQF initiative in Sri Lanka was implemented in 2005 through two skills development projects supported by the Asian Development Bank (ILO, 2010b). The main goal of the first project, the Skills Development Project, which ran from 2001 to 2007, was to develop the NVQF infrastructure and capacity. Its other aims included the development of an accreditation system, assessor training and certification, the expansion of the National Trade Testing Programme and the establishment of a quality management system (ILO, 2010a). The second project, the Technical Education Development Project (2006–2010), aimed to set up review systems for the skill standards developed in the earlier project (ibid.). While no new bodies were established for the purpose of implementing the NVQF, the mandates of existing bodies have been modified slightly. The bodies concerned are:

- *The Tertiary and Vocational Education Commission (TVEC)*, a statutory organization responsible for managing the NVQF, determining occupations for skills standards development, developing national skills standards, awarding certificates to trainees and registering assessors' certifications;

- *The Registration Division of the TVEC*, which oversees the registration of public and private training providers, the accreditation of courses, quality assurance systems (QASs), and monitoring and auditing. QAS holds regular audits to review NVQF quality assurance mechanisms, registration and accreditation. It is certified under the International Organization for Standardization (ISO) 9001:2008 certification;

- *The National NVQ Steering and Coordination Committee of the TVEC,* which is responsible for the implementation of the NVQF. All issues connected with the administration of the NVQF are discussed and decided on by the steering committee.

Other organizations involved in the development of standards, training of assessors and testing of applicants are the National Apprentice and Industrial Training Authority (NAITA) and the Department of Technical Education and Training (technical colleges division). The NAITA assists the TVEC with regard to competency standards and assessment resource development. The University of Vocational Technology (Univotec) assists the TVEC with regard to curriculum and learning resource development and assessor training.

While there is a strong emphasis on public education and training providers, private and non-governmental organizations and training centres have also been registered and accredited to provide NVQF courses (ILO, 2010b). Training institutions acknowledge the benefits of the NVQF, since it allows them to award their trainees nationally valid certificates, thereby enhancing their own reputation and image at the national level.

Trade unions have been involved in the development and implementation of the NVQF in the past but their involvement in this regard has diminished, with more focus being given to union members' issues such as salaries and working conditions (ILO, 2010a, p. 27). Level descriptors and learning outcomes in NVQF qualifications are based on national competency standards that are identified by industry stakeholders. The Sri Lankan NVQF currently has seven levels and competency standards for about 200 qualifications. The competency standards are further divided into 63 smaller unit standards. Curricula are centrally developed and are based on specified learning outcomes. Levels are assigned to units of competency standards according to the complexity of learning demands and degree of responsibility that the learner is obliged to take on.

National competency standards are designed to be effective for performance in a particular industry sector or occupation. Competency standards focus on what is expected from a worker in the workplace rather than on the learning process. Emphasis is placed on the ability to carry out a task within a given context and to transfer and apply skills, knowledge and attitudes to new situations and environments.

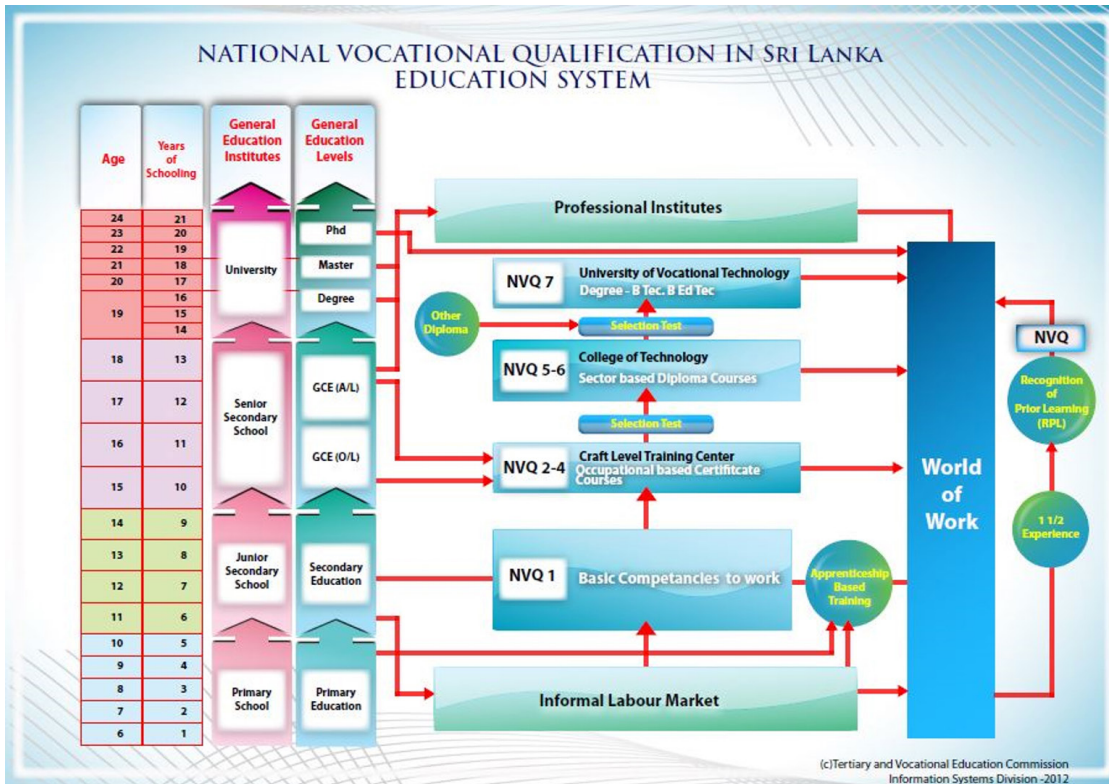The following four components comprise a competency unit:

- Task operation;

- Task management;

- Problem solving;

- Job, role or work environment handling application of competencies to different environment.

Competency units at levels 1–4 are clustered into occupation-specific packages in accordance with industry requirements. The units are expected to also include learning content and not just learning outcomes. Levels 5 and 6 include sector-specific core competency units, and carry a credit value as well as a level.

The credit system used is the European Credit Transfer and Accumulation System (ECTS). Level 7 leads to a degree which is based on curricula prepared in terms of learning outcomes. The SLQF comprises ten levels and the descriptors of each of these levels are stated in a comprehensive manner, including intellectual abilities and cognitive and soft skills. The demands and complexity of learning outcomes increase with each level. The purposes and characteristics of each qualification, as well as the minimum admission requirements, are also stated in the SLQF. Except for higher education, the levels are not directly related to the years of study; rather, the volume of learning at each level is described in terms of credits. Two or more qualifications at the same level indicates that the qualifications are broadly comparable in terms of general levels of complexity. However, each qualification at the same SLQF level does not have the same purpose or specific learning outcomes. The SLQF levels and comparable NVQF levels are as follows:

Sri Lankan Qualifications Framework levels and National Vocational Qualifications Framework levels		
Level	**Qualification awarded**	
SLQL 10	Doctoral degree, MD with board certification	
SLQL 9	Master of Philosophy, master's by full-time research, DM	
SLQF 8	Master's with course work and a research component	
SLQL 7	Postgraduate certificate, postgraduate diploma, Master's with course work	
SLQL 6	Honours bachelor's, bachelor's in professional disciplines	
SLQL 5	Bachelor's degree, Bachelor of Technology, Bachelor's double major degree, Pundit, Royal, Pundit, Nipun	NVQL 7
SLQL 4	Higher diploma	NVQL 6
SLQL 3	Diploma	NVQL 5
SLQL 2	Advanced certificate	NVQL 4
SLQL 1	Certificate	NVQL 3 NVQL 2

Source: Sri Lanka Qualifications Framework, Ministry of Higher Education, 2012

NATIONAL VOCATIONAL QUALIFICATION IN SRI LANKA EDUCATION SYSTEM

(c)Tertiary and Vocational Education Commission Information Systems Division -2012

Recognition and validation of non-formal and informal learning and links to the NQF Sri Lanka's NVQF has been developed with a view towards integrating technical and/or vocational and higher education (further levels may be added in future). All three sectors of the education system – general education, higher education and TVET – have been subject to reforms in order to accommodate the formation of progression pathways across the various sectors. The framework allows for an interface with secondary education and provides pathways for holders of TVET qualifications to proceed to higher education.

The NVQF qualifications are designed to allow trainees to enter and exit the system at different stages with qualifications at different levels. Vertical mobility through the system is based on the principle of seamless progression. Access to qualifications at levels 1–4 is possible both directly and progressively through an accredited course or through the recognition of prior learning. The prerequisite for access to Level 5 diploma courses is NVQF Level 3 plus academic ability equivalent to General Certificate of Education (GCE) Ordinary Level. The entry qualification for Level 7, the degree programme, is NVQF Level 5. In order to maintain links between the lower and higher levels, the occupations at levels 1–4 and the fields of study at levels 5–7 are clustered to provide the necessary upgrading of qualifications and competencies. The creation of industry-linked courses at NVQF levels 5–7 is costly due to the extensive equipment and infrastructure required.

The University of Vocational Technology (Univotec) was established to provide pathways to higher education for TVET students who are unable to enter conventional universities. Students who have achieved the relevant qualifications at levels 5 and 6 can proceed from national diploma to degree programmes. Those with Level 6 qualifications are eligible to receive appropriate credit transfers towards a degree programme determined by Univotec.

Assessment is conducted using two methods, one for levels 1–4 and the other for Level 5 and above. At levels 1–4, competency-based assessments focus on the performance criteria specified in the respective competency units. For learning outcomes-based modular qualifications at levels 5 and 6, assessment is conducted in two stages: formative and summative. Formative assessment comprises the identification and documentation of existing skills and assessors being able to interpret these skills against some level of the NVQF. The summative part includes an assessment panel consisting of three members, with at least one representing the industry that deals with the area of technology concerned. The outcome of the assessment is determined by the assessment panel.

Recognition of prior learning (RPL) is defined as the process whereby competencies acquired through industry practice or previous training are recognized, allowing them to be put towards a certificate or credits. RPL is an important instrument for promoting NVQF-aligned certification, particularly in occupations for which demand is high.

So far, the largest number of certificates issued through RPL have been awarded to beauticians, hairdressers and bakers. RPL is also especially important for people who want to work or study in other countries. There is no difference between certifications resulting from accredited courses and those achieved through RPL. However, the award of a full qualification through RPL is limited to NVQF Level 4. Accredited courses are expected to issue a separate certificate of participation as proof of attendance.

Two institutions are authorized to conduct RPL: NAITA and the Vocational Training Authority (VTA). Established under Sri Lanka Act No. 12 in 1995, the VTA consists of six national vocational training institutes, 22 districts vocational training centres and 232 vocational training centres. The VTA operates under the Ministry of Youth Affairs and Skills Development and provides rural youth with skills training combined with workshops on information technology and entrepreneurship.

To avoid corruption in RPL (attempting assessment without the necessary preparation, exerting influence over the assessors, etc.) the government has stipulated one to five years of experience as a requirement for NVQF levels 2 and 3 and a further two years for NVQF Level 4. Crafts persons with a minimum of five years' experience may be considered for assessment at Level 4 directly.

The integration of the NVQF into the SLQF has further strengthened the pathways of lateral mobility between the vocational education and the higher education sector. To facilitate vertical mobility within the higher education system, the SLQF includes the recognition of accredited prior learning. The Sri Lanka Qualifications Framework helps qualification holders to know the level of their qualification. In addition, the SLQF helps potential employers to know the level of learning and the attributes of a particular qualification holder. The SLQF is useful to higher education institutions (both state and non-state) in designing their courses in terms of the minimum level of learning effort and the number of credits that should be earned by a qualification holder. In this way, the SLQF contributes to strengthening the quality of higher education qualifications offered in universities and higher education institutions in Sri Lanka.

5. Sri Lanka National Vocational Qualification Framework

The Sri Lankan National Vocational Qualifications Framework (SLNVQF) has been established to support the efforts in enhancing the development of an internationally competitive workforce in Sri Lanka. The framework is one of the key elements in unifying TVET. There will be national competency standards set in consultation with the industry, national quality standards for teaching and assessment using a competency-based approach, and national certification of learners and workers. The entire system will be internationally benchmarked.

The NVQ operations manual has been endorsed by the Tertiary and Vocational Education Commission (TVEC) in consultation with the Ministry of Vocational and Technical Training, the National Apprentice and Industrial Training Authority (NAITA), Vocational Training Authority of Sri Lanka (VTA), Department of Technical Education and Training (DTET), National Youth Services Council and University of Vocational Technology (Univotec). The national lead body is the TVEC, which is the regulatory body for all aspects of implementation of TVET in Sri Lanka. The NVQ Manual outlines the agreed policies and processes for the implementation of all components of the National Vocational Qualifications in Sri Lanka (NVQSL). The manual states how national vocational qualifications are established in order to meet Sri Lanka's occupational requirements, how training providers are to prepare courses so that the trainee will meet the industry specified competencies, and how assessment and certification will be conducted.

Following table shows NVQ level name of the qualification and description in brief.

Level No.	Qualification	Description
Level 1	National Certificate	Recognizes the acquisition of a core of entry level skills
Level 2 Level 3 Level 4	National Certificate	Recognizes increasing levels of competencies. Level 4 qualification provides for full national crafts-man-ship.
Level 5 Level 6	Diploma	Recognizes increasing level of competencies ranging from technician level to management level
Level 7	Bachelor's Degree or equivalent	This level includes planning, resourcing & management process

Quality assurance is an important feature in the implementation of the NVQ system and training providers will have to establish their own quality management systems acceptable to the TVEC. Training providers shall be registered, accredited and audited by the TVEC.

The Asian Development Bank has supported the introduction of the National Vocational Qualifications Framework initially through the Skills Development Project and then through the Technical Education Development Project. International good practices have been studied and a model for a unified national system for qualifications has been developed for Sri Lanka. The Framework and its components, in particular the national competency standards identified by industry, are suitable for a formal benchmarking with vocational training systems in other countries.

The TVEC is working with the industry and countries that are major destinations for overseas workers to ensure mutual recognition of competency standards and national vocational qualifications introduced in Sri Lanka.

6. Overview of quality assurance arrangements

Quality Assurance Frameworks

Overview

Quality assurance is vital for effective training delivery in TVET system and can be divided into the following five stages:

- Registration of training centres;
- Accreditation of courses;
- Establishing quality management systems;
- Monitoring and auditing;
- Student assessment management.

The new TVET policy addresses the quality in its special sections with following deliberations:

- No training shall be operated without TVEC registration;
- All courses with relevant National Competency Standards and CBT curricula shall obtain TVEC accreditation and award NVQ certificates to trainees;
- All training centres shall install the Quality Management System (QMS) introduced by TVEC or ISO Certification;
- Each institution shall prepare an Annual Training Delivery plan based on the target set through coordination of Ministry agencies. The Institution shall include registration, accreditation and its QMS schedule in its plan.

At registration, the TVEC checks the following quality criteria as to comply with the effective and successful delivery of institutional training:

- Governance and Human Resources Management;
- Safe learning environment and infrastructure maintained;
- Curricula and learning materials available for all courses;
- Training equipment, laboratories, workshops and training materials available for practical work in curricula;
- Management of student affairs;
- Training delivered as per plan;
- Timely conduct of continuous and final assessments;
- The levels of satisfaction of students, parents and industry;
- Financial stability;
- Special and outreach programmes.

In accreditation of courses, TVEC adheres to following process and requirements:

- NVQ implementation at the training centre/course by means of training documents;
- Clear understanding of the required learning outcomes, and ensuring satisfactory performance outcomes;
- T1 (Scheme of Training) and T2 (Lesson Plan);
- Adequate equipment;
- Qualified and competent academic staff;
- Conduct of formative assessment;
- Conduct of summative assessment;
- Arrangements for on-the-job training.

Scope of the QMS

The scope is to ensure a coherent Quality Management System, based on the ISO 9001:2008 quality management system and as per ISO IWA 2:2007 guidelines for the application of ISO 9001:2008 in education, is maintained by the training providers within the Technical and Vocational Education and Training sector. The Quality Management System shall ensure that the provider has the capability to establish and maintain an environment fit for delivering education and training to specified standard and ensure continuous improvement of the system.

Adaptation of a process approach when developing the Quality Management System
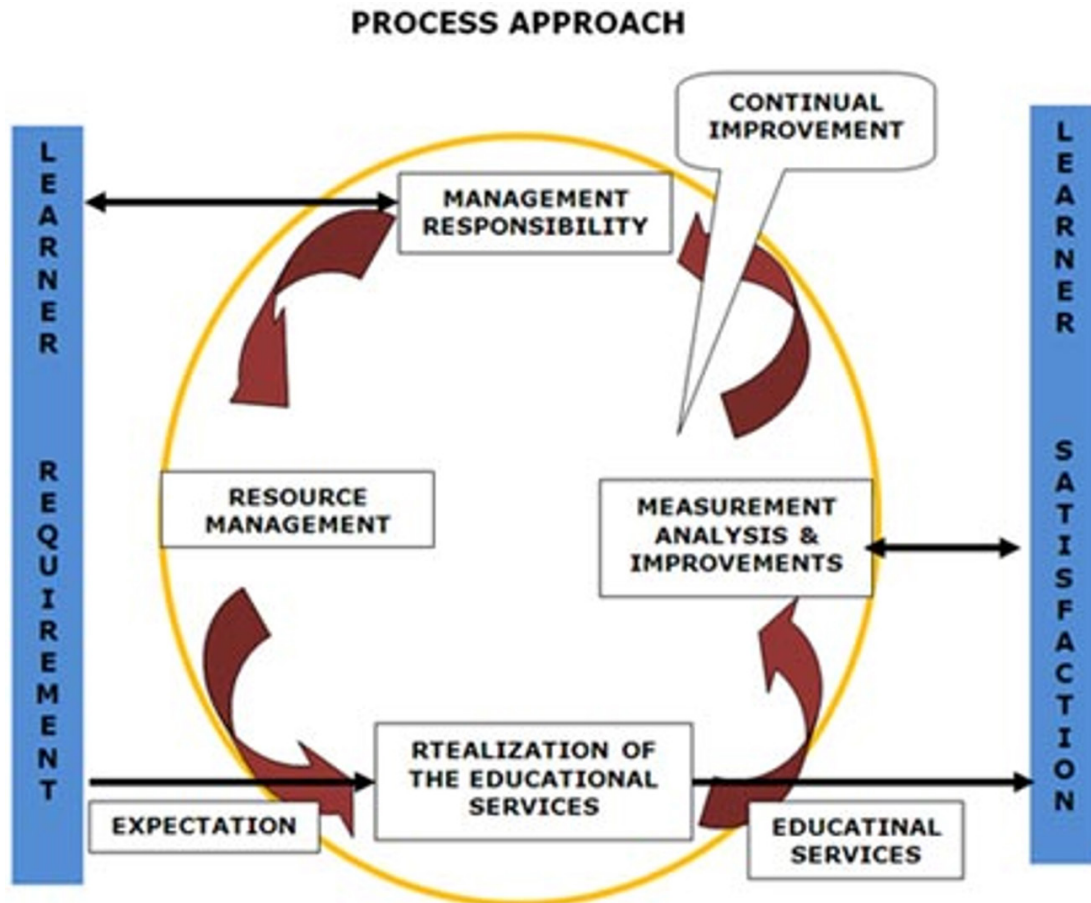
Process approach

Quality management system is related to matching the organizations' input systems, processes and outputs to their purpose. Quality management implies that the mechanisms and procedures by which the validity and reliability of the certified skills or competences are ensured are in place. Validity means that the assessment evaluates what it aims to assess. Reliability means that the assessment based on evidence produces the same result on different occasions with different assessors. Validity and reliability shall ensure the acceptance of the certificate or diploma by individuals.

At the institutional level, an effective and efficient process-driven Quality Management System, which provides quality education and training programmes, shall be established.

7. Implementation of Quality Management System

7.1 General Requirements

The Following six activities are to be identified, documented and implemented:

- Identify the processes needed for QMS in the organization;

- Determine the sequence and interaction of these processes;

- Determine the criteria and method needed to ensure that both operation and control of these processes are effective;

- Ensure the availability of resources and information needed for these processes including monitoring of processes;

- Monitor measure and analyse the processes;

- Implement actions necessary to achieve planned results and continual improvements of these processes.

There shall be evidence of a coherent quality management system incorporating organizational structures, responsibilities, procedures and resources for setting and implementing quality policies. The quality management system shall ensure that the training provider has the capability to establish and maintain an environment fit for delivering education and training to specified standards. The system shall also ensure that the training provider has adequate and appropriate good governance and management to achieve its goals and objectives.

7.2 Quality Manual

The quality management system is in accordance with ISO 9001:2008 and as per guidelines IWA 2: 2007 and includes a quality manual. The quality manual shows:

- The scope of the Quality Management System shall encompass the training providers' current and intended delivery of education and training, including any local, national and overseas courses within and outside the National Vocational Qualification Framework;

- All delivery of education and training at permanent, regular or occasional delivery sites shall be covered by the quality management system;

- The quality manual shall include a scope, mission, vision and a policy statement and interaction of its educational and support services;

- The manual will include responsibility and authority with clearly defined organization structure;

- The manual will indicate the management representative and its responsibilities;

- The institute shall document procedures and work instructions to the identified processes and will refer them in the quality manual;

- The institute shall identify the compulsory records and other records necessary to maintain the quality management system and give reference to them in the manual;

- As per the quality policy, the establishment shall identify key process indicators as quality objectives and indicate plans to achieve these targets within a reasonable time frame;

- The establishment shall monitor the status of the above plans and quality objectives.

7.3 Procedures

The quality management system shall be in accordance to ISO 9001:2008 and as per guidelines IWA 2: 2007 will include quality assurance procedures covering following processes:

- Compulsory procedures must be documented;

- Other documents are desirable to control and improve the quality management system;

- Institute depending on the requirement could document optional procedures.

a) Assessment

The national policy on assessment of competence uses two different methods of assessment. For the award of Levels 1 – 4 qualifications, the competencies are assessed through competency-based assessments focusing on the performance criteria specified in the respective units of competencies.

For Levels 5 and 6 qualifications, two stages of assessment are employed. Modular-based (Formative and Summative) assessments are conducted for the assessment of learning outcomes as specified in the curricula. Whether the trainee is competent or not shall be decided through a competency-based assessment with respect to all units of competence that constitutes the qualification. The assessment shall be conducted by a registered / licensed assessor. Records of the continuous assessments and the summative assessment conducted shall form part of the evidence used in deciding the competence of the trainee. A oral examination conducted by an assessment panel nominated by training provider shall be a mandatory part of the CBA. The assessment panel shall consist of three members with at least one member representing the industry which deals with the particular area of technology. The final outcome of the assessment shall be determined by the assessment panel.

A competency-based assessment system must be based upon clear and unambiguous benchmarks. These benchmarks are supplied by the National Competency Standards which specify the skills, knowledge and attitudes to be applied in various industry sectors/occupations to the minimum standard of performance expected by the industry.

Assessors must collect sufficient evidence of competence from candidates in order to be able to reach an assessment decision. Sufficiency can be defined as evidence that demonstrates that the candidate can:

- Perform task skills;

- Perform task management skills;

- Contingency management skills;

- Perform according to specific workplace environments;

- Transfer skills to different situations.

The assessment system must enable assessors to document that the evidence presented for assessment is the work of the candidate. It is necessary for assessors to validate the current evidence included in the portfolio ensuring the competency of the candidate. The system must be cost effective for both the establishments conducting the assessments and for candidates.

Assessment is based upon agreed benchmarks of skill and knowledge. These benchmarks are provided by the national competency standards mentioned in industry agreed documents that specify the skills, knowledge and attitudes that are applied to various industry sectors/occupations.

Criterion-referenced assessment assumes that the assessment decision is based upon a collection of evidence gathered over a period of time (evidence based judgment) rather than on one event, such as a test or exam. A combination of formative and summative assessment shall be used in order to reach an assessment decision.

Evidence-based judgment involves assessors using assessment materials consisting of:

- Outlines for candidates to guide them in collecting their evidence;

- Self-Assessment guide;

- Test items and specifications;

- Instructions to candidates;

- Assessment guides for assessors;

- Record keeping instruments for recording the formative and summative assessments results.

The assessment system shall be flexible enough to consider:

- Socio-economic background;

- Religion;

- Ethnicity;

- Gender;

- Language.

This may involve making reasonable adjustments to assessment techniques for individual candidates as long as the national competency standards are not compromised.

Assessment shall take into account the limitations of industry in relation to administration of assessment such as:

- Availability of assessors;

- Workplace policies and procedures;

- The need for specialist tools, equipment and materials;

- Time constraints;

- The inability for some candidates to gather direct workplace evidence of competence;

- Candidates from geographically isolated locations.

In the preparation of assessment materials, the needs of the intended target group shall be considered, especially in the areas of language, literacy and numeracy. Any technical language used shall reflect the technical language of the industry.

In a competency-based system, skills, knowledge and attitudes are assessed by using national competency standards as a benchmark for assessment. Formal testing and examinations are also ways of assessment. A competency-based assessment system uses multiple sources of evidence upon which judgment is based whether candidate is competent or not. An assessment decision is based upon a combination of formative and summative assessments. Criterion-referenced assessment measures the performance of an individual against a set of standards. Competency-based assessment is criterion-based. Candidates are measured against standard criteria or benchmarks, such as National Competency Standards, or learning outcomes. The purpose of the assessment is to determine whether or not a candidate can apply skills, knowledge and attitudes identified in national competency standards to the level of performance that is specified in the standards.

Usually a number of pieces of evidence are collected and submitted by a candidate to demonstrate how he/she can apply the skills, knowledge and attitudes. This is sometimes referred to as a "portfolio" and may include one or more of the following:

- Trainees record book;

- Test and exam results;

- Models;

- Testimonials from work supervisors;

- Evidence of successful completion of training courses;

- Verified work experience;

- Skills demonstrations;

- The results of direct observation by an assessor;

- Project reports, assignments carried out;

- Answers to written or oral questions.

In competency-based assessment candidates are generally assessed as competent or not yet competent. Results are not expressed as a percentage, grade or score. The four guiding principles of competency-based assessment are validity, reliability, fairness and flexibility:

- An assessment process is said to be **valid** when the assessment measures only the skills, knowledge and attitudes identified in the national competency standard;

- An assessment process is **reliable** when there is consistency in results between assessors. That is, when two or more assessors give the same result based upon the same evidence;

- **Fairness** refers to the transparency of the assessment system. Candidates shall be aware of how they shall be assessed, when and by whom, and what the national competency standards are and what they will be assessed against;

- **Flexibility** refers to reasonable adjustments in the administration of the assessment process.

Formative assessment is an on-going (continuous) assessment. They are the pieces of evidence a candidate collects over a period of time and included in the portfolio described earlier.

Summative assessment may be a decision of an assessor based upon a judgment of the formative assessment. Summative assessment refers to an assessment conducted collectively at the end of a unit or set of units. This can be administered through the decision of an assessor based upon a judgment of:

- Evidence through documented formative assessment;

- Through summative assessment demonstrated at a formal testing;

- A combination of the above.

In a competency-based assessment system, it is the combination of formative and summative assessment that provides the overall and final assessment result.

b) Validation / Accreditation

TVEC is the authority responsible for accrediting establishments in order to conduct competency-based assessments. The policy of the TVEC on accreditation of establishments to conduct CBT assessments is:

- Offer assessment services to employers and their employees, trainees undertaking work experience, and those who wish to have competencies gained in the workplace assessed and recognized;

- Accredit establishments which comply with the following:
  - → Quality Management System is established;
  - → There is an agreement to participate in the consistency assessment process as specified by the TVEC;
  - → There is a sound mechanism for the selection, training, monitoring and support for assessors;
  - → There is an agreement to transfer results to the TVEC database;
  - → A Memorandum of cooperation has been signed between the accredited establishment and the TVEC to confirm the above.

- Permit to use the services of licensed assessors, who have acquired expertise in the area in which they will be assessing;

- Assess competencies directly at the workplace to meet competencies of national competency standards based qualifications;

- Periodically monitor and audit the progress of accredited establishments that perform workplace assessments in accordance with the TVEC's process for monitoring and auditing of quality assurance policy.

c) Assessment of non-formal or informal learnings

Assessments for Recognition of Prior Learning

It is the task of the assessor to match the evidence of the relevant prior experience to the performance criteria of the specified units of competency of the qualification.

It is important that the assessment is carried out in a comfortable physical, cultural and psychological environment. This environment shall be conducive to participation and contribution by the candidate throughout the assessment process.

For NVQ Level 4, the RPL assessments should be done by a panel of assessors consisting of two assessors. The assessments is conducted as per the criteria, guidelines and methodology specified by TVEC.

If the RPL assessments are conducted in training institutions, those institutions should have accreditation obtained from TVEC for the relevant occupations.

A variety in the methods of assessment is encouraged. Demonstration, attestation, interview, or the evaluation of work samples or projects shall be commonly used. Attestation is a method of assessment, where the assessment decision is supported by a formal recommendation from a recognized group, having sufficient depth and breadth of knowledge and respect/esteem to execute a fair, valid and consistent assessment.

7.4 Governance and Financing

The TVEC is the national authority for the implementation of the NVQSL, with overall responsibility for continuous improvements and inter-institutional coordination. Its specific responsibilities are listed below.

National Competency Standards (NCS) and CBT Curricula

- Identify occupations for development of National Competency Standards to cover all sectors of the labour market, in consultation with industry;
- Coordinate the development of NCS, CBT Curricula and assessment materials;
- Endorse NCS, CBT curricula and assessment materials;
- Publish, distribute and sell NCS and CBT Curricula;
- Make available NCS and CBT curricula for sale to the public and training centres;
- Ensure the availability of NCS, CBT curricula and assessment materials for all occupations in the labour market;
- Map non–NVQ Diplomas and other qualifications as appropriate to NVQ Levels.

Quality Assurance

- Make sure all centres are registered and all courses accredited as per TVE Act;
- Ensure Quality Management Systems are installed in all centres;
- Make continuous improvements to registration, accreditation and Quality Management System procedures.

Assessment and Certification

- Select candidates for assessor training;
- Maintain an assessor database and ensure availability of assessors for NVQ Levels 3-6 for all occupations and occupational or technology areas;
- Ensure development and maintenance of a question bank, in association with DTET;
- Ensure availability of assessment materials and assessment forms for all qualifications of NVQ Framework;
- Nominate assessors for NVQ Levels 3 – 6;
- Coordinate NVQ Level 5 and 6 examinations and assessments;
- Develop software for assessment, data transfer and printing of certificates;
- Conduct workshops and audit assessment programmes to ensure consistency in assessments;
- Authorize award of records of achievement.

Training Programmes

Develop and arrange for distribution of manuals and handbooks for programmes and arrange systematic delivery of training by TVEC, Univotec and other training providers.

Social Marketing

- Maintain timely updated website with NVQ circulars;
- Disseminate NVQ information and regulatory documents to stakeholders;
- Publish, distribute and sell endorsed documents;
- Train and sustain a group of NVQ Promotional officers to conduct NVQ awareness programmes;
- Link with industry and make them aware of NVQ Framework;
- Supervise social marketing programmes of allied institutions.

Planning, Monitoring and Evaluation

- Have an annual plan of implementation of NVQ activities;
- Analyse NVQ performance biannually and submit the findings at NVQ Policy and Development Committee and NVQ implementation steering committee meetings, and to the Ministry at progress review meetings;
- Arrange progress monitoring meetings for specific areas of NVQ;
- Issue NVQ circulars on decisions taken at NVQ Policy Development implementation steering committee meetings, as endorsed by the Commission;
- Facilitate funding for Industry Sector Skills Councils;
- Prepare Budgets and get fund allocations for NVQ activities;
- Monitor the training outcomes of institutions and centres delivering NVQ and other courses;
- Examine curricula and assessment materials produced by training providers and ensure quality whilst encouraging good practices.

TVEC shall appoint committees as required, including an NVQ Policy and Development Committee. This is expected to ensure that the NVQ Framework continuously improves and is on par with international practices, that policies are reviewed and revised, and that procedures and methodologies to meet the national expectations of quality, relevance and accessibility to NVQs are developed.

The NVQ Policy and Development Committee will be chaired by the Chairman of the TVEC or its Director-General, and include:

- Deputy Director-General of TVEC who shall be responsible for all academic affairs;
- Director responsible for NVQ curricula and implementation at TVEC;
- Director responsible for assessment at TVEC;
- Director responsible for liaison with Sector Councils;
- Vice Chancellor of Univotec or Director responsible for curricula;
- Directors responsible for curricula and for apprenticeships at NAITA;
- Academic Directors of DTET and VTA.

The Committee shall also include the Chairs of the Sector Councils or their representatives.

TVEC will be the certifying body for QMS and it shall take the following measures to facilitate the installation of QMS in training centres:

- Develop, print and circulate a Quality Management System handbook;

- Make the heads and senior staff aware of QMS and train management representatives on preparation of their Quality Manual;

- Evaluate Quality Manuals and give feedback to improve them to acceptable level;

- Train the internal quality audit teams of the training centres on internal quality auditing;

- Train and maintain a pool of lead auditors and get approval for an appropriate payment scheme for them;

- Develop an application form and other documents required for implementing the QMS;

- Conduct certification and surveillance audits of the QMS installed in training centre, and award QMC certifications;

- Ensure that all those involved in the QMS understand the need for quality products and not simply adherence to processes.

The inspections made by TVEC for the purposes of Registration and Accreditation and Quality Management shall be coordinated by the Deputy Director-General who will be in charge of training programmes in the sector. The Deputy Director-General should ensure that staff work in coordination, and reports of all inspection visits are circulated to all members of the Academic/Training Division of the TVEC.

Financing

Respective ministries under the government are mandated to fund public TVET institutions, including capital and recurrent expenditures. Some TVET institutions are self-funded, and in this case mostly subsidized according to the free education policy of the government. Accordingly, full-time students no longer need to pay any fees and all courses conducted in public training organizations are free. A private sector grants scheme was enacted through the TVEC to provide necessary financial assistance to the private sector training institutions that opted to deliver NVQ training programmes with the necessary accreditation requirements.

TVET institutions are allowed to conduct fee levying part-time and skill upgrading courses to the public and raise funds through donor assistance and other activities. Selected training centres are empowered to provide additional grants for student benefits such as uniforms, stipends, and transportation to attract them to take training programmes that are in demand in industry.

8. Referencing to regional frameworks

The SLQF provides a clear system to develop links with higher education institutions abroad. With the globalization of higher education, national qualification frameworks developed in several other countries have helped to evaluate the higher educational qualifications obtained in different countries.

Sri Lanka is part of the South Asian Association for Regional Cooperation (SAARC), which cooperates in the areas of education, training and human resource development. SAARC has established a South Asian University with a Centre of Excellence to provide excellent facilities and a professional faculty for students and researchers drawn from every country of the region.

9. Important lessons and future plans

Sri Lanka's efforts to develop its NVQF are receiving increasing attention in and beyond neighbouring countries. The Asian Development Bank (ADB) report on the National Qualifications Framework for Skills Training Reform in Sri Lanka offers general recommendations for other countries, as well as outlining a way forward for Sri Lanka (ADB, 2011). The lessons to be drawn from the ADB report are as follows:

- Considering the ad-hoc development of vocational courses in many countries and the resulting multitude of qualifications, a NVQF will help to systematize the training system and offer unified qualifications;

- NQVFs developed in different countries may be similar. However, competency standards should be designed to suit a country's own education system, labour market and society;

- Political commitment, a well-functioning administrative system, and a core team of dedicated professionals are essential for the successful development and implementation of an NVQF and large-scale TVET reforms. Local professionals must lead the development and implementation processes;

- The development and implementation of an NVQF should be pursued until it becomes sustainable, and the reforms are strongly rooted in the implementing agencies. Public acceptance of the system will then be the driving force.

The recommendations specifically for Sri Lanka include:

- Further development on the NVQF and related training courses must take into account emerging labour market needs and environmentally friendly technologies;

- Efficient and reliable processes of assessment are vital in order to maintain industry stakeholders' confidence in the system;

- The NVQF must cater not only to lower levels but also to higher and diploma levels. Public and private providers should be encouraged to establish courses at these levels;

- Univotec should embark on a strong staff development programme and establish links with industry and higher education institutions in order to develop degree-level courses incorporating mandatory workplace-based learning.

The SLQF offers a transparent and coherent framework for learners to optimize their objective of learning throughout life, while at the same time improve many vital aspects of learning and assessment of learning processes.

Conclusion

Regional collaboration through the sub-regional workshop "TVET Systems for Sustainable Development: Innovations and Best Practices in Quality Assurance of TVET in South Asia" provided learning and knowledge sharing opportunities and approaches through the use of presentations and moderated discussions. TVET experts from invited countries were given the opportunity to share and learn from national country experiences in implementing Qualifications Frameworks (QF) and quality assurance processes. This effort needs a coordinated and cooperative approach with all stakeholders of the system to ensure greater inclusive and sustainable outcomes. The role of training providers in setting up their quality management systems is of paramount importance and the success depends on an active role played proactively by every individual at organizational level in the TVET sector.

Through the South Asia regional UNEVOC Network, with TVEC in Sri Lanka acting as the sub-cluster coordinating centre, TVET officials from India, Pakistan, Nepal, Bangladesh, Bhutan, Maldives and Afghanistan have visited each other during last few years to study the TVET systems and gained a practical exposure to explore possible benchmarking of systems and standards. TVEC's efforts in this regard include working with partner organizations in the region and with effective approaches and strategies of advocacy and vision building through awareness, human capital building and necessary training and learning activities for the TVET officials of the partner organizations in the south Asian region.

A regional or sub-regional qualification currency can be considered as the next agenda. This can be developed through mutual recognition of qualifications or qualification frameworks, which enhances the labour mobility in the region. This labour mobility will have greater potential for countries in the region to develop their systems through benchmarking and recognizing regional qualification frameworks that need to be in place with the collaboration of the countries in the sub-region. Awareness and consensus of countries' TVET experts and qualification authorities need to be present to achieve this long-term objective in region.

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Abbreviations

ADB	Asian Development Bank
ANQA	Afghanistan National Qualifications Authority
ANQF	Afghanistan National Qualification Framework
CBA	Competency-Based Assessments
CBT	Competency-Based Training
CPEC	China Pakistan Economic Corridor
DGT	Directorate General of Training
DTET	Department of Technical Education and Training
ECTS	European Credit Transfer and Accumulation System
GDP	Gross Domestic Production
ILO	International Labour Organization
IRQUE	Improvement of Relevance and Quality of Undergraduate Education
ISO	International Organization for Standardization
ITI	Industrial Training Institutes
LMIS	Labour Market Information System
MCLS	Ministry of Cooperatives, Labour and Social Affairs
MHRD	Ministry of Human Resources and Development
MIS	Management Information System
MoE	Ministry of Education
MSDE	Skill Development and Entrepreneurship
NAITA	National Apprentice and Industrial Training Authority
NAVTTC	National Vocational and Technical Training Commission
NCS	National Competency Standards
NCVT	National Council for Vocational Training
NEET	Youth Not in Employment, Education or Training
NGO	Non-Governmental Organization
NQAF	National Quality Assurance Framework

NQF	National Qualification Framework
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSIS	National Skills Information System
NSQC	National Skills Qualifications Committee
NSQF	National Skill Qualification Framework
NVEQF	National Vocational Educational Qualification Framework
NVQ	National Vocational Qualifications
NVQF	National Vocational Qualifications Framework
QMS	Quality Management System
RPL	Recognition of Prior Learning
SAARC	South Asian Association for Regional Cooperation
SLQF	Sri Lankan Qualifications Framework
SRTTU	Shahid Rajaee Teacher Training University
SSC	Sector Skill Councils
TVEC	Tertiary and Vocational Education Commission
TVET	Technical and Vocational Education and Training
TVTO	Technical and Vocational Training Organization
UAST	University of Science and Technology
UNESCO	United Nations Education, Social and Cultural Organization
Univotec	University of Vocational Technology
VTA	Vocational Training Authority of Sri Lanka

Annex

Workshop outputs and outcomes

The workshop deliberations have initiated a focused discussion aimed at the following objectives:

- To analyse the practices and approaches in quality assurance of TVET systems and qualifications at the global and sub-regional level;

- To assist in raising a collective understanding of the experiences across countries within the South Asian region and the potential to learn from them and benchmark practices that could be useful for policy learning or even adaptation.

Given the different stages of development of the TVET systems within this region, the following questions have been examined:

- How can the countries that have reached the level of establishing QFs and populating their framework transfer the policy experiences and lessons learnt? What is the current status in South Asian countries?

- What are the existing features of the existing quality assurance systems that can promote better quality in learning outcomes in lifelong learning, systemic TVET reforms, and greater workforce mobility?

- How are NQFs evaluated and how policies frame assessment of their impact?

- What are the policy and TVET capacity barriers in countries and how they can be supported to promote a levelling of the capacities within the sub-region?

With the aforementioned, as the main objectives of this exercise, there were four main outputs envisaged:

1 Country-level reports detailing national systems of qualification systems and their quality assurance, and associated challenges and prospects;

2 A synthesis of country-level experiences, good practices and lessons learned that can guide and support future review and implementation of actionable reforms across the cluster;

3 A robust and well-informed network enabled to support national and sub-regional capacity development, policy learning and knowledge exchange;

4 Documentation of the workshop with recommendations.

The workshop incorporated a range of learning and knowledge sharing opportunities and approaches, including presentations, and moderated discussions. Participants were afforded the opportunity to share and learn from national country experiences in implementing Qualifications Frameworks and quality assurance processes.