TVET Quality Breakthrough

Regional TVET Conference in Viet Nam

10./11. October 2012

GENERAL TECHNICAL BACKGROUND PAPER

REFLECTIONS ON CONFERENCE TOPICS
Imprint

Publisher:
Vietnamese Ministry of Labour – Invalids and Social Affairs (MoLISA)
German Federal Ministry for Economic Cooperation and Development (BMZ)

Author: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

This General Technical Background Paper has been compiled based on the input of technical content teams for the topics.

- Occupational standards (Dr. Harry Stolte)
- Cooperation with the business community (Dr. Gunnar Specht, Clemens Aipperspach)
- Financing of TVET (Clemens Aipperspach, Dr. Gunnar Specht)
- TVET teachers (Prof. Dr. Antonius Lipsmeier, Dr. Bernhard Beckmann)

Editors: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH,
Programme Reform of TVET Viet Nam in Cooperation with Sectoral Department,
Division Economic Development and Employment, Section TVET and Labour Market

Design: Mariette Junk, Berlin
Photos: Nguyen Cong Trang, Hanoi
Ralf Bäcker, Berlin

Place: Hanoi, Viet Nam
Date of Publication: October 2012

The content presented and views expressed in this General Technical Background Paper are those of the technical content teams and do not necessarily represent the views of the Vietnamese Ministry of Labour, Invalids and Social Affairs (MoLISA) and/or the German Federal Ministry for Economic Cooperation and Development (BMZ).
Regional TVET Conference in Viet Nam
10./11. October 2012

TVET Quality Breakthrough

General Technical Background Paper
Reflections on Conference Topics
Content

1. Welcome and introduction .................................................................................................................. 8
2. Summary ............................................................................................................................................ 12
3. Outcome-based standards in TVET in the context of ASEAN integration .................................. 18
   3.1. Introduction .................................................................................................................................. 18
   3.2. Status of discussion ....................................................................................................................... 20
   3.3. Core elements for a quality breakthrough .................................................................................... 33
   3.4. Selected examples of regional and international practice ............................................................ 35
4. Cooperation with the business community – improving demand-orientation of TVET ........ 42
   4.1. Introduction ................................................................................................................................... 42
   4.2. Status of discussion ....................................................................................................................... 43
   4.3. Core elements of a quality breakthrough ..................................................................................... 49
   4.4. Selected examples of regional and international practice ............................................................ 52
5. Financing of TVET – ensuring the sustainability of TVET financing ........................................ 58
   5.1. Introduction ................................................................................................................................... 58
   5.2. Status of discussion ....................................................................................................................... 60
   5.3. Core elements for a quality breakthrough .................................................................................... 75
   5.4. Selected examples of regional and international practice ............................................................ 78
6. TVET Teachers - key role in providing high-quality TVET ...................................................... 82
   6.1. Introduction ................................................................................................................................... 82
   6.2. Status of discussion ....................................................................................................................... 84
   6.3. Core elements for a quality breakthrough .................................................................................... 93
   6.4. Selected examples of regional and international practice ............................................................ 95
### List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABB</td>
<td>Name of power and automation technology company</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
</tr>
<tr>
<td>BMZ</td>
<td>Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung - German Federal Ministry for Economic Cooperation and Development</td>
</tr>
<tr>
<td>BNSP</td>
<td><em>Badan Nasional Sertifikasi Profesi</em> - national autonomous body responsible for assessment and certification in Vocational Training, Indonesia</td>
</tr>
<tr>
<td>Cedefop</td>
<td>European Centre for the Development of Vocational Training</td>
</tr>
<tr>
<td>CNC</td>
<td>Computerized numerical control</td>
</tr>
<tr>
<td>EBG</td>
<td>European Association of Vocational and Social Education</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
</tr>
<tr>
<td>GDVT</td>
<td>General Department of Vocational Training, Viet Nam</td>
</tr>
<tr>
<td>GIZ</td>
<td>Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH</td>
</tr>
<tr>
<td>HRD</td>
<td>Human Resource Development</td>
</tr>
<tr>
<td>HRDF</td>
<td>Human Resource Development Fund</td>
</tr>
<tr>
<td>IGA</td>
<td>Income generating activities</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>ISCO</td>
<td>International Standard Classification of Occupations</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>KfW</td>
<td>Kreditanstalt für Wiederaufbau</td>
</tr>
<tr>
<td>LSP</td>
<td><em>Lembaga Sertifikasi Profesi</em> – Certification agency</td>
</tr>
<tr>
<td>MERCOSUR</td>
<td><em>Mercado Común del Sur</em> - Southern Common Market</td>
</tr>
<tr>
<td>MoLISA</td>
<td>Ministry of Labour – Invalids and Social Affairs, Viet Nam</td>
</tr>
<tr>
<td>MoMT</td>
<td>Ministry of Manpower and Transmigration, Indonesia</td>
</tr>
<tr>
<td>NAFTA</td>
<td>North American Free Trade Agreement</td>
</tr>
<tr>
<td>NOS</td>
<td>National Occupational Standards</td>
</tr>
<tr>
<td>NTC</td>
<td>National Training Council</td>
</tr>
<tr>
<td>NQF</td>
<td>National Qualification Framework</td>
</tr>
<tr>
<td>NVQ</td>
<td>National Vocational Qualification</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization of Economic Cooperation and Development</td>
</tr>
<tr>
<td>OS</td>
<td>Occupational Standard</td>
</tr>
<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
</tr>
<tr>
<td>RPL</td>
<td>Recognition of prior learning</td>
</tr>
<tr>
<td>RCP</td>
<td>Regional Cooperation Platform</td>
</tr>
<tr>
<td>SAARC</td>
<td>South Asian Association for Regional Cooperation</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Sized Enterprises</td>
</tr>
<tr>
<td>SMK</td>
<td><em>Sekolah Menengah Kejuruan</em> - equivalent to vocational high schools, Indonesia</td>
</tr>
<tr>
<td>SVQ</td>
<td>Scottish Vocational Qualification</td>
</tr>
<tr>
<td>TVET</td>
<td>Technical and Vocational Education and Training</td>
</tr>
<tr>
<td>TUK</td>
<td><em>Tempat Uji Kompetensi</em> – licensed assessment centres, Indonesia</td>
</tr>
<tr>
<td>TI</td>
<td>Teaching Industry</td>
</tr>
</tbody>
</table>
Reflections on Conference Topics

WELCOME AND INTRODUCTION

SUMMARY
1. Welcome and introduction

A competent and qualified workforce is needed for further economic and social development in the countries of the **ASEAN Community**. Moreover, ASEAN countries face new regional challenges, e.g. the establishment of a common regional labour market by 2015. In this context, Technical and Vocational Education and Training (TVET) plays an important role and is therefore high on the political agenda. Accordingly, within the **ASEAN Labour Ministers’ Work Programme 2010-2015**, the priority to improve the quality and capacity of human resources in the region is highlighted with a view to the importance of human resources and skills development in raising productivity and accelerating economic development and sustainable growth. Against this background, government representatives of ASEAN member countries agreed in October 2010 in the “ASEAN Leaders’ Statement on HRD and Skills Development for Economic Recovery and Sustainable Growth” to foster technical cooperation and capacity-building activities. In this statement, ASEAN leaders call for “the promotion of vocational training and workforce learning for the purpose of improving the employability and upgrading the skills of the workforce.”

**Viet Nam**, like other countries in the region, is in the process of reforming its TVET system to meet the demands of the labour market and society in the national and regional context. This is prominent in the **Vietnamese Socio-Economic Development Strategy 2011-2020** where developing human resources - “especially high quality human resources” is defined as a strategic breakthrough for the country towards becoming an industrialised country. Hence, to achieve a TVET quality breakthrough is a main strategic goal and fundamental in creating a common labour market in ASEAN. The Vietnamese TVET Strategy 2011-2020 accordingly aims to “improve quality and expand the scale of vocational training … meeting the demands of sectors, occupations needing highly skilled manpower, in-country and for the export of labour.” By 2020, vocational training shall meet labour market demands in terms of quantity, quality, occupational structure and training qualifications, while also contributing to increasing income, sustainably reducing poverty and ensuring social security. The training quality in some occupations shall reach the level of developed countries in the ASEAN region and the world.

**Germany** has a long tradition of development cooperation with Asian countries in the field of TVET, especially with Viet Nam. The new **Education Strategy - “Ten Objectives for More Education” -** of the Federal Ministry for Economic Cooperation and Development (BMZ) is the first integrated strategy to address all areas and forms of education. The strategy’s vision is lifelong learning, from early childhood education to primary and secondary education, vocational and
Reflections on Conference Topics – Welcome and introduction
higher education, and adult education. Based on that vision, the BMZ pursues a holistic approach to providing support for education, a people-centred approach that includes all stakeholders and strengthens the entire education system, rather than just individual sectors. The BMZ also supports inclusive education that addresses all people, especially marginalised groups. Moreover, the strategy accords priority to fostering gender equality in education. The BMZ is eager to foster high-quality education programmes. It wants to further enhance the effectiveness of its work. In its education work, the Ministry also attaches major importance to having a dialogue with all stakeholders. The BMZ Education Strategy sets the goal that Germany will further expand technical and vocational education and training.

TVET was confirmed as a top priority for Vietnamese-German Development Cooperation by Vietnamese Prime Minister Nguyen Tan Dung and German Chancellor Angela Merkel in the Vietnamese-German strategic partnership agreement of October 2011. The Regional TVET conference to be held in Hanoi, Viet Nam, on 10/11 October 2012 reflects the importance of TVET for German Development Cooperation across the region. The conference is jointly organized by the Vietnamese Ministry of Labour, Invalids, and Social Affairs (MoLISA) and the German Federal Ministry for Economic Cooperation and Development (BMZ).

The central focus and overarching guiding subject of the Regional TVET-Conference is how to increase the quality and demand-orientation of TVET towards a “TVET Quality Breakthrough” also in the context of ASEAN regional integration. The conference will address the selected topics of Occupational Standards, Cooperation with the Business Sector, TVET Teachers and TVET Financing. All of these selected topics are highly relevant with regard to achieving a “TVET Quality Breakthrough”, not only as separate topics but also being closely interlinked.

**Key objectives of the conference** are to:

- Share and learn from good practice
- Stimulate enhanced regional TVET networking
- Formulate recommendations for raising the quality and demand orientation of TVET

As lessons learned and the recommendations of this conference are fed back into TVET reform processes in ASEAN countries, TVET systems will be further improved. Societies as well as business sectors will benefit from these improvements. Enhanced regional TVET networking will facilitate a continuous exchange of experience and lessons learned. This will help ASEAN countries to successfully tackle challenges arising throughout their TVET reforms.
In order to achieve its objectives, the Regional TVET Conference will provide a discussion forum to generate feasible solutions for raising the quality and demand orientation of TVET. It brings together high-ranking policymakers, TVET experts and business sector representatives from Viet Nam and other ASEAN countries, selected international resource persons from ASEAN countries and from Germany, other bilateral and multilateral donors, and the research community. With a view to establishing the ASEAN Community by 2015 and to achieving national development goals, these participants will share experiences, good practice and lessons learned on how to increase TVET quality in order to meet demands from the business sector and from society. Particular focus will be on sharing national experience from Viet Nam and other ASEAN countries. An integral part of the exchange will also be the specific experience gained through Germany’s many years of development cooperation with countries in the ASEAN region in enhancing the quality of TVET systems and making them more responsive to the needs and requirements of the business sector as well as society.

This general technical background paper is one of the reference documents for participants of the Regional TVET Conference. The purpose of this paper is to provide an introductory overview to provide a context for the conference topics. To this end, it provides topic-related information, selected reference examples of practical experience as well as stimulating input for further discussion. The reference examples in principal cover an international and regional perspective including BMZ-financed development cooperation projects in the field of TVET, particularly in the Asian and the ASEAN region. In line with its purpose, the general background paper focuses on selected key aspects related to each topic, not having the scope or capacity to deal with the complexity of each topic in a comprehensive and detailed way.
2. **Summary**

Technical and vocational education and training (TVET) enables the individual to continue developing on a lifelong basis the professional and social capacities they require in order to pursue a skilled occupation. TVET that is geared to the needs of the labour market enables people to find work, generate an income and escape from the spiral of poverty and dependency. This strengthens their personality and enhances their options for social participation. Moreover, all countries need qualified experts if they are to achieve sustainable economic development. Support for TVET succeeds when it is geared to partner needs, and when it promotes cooperation between the public and business community by establishing e.g. cooperative TVET modes. Labour market-oriented TVET that combines practical and theoretical learning turns out graduates equipped with an optimal blend of expertise. Both formal and non-formal TVET should transfer income-generating knowledge and practical skills, especially for the large number of disadvantaged youths and adults who need to earn a living for their families in the low-wage sector, in the informal sector or in rural areas.

**Occupational Standards**

Occupational Standards (OS) are a core topic due to their pre-eminent role as the focal point of reference for demand-oriented quality TVET-delivery as well as for accepted and comparable TVET-qualifications - especially in the context of ASEAN integration and labour mobility.

Major TVET goals include training a competent, versatile workforce for the business sector, and at the same time, providing graduates with employable TVET qualifications enabling them to find gainful employment – in the context of labour mobility, not necessarily in the country where the education and training took place. In this regard, Occupational Standards play a central role by defining the typical characteristics of an occupation from the perspective of performing this occupation in the world of work under typical actual working conditions. This definition includes, for example, the major duties and tasks and typical tools and equipment used for performing them as well as the main occupational skills required, knowledge and attitude to work. Occupational Standards are therefore focal points of reference that specify the outcome and outcome quality which TVET geared at training people for a particular occupation needs to meet. Leading on from that, Occupational Standards are the starting point for developing demand-oriented TVET-programmes, and also the end point of TVET-delivery as a reference for assessment and certification.
In contrast to Occupational Standards being outcome standards, TVET-delivery standards - such as standards for TVET-teaching staff, learning infrastructure etc. - are focused on the input and process quality of TVET delivery. They can be characterised as secondary or derived standards because the overarching reference for TVET delivery is the outcome quality as defined in the Occupational Standard.

**Cooperation with the Business Sector**

The numerous challenges related to achieving ambitious TVET reform and development goals cannot (any longer) be successfully tackled by the state alone. Therefore, the active involvement of other TVET stakeholders, particularly the business community, is vital and is receiving growing attention.

Cooperation with the business community – comprising individuals, public and private companies and their representative bodies – includes several fields and has multiple positive effects. Due to the importance of Occupational Standards as an outcome (quality) specification for TVET delivery from the employers’ perspective, Occupational Standard development is a field where involvement of the business sectors in a leading role is mandatory. Another important field of cooperation is TVET provision based on cooperative modes of delivery. In such modes, parts of an agreed TVET programme, typically training of practical skills, are completed in a company. Ideally, this is organised in form of work placements and work process integrated learning. The benefits of such an approach range e.g. from increased demand-orientation and increased cost efficiency (because investment in workshops in TVET institutes and related operational costs can be reduced) to familiarising learners with the real world of work and bringing them and potential employers in touch with each other. Other fields of cooperation include e.g. the involvement of the business sector in development of TVET teaching staff.

The key issue with regard to a working results-oriented collaboration is how to get the business community to engage actively in TVET. Approaches that have proved successful in this regard focus on equal partnership and persuasion based on mutual interests and benefits. This includes involving the business sectors appropriately in TVET policy and strategy development as well.

**Financing TVET**

Sustainable TVET financing is generally an important factor for functioning TVET systems. There is in particular a direct relationship between securing sufficient financial resources, e.g. for competent TVET teaching staff, TVET learn-
and the outcome quality TVET is expected to provide in accordance with the Occupational Standards. Increasing the outcome quality normally also implies increasing the financial requirements. In Viet Nam and other ASEAN countries, growing financial requirements also result from expanding TVET systems due to population growth and the increasing demand for a competent workforce.

Against the background of growing competition for limited public financial resources, increasing financial requirements for expanding the quantity and improving the quality of TVET based on demand make securing sustainable TVET financing a major challenge and key issue in TVET-related development efforts. In this regard, dealing with financial requirements for demand-oriented TVET is an important issue. It includes e.g. information on actual costs and major cost drivers as well as containing costs as far as is feasible. Another main issue is mobilising funding sources in addition to public funding, with the main focus on financial contributions from companies and trainees (respectively their parents) as TVET stakeholders and beneficiaries. A third major issue is administration and the allocation of funds with a focus on transparency and accountability as well as efficiency and effectiveness, e.g. through performance-based allocation mechanisms.

**TVET Teachers**

Competent and motivated TVET teaching staff (teachers and trainers) is – in Viet Nam, other ASEAN countries and beyond - widely regarded as one of the most important success factors for achieving the goals of improving the quality and demand orientation of TVET. Accordingly, developing such competent
teaching staff is often included in TVET strategies as a strategic goal and intervention with major leverage potential (i.e. a “breakthrough solution”).

The point of reference for developing TVET teachers and trainers are the respective occupational requirements as specified in an Occupational Standard for TVET teachers and trainers. An analysis of the occupational requirements reveals a significant difference between TVET teachers and trainers compared to other teachers. The job descriptions (or profiles) for TVET teachers and trainers are extremely demanding. They include on the one hand the whole range of in-depth “hands-on” practical skills and occupational theory required for performing the occupation they practise. In addition, competence in general pedagogy and occupation-specific specialisation in didactics and teaching & learning methods and methodologies is also required.

The development of competent TVET teachers and trainers needs to take account of the required number of TVET teaching staff (quantity) as well as the required job requirements and level (quality). In addition, the issue of formal certificates required for teaching / training learners enrolled in TVET programmes at different TVET levels is an important issue. Approaches for the development of competent TVET teaching staff need to address on the one hand existing staff, by providing adequate measures for upgrading and further developing them (i.e. in-service training). On the other hand, efficient and effective solutions for initial or pre-service education of TVET teaching staff are also needed.
Reflections on Conference Topics

OUTCOME-BASED STANDARDS IN TVET
IN THE CONTEXT OF ASEAN INTEGRATION
3. Outcome-based standards in TVET in the context of ASEAN integration

3.1 Introduction

As the complexity of capital intensive production and technological change grows, the qualitative demand of employers with regard to well-trained middle-level technical staff increases significantly. This includes a broader and more in-depth occupational skill-set, knowledge and attitude to work. Therefore, the requirements regarding respective TVET qualifications are also growing substantially.

In addition, in the context of globalisation with the increasing internationalisation of business activity and the related trends in standardisation, “global players” in particular are requesting more and more comparable TVET qualifications as well as basic occupational competencies - regardless the country in which they have been acquired. Such demands have increased with the advent of regional associations and federations such as the EU, NAFTA, ASEAN, and the General Agreement on Tariffs and Trade (GATT), SAARC, the MERCOSOUR agreements and related developments in regional economic and employment strategies. In parallel, quality management systems (e.g. ISO 9000) and standards as a means of achieving quality have become key issues, initially mainly driven by the business community. Another dimension in this regard is the increased focus on labour mobility.

Improving labour mobility is an issue of rising importance worldwide and also in particular with regard to ASEAN integration. According to United Nations’ estimates, the current world migrant population is estimated to be of the order of about 215 million, representing about 3% of the world’s population. The proliferation of global migration is accompanied by dramatic diversification in terms of the origin of migrants and their distribution across countries and regions. The UN estimates that from 2005 to 2050, nearly 100 million migrants will leave poorer countries for richer nations. The quest for increased productivity at lower cost provides a powerful impetus for the developed economies to seek out skilled manpower from abroad as they experience a shortage of highly skilled manpower due to ageing populations and the expansion of economic and social networks.

Worldwide flows of remittances have shown a steep rise in recent years in sync with rapid migratory movement. Migrants’ remittances are estimated to have grown to US$ 433 billion in 2008, representing an increase of $53 billion or 12% over the corresponding amount for 2007- $380 billion.
Reflections on Conference Topics – Outcome-based standards in TVET
World migrant stock is often defined in terms of their skills. Some are rated as highly skilled, some simply as skilled, while others are semi-skilled. The remaining segment bears the tag of unskilled or, more appropriately, low-skilled. In general, skill can be defined in terms of either education or occupational level. The main international classification based on education is called the International Standard Classification of Education (ISCED) and the other, based on occupational level, is the International Standard Classification of Occupation (ISCO).

In this regard, the area of standard development related to TVET has become a main element within the developments undertaken to create qualifications frameworks. An ILO analysis shows that in 100 countries the development of standard-based qualifications frameworks actually is underway. This includes many countries in the Asian and ASEAN region.

Many countries have focussed on increasing the demand-orientation of TVET and have also taken steps to develop occupational standards as well derived TVET delivery standards to meet the demand. Some are beginning to develop multinational approaches and benchmark national standards to international requirements.

### 3.2 Status of discussion

Standards\(^1\) are statements approved and formalised by a recognised body which defines the rules of procedure in terms of a given context or the results to be achieved. A standard may be expressed in quantitative terms, stating absolute or relative figures or using indicators, or in qualitative terms, using wording which has to be specific and accurate. A further distinction can be made between input, process, and output standards (Pollitt and Bouckaert, 2004, p. 107):

- **Input standards** are standards regarding resources (for example staff, students, materials) which should be available for TVET delivery;
- **Process standards** are standards regarding activities which take place to generate output and expected outcome;
- **Output standards** are standards regarding the products / results of TVET processes, and therefore lay down the level of performance to be attained.

Looking in detail into the landscape of different standards related to TVET reveals a variety of approaches, definitions and related terminology, which sometimes may even appear confusing. So the following standards can be distinguished:

\(^1\) The definition follows the CEDEFOP Glossary http://www.cedefop.europa.eu/EN/Files/4106_en.pdf.
**Competence standard** refers to the knowledge, skills and attitudes linked to practising a job

- **Educational standard** refers to statements of learning objectives, content of curricula, entry requirements and resources required to meet learning objectives
- **Skills standard** refers to performance level, requirements of essential knowledge, skills and attitudes to perform the tasks of one occupation.
- **Occupational standard** refers to statements of duties and tasks related to a specific occupation and to its practise in similar jobs
- **Assessment standard** refers to statements of learning outcomes to be assessed and the methodology used
- **Validation standard** refers to statements of level of achievement to be reached by the person assessed, and the methodology used
- **Certification standard** refers to statements of rules applicable to obtaining a certificate or diploma as well as the rights thus conferred

According to the system, these standards can be defined separately or as part of a document. With regard to the variety of terminology and definitions, it is essential to discuss the issue of TVET-related standards always in the light of different countries’ general socio-economic and political conditions as well as specific underlying goals, conceptual approaches and related terminology. It is on this basis that this paper elaborates on different approaches, definitions and related terminology in order to lay the foundation for a discussion of this topic during the TVET conference.
In a first simplified approach, standards related to TVET can be divided into two major categories:

a. **Occupational standards**: defining the expected TVET outcome from an employers’ perspective (i.e. outcome standard),

b. **TVET (delivery) standards**: facilitating achievement of the expected TVET outcome through demand-oriented TVET delivery (i.e. input/process-oriented standards).

Occupational standards play a central role as the focal point of reference for demand-oriented TVET by specifying the outcome and outcome quality from the perspective of employment and employers. Occupational standards are therefore the starting point for developing demand-oriented TVET programmes, and also the end point of TVET delivery as the point of reference for assessment and certification.

TVET (delivery) standards can be characterised as standards or minimum requirements related to important elements of outcome-based (or demand-oriented) TVET delivery, such as TVET learning outcomes, TVET teaching staff, learning infrastructure, curricula, etc. Since they are aimed at meeting the required outcome quality defined in the occupational standards, they are derived standards.

Both standard categories, when wisely interlinked, play a major role with regard to achieving demand-oriented TVET quality.

### 3.2.1 Occupational Standards

An **occupation** is defined as a set of jobs whose main tasks and duties are characterised by a high degree of similarity. A job is a set of tasks and duties performed, or meant to be performed, by one person, including for an employer or when self-employed. A job is not an occupation and vice versa. An occupation relates to a person and his/her role in the labour market (e.g., accountant). A sector defines a group of related economic entities or companies (e.g. financial sector, mining sector, agricultural sector). Most occupations (i.e. accountant) occur in many sectors, but some occupations are quite sector-specific (i.e. mining engineer). The critical point is that responsible occupational standard-setting bodies should define generic occupational standards that will facilitate individuals working in similar occupations in different sectors, as opposed to standards that are sector-specific.

**Occupational standards (OS)** describe an occupation (i.e. „what“), determine the level of performance required in the labour market (i.e. „how well“). The occupational profile plus the performance criteria build the OS. OS are “clas-
ifications and definitions of the main duties and tasks that people do”. OS are key elements of qualifications systems and frameworks. OS are therefore the starting point for developing demand-oriented TVET. The crucial point here is that TVET specifications – technical and vocational education and training standards - need to be developed based on employment requirements - occupational standards – in order to be responsive to labour market needs.

Here are examples of the three main different ways in which OS try to establish a link between qualifications and occupations in the labour market. These different ways, in turn, account partly for the different characteristics of occupational standards in terms of form and content.

A first group of OS is primarily conceived as a classification system providing categories for statistical monitoring of the labour market (i.e. statistical OS). OS of this type, for instance International Standard Classification of Occupations (ISCO), do not necessarily express competence requirements of the labour market. However, qualifications may refer to them for guidance and the classification may also be used to collect information prior to developing TVET qualification standards. In some countries, more elaborate classifications of occupations provide information on competences, work conditions, and qualifications required to obtain a position in that occupation. The key features of these standards is their comprehensiveness; all ‘the main jobs that people do’ in a country are systematically registered and classified.

A second group of occupational standards takes the form of benchmarks for measuring occupational performance, in either a work or an education and training context (i.e. benchmark OS). Like the standards in the first group, they tend to include all the occupations existing in the labour market. The idea of a benchmark inherent to them leads to the formulation of performance requirements, i.e. they are based on a systematic work analysis and they are measurable. They serve as a reference to develop qualifications and learning programmes, but they are also used in human resource management for assessing learning needs or benchmarking good practice.

A third group of OS describes the occupation to which a specific qualification should lead (i.e. pedagogic OS). In this case, OS are developed in an integrated process with educational standards. For each qualification, OS are developed first to serve as a basis for defining educational and assessment standards. In addition, occupational standards in the group can be related to different positions in a classification of occupations. This is a model typical for regulated systems, where qualifications are awarded by the state (sometimes in cooperation with social partners), and where one qualification corresponds to one occupational profile.
A comparison of OS leads to the conclusion that despite the similarity suggested by the use of a single term, there are various disparate standards in terms of form, content and functions. This variety is not surprising, as TVET systems across the world are also very diverse. However, it could be worth analysing the costs and benefits of linking education and employment of various kinds of OS in their national context.

### 3.2.2 TVET (delivery) standards

TVET standards can be characterised as standards or minimum requirements related to important elements of outcome-based TVET delivery. Since they are aimed at meeting the required outcome quality defined in the OS, they are derived standards. By focusing on standards in TVET, we indirectly ask the fundamental question of how to increase the overall relevance and quality of TVET qualifications. A common concern is whether qualifications are able to respond to the needs of the individuals and the companies they are ultimately supposed to serve.

While OS follow the logic of the occupation and performing it in the real world of work, TVET (delivery) standards follow a pedagogical logic, translating outcome requirements defined in OS into corresponding learning outcomes and a suitable teaching and learning approach. Standards in TVET focus on specifications or norms regulating the learning outcomes, content, delivery process of teaching and learning as well as award of TVET certificates. They focus on what people need to learn, how they will learn it, and how the quality and content of learning will be assessed.

TVET standards principally serve the following functions:

- **Quality assurance:** Standards determine the quality of TVET delivery. They contribute considerably to the national recognition of qualifications by all stakeholders, especially when they are formally recognised by the state and the private sector.
- **Transparency:** Standards make the objectives, content and required level of training visible and verifiable. This is just as important for teachers and trainers as it is for trainees and apprentices. The potential employers of vocational training graduates on the labour market are also interested in transparency. They want to know what the applicant has learned and what work requirements he/she is able to fulfil.
- **Comparability:** Where standards are mandatory, everyone must comply with them. Hence, it can be assumed that the outcome based qualifications and, the level of related occupational competence reached, are aligned to the respective OS and are comparable irrespective of the school/training institute or training company where they have been acquired.
Reflections on Conference Topics – Outcome-based standards in TVET.
Standards related to TVET can also be used as the benchmarks for recognition and certification of competence obtained outside the formal TVET system, e.g. through learning on the job (work experience) or self-guided learning. Particularly in those countries where large sectors of the population have not obtained any certified qualifications, the recognition of prior learning through assessment is a highly relevant tool in a TVET system. In order to demonstrate their level of occupational competence, people can attend an assessment centre, where their competences or validated through competence standards. This use of standards will acquire even more importance as changing the place of employment or even occupation is becoming increasingly necessary and complete re-training is not always possible.

In addition to these main functions, recognised standards are also a precondition in some countries for appropriate wages/salary classification and entitlement to financially backed retraining, pension rights in case of occupational disability or a suitable level of pension.

As mentioned, the quality of standards largely determines the quality and effectiveness of a TVET system. Hence, it is not easy to decide which of the possible models for standard design and development is best suited to a specific country. Various factors and needs have to be weighed as far as possible within a long-term perspective.

Factors such as the skilled manpower potential on the labour market, education policy and the interests of social partners, other political goals, economic development dynamics, socio-cultural specifics and the historical and contemporary framework conditions in a country influence both the defining of vocational education and training standards as well as the methods for putting them into practice.

### 3.2.3 Development of outcome-based TVET standards

The development of standards related to TVET is a complex process which requires decisions to be made about a whole series of characteristics and dimensions. There are actually three conventional basic models:

- **The assessment-led model** (e.g. in the United Kingdom, National and Scottish Vocational Qualifications, NVQs and SVQs)
- **The occupation model** (“Berufskonzept” e.g. in Germany, Austria, Switzerland, Denmark and (partly) in the Netherlands and in apprenticeship training in France)
- **The modular model** (e.g. in the Netherlands and widely used in further training in many countries represented in the ILO)
These three basic models are to be found in school-based training systems as well as in TVET with cooperative modes of delivery ("dual system" types) where TVET schools and companies are partners involved in TVET provision. In some countries, these models are to be found in parallel to each other. Furthermore, there are various combinations of these three approaches worldwide which show a great diversity.

**TVET standards can be regulated in different ways.** The following alternatives are possible:

- **National, nationwide mandatory character**
- **Regional mandatory character** (e.g. in larger countries with very differently structured regions)
- **Sectoral, branch-specific mandatory character**
- **Special “Chamber of Commerce regulations”** which are only valid for the Chamber district.

The extent to which a TVET standard is strictly mandatory could vary. For instance, main elements could be mandatory nationwide whereas a certain percentage could be flexible – to be shaped according to a range of variables, e.g. resulting from the specifics of the regional economic structure, labour market situation and specific occupational requirements (e.g. 70% mandatory and 30% flexible within given target boundaries). Combinations of this kind are growing in importance in order to be able to react flexibly and in a differentiated manner to a broad spectrum of requirements.

Today the **validity of standards in TVET** is shorter-lived than in the past – as occupational skills and knowledge become outdated more quickly due to rapid changes in the world of work including e.g. technology and work organisation. In order to provide TVET which is relevant to technological, economic and social developments, it is necessary to revise and update the standards at regular intervals.

### 3.2.4 Competence based TVET systems and qualification frameworks

It can be said that the TVET system and business sector are two subsystems of society. Both are connected and are constantly interacting but follow their own particular objectives and logic. The key question is how to **coordinate both subsystems** to reduce quantitative and qualitative mismatches. A mismatch between TVET provision and labour market demand can be either quantitative or qualitative. In the first case, there is a discrepancy between the number of jobs and the number of people with qualifications required for those jobs. A qualitative mismatch means that the TVET system fails to develop the competences
needed in the workplace by failing to train people to a sufficient level to meet employment requirements.

On the qualitative side, defining OS and derived standards in TVET is a potentially powerful coordination mechanism. The crucial point here is that TVET needs to be developed based on employment requirements - OS – in order to be responsive to labour market needs. Particularly with a view to employability, ideally OS should be developed for broader occupations covering a range of typical occupational requirements of various employers instead of focusing on narrow jobs.

A degree of confusion seems to persist regarding the difference between output and outcome of education and training. Output can be defined as the results of learning in an educational context, whereas the outcome of learning is the capacity of an individual to implement what he or she has learned in a “real life” professional context (competence).

**Figure 1: Steering the TVET delivery process**

<table>
<thead>
<tr>
<th>Input</th>
<th>Process</th>
<th>Output</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources, syllabi,</td>
<td>methods of teaching, forms of</td>
<td>learning objectives</td>
<td>knowledge, skills</td>
</tr>
<tr>
<td>teaching material,</td>
<td>classes, didactic concepts etc.</td>
<td></td>
<td>and competences,</td>
</tr>
<tr>
<td>learning programmes etc.</td>
<td></td>
<td></td>
<td>occupational performance</td>
</tr>
</tbody>
</table>

Steering through context variables  
Steering through outcome-orientated standards

**Competence-based or outcome-based TVET systems** have become very popular. They emphasise the idea of empowerment and “fit very well within the policy discourse of employability and lifelong learning” by rendering learning processes and outcomes measurable and manageable throughout the lifespan. But although this approach is seen as particularly effective in closing the gap between TVET provision and employment requirements, the associated risks should be kept in mind. Bureaucratisation and the tendency to lag behind developments in the workplace could jeopardise the bridging function standards are intended to perform between education and employment. In addition, using OS to define learning outcomes and thus to formulate qualification standards and shape assessment practice should have a strong impact on curriculum design, delivery and teaching appraisal. For those countries where this approach is new, adopting
it may signify a “paradigm shift” which implies a whole range of other TVET system reforms. At the first stage of such reforms, there might be a gap between formal (conceptual, institutional and legal) developments on one hand, and the practice of education and training professionals in the field on the other hand.

**Learning outcomes** can be defined as “statements of what a learner knows, understands and is able to do on completion of a learning process and are defined in terms of knowledge, skills and competences” (Cedefop, 2008). Learning outcomes are at the heart of what is generally called competence-based education, i.e. education that should “enable students to acquire the competencies needed in their future profession and in society as a whole”. The focus is thus shifted from what is being taught and how it is being taught (input) and to what a student will know and will be able to do (output/outcome).

According to the definition of the European Commission in the recommendations on a European qualifications framework for lifelong learning, a **qualification** is “a formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to a given standard”. A qualification as defined above is expressed in a formal document (i.e. certificate, degree, diploma or award) and is based on norms and specifications regulating its award. These norms and specifications constitute qualification standards.

In general terms, a **National Qualification Framework (NQF)** is basically a quality-assured national system or structure for giving recognition to the attainment of knowledge, skills, attitudes and values in trades, occupations and professions. It is meant to serve as a comprehensive, nationally consistent yet flexible framework for all qualifications. There is no universal definition for NQFs. Each NQF is nation-specific. They are based on the competencies required or expected in a setting of given occupations and training providers within a specific national policy framework.

The international debate about what should be considered the objectives of NQFs covers a variety of aspects. The key points can be summarised as follows. The objectives of NQFs - such as improved access and inclusion to education and training, better prospects for employment and income as well as improved mobility and flexibility of workers as stated in the current international discourse - are overambitious and go well beyond what a NQF can deliver by itself. Such goals are deemed more pertinent to a comprehensive education or TVET reform process. NQFs are not per se a means to reach out to the marginalised nor do they guarantee an increase in employment. However, the aspects of quality and efficiency should be explicit objectives of a NQF, as the setting-up an NQF per se does not guarantee an appropriate level of quality teaching and learning. NQFs should be seen as potentially useful instruments for channelling (or ‘translating’)
some aspects of the TVET reform process, such as making qualifications more transparent and comparable – thereby contributing to improved employability and productivity. However, NQFs should be regarded as the outcome rather than the starting point of a comprehensive and sustainable education and TVET reform process.

NQFs can contribute to making qualifications comparable by providing a certain structure, standards and assessment criteria. If conducted in an inclusive manner, the multi-stakeholder dialogue needed to develop a NQF is in itself a positive result, as it can contribute to improving the communication, trust and sharing of responsibility for education, training and employability among the different actors. It can also be used as a platform to assist the creation of representative bodies for employers and employees or build the capacity of existing organisations. The discussions about standards and assessments can help to boost the public image of TVET by showing what it can deliver. Assessment requires appropriate infrastructure (tools, centres), assessors, and financing. If these are well established on a sustainable basis, NQFs can be a valuable instrument for ensuring the quality of TVET. There are common principles and advantages that are worthy of comparison, especially given today’s highly mobile labour force.

Often unitization is seen as a precondition for the recognition of prior learning (RPL) or for the development of individualized career avenues. To segment competencies into small units puts the principles of occupational mobility, contextual learning, and the development of broad meta-skills at risk. The demand of modern workplaces is diametrically opposed to unitisation. The globalisation of the international work environment leads to increasingly complex tasks for employees in many areas. The components of work profiles are increasingly being replaced by

- Self-management
- Autonomous organisation
- Own responsibility
- Action based on communication in a social context

To handle these challenges successfully, employees have to be enabled to act in a flexible manner, to solve problems, learn and perform independently and co-operate with others. Such competencies are transferred mainly in action-oriented working and learning such as “German style” TVET approaches. This form of learning can be characterised as a combination of action-oriented working and learning-by-doing in which not only “theoretical” subjects are built up in the learner’s head, but in which the learner is using their head, hand and heart in a holistic way, i.e. learning while working to produce a meaningful product or service.
Reflections on Conference Topics – Outcome-based standards in TVET
Comprehensive action-oriented learning can only be efficiently developed if the learning process is in line with the methodology that it is supposed to teach. Independent action can only be learned properly if the learner has to act and solve problems independently during training. An important consequence of these considerations is the concept of action-oriented learning. Unfortunately, the unitisation drive and the idea of credit points amplify each other. It seems to be important here to mention that unit standards need to be of a meaningful size to cover the knowledge, skills and attitudes (competencies) required to perform occupational tasks which lead to an economic result such as a product or service.

Assessment is a crucial element of any NQF as it is the key to recognising what skills and learning have been acquired. Recognition seems to be guided by two different objectives: on the one hand, there is a certain tendency to understand recognition as the possibility to proceed to higher levels of education, while on the other hand there is the tendency to understand recognition as the improved employability of graduates. The latter is the ‘classical’ understanding of recognition in TVET contexts: the participation of employers or respective bodies in the assessment and certification process will lead to the recognition of TVET outcome by employers. However, the first kind of recognition (potential access to higher levels of education) can also be valuable in a TVET context as it may help improve the otherwise rather weak public opinion of TVET. In many countries, the uncertainty of the labour market causes an increasing number of people to stay within the education and training system for longer periods of time, avoiding the confrontation with the labour market. However, this additional education and training does not necessarily mean that individuals are better prepared to meet the demands of the labour market. In addition, it also needs to be considered that assessment is often prohibitively expensive for most people in developing countries. If no means of credible yet affordable assessment is developed, the declared objective of improved access and inclusion cannot be achieved. In practice, this can also mean that recognition of prior learning remains an unachievable aim.

A NQF that encompasses the certification of competencies needs a reliable and economically viable assessment system. Germany’s Chamber of Commerce & Industry-controlled dual TVET system, with mixed panels of honorary and industry-experienced assessors, pre-defined test items, and specific strengths in the area of complex practical performance, is one way of assessing vocational/occupational competencies. There are alternatives available in the world of work, which rely on professional assessors and are checked by professional verifiers. Here, the key source of evidence is often workplace observation of individual applicants. The German expertise and experience available in this area appears to be a tremendous asset and preferable to alternative assessment approaches, for reasons of affordability, objectivity and equity. Assessment is
the weakest point in many qualifications frameworks. If this issue is neglected - because the system is underfunded, compromised, or corrupt - then certificates become meaningless and lack credibility and the qualification framework as a whole will be undermined. The issue deserves special attention in any project or programme and should be a major topic in the TVET policy dialogue.

3.3 Core elements for a quality breakthrough

OS and TVET standards play a central role for demand-oriented quality TVET delivery as well as for accepted and comparable TVET qualifications and alignment in NQF. Many ASEAN countries pursue common goals with regard to TVET development, e.g. increasing demand-orientation, training people for employment, providing a qualified workforce to support economic development, fostering life-long learning as well as facilitating educational and labour mobility. Therefore, it is not surprising that the development of TVET related standards are also important elements of TVET development efforts.

As the reflections in this paper indicate, the topic is very complex with a variety of different standards for different purposes, diverse conceptual approaches and
terminology and - last but not least - also various public, business and civil society players. In this regard, it is considered as extremely helpful to move a step further from the reflections in this technical background paper to an in-depth exchange on this topic during the Regional TVET Conference.

It is intended to lay the focus of this exchange on consideration of selected key issues of common interest. This consideration ideally will concentrate on opportunities, possible limitations, challenges and lesson learned - based on the practical experience gained in the development of standards as well as conceptualising and implementing standard-based TVET approaches in different countries (particularly in ASEAN). Knowing that different countries are also at different stages of such development processes, it appears to be highly beneficial to make use of the conference as a platform to learn from one another and to strengthen regional TVET networking with regard to this core topic.

Potential aspects of discussion may include e.g. to what extent goals associated with standard-based approaches could already be reached, what were important success factors and how to avoid typical traps (such as a lack of realism), how to succeed in involving the business community as key players in occupational standard-setting and in occupational assessment and certification.

Core guiding questions for discussion in the Conference include:

**Policy level**
- What is the conceptual understanding that exists in ASEAN countries regarding occupational standards as the basis for TVET delivery?
- How are the necessary capacities developed (with a view to stakeholders from the public and business sectors) for staff to be able to contribute to the development and review of standards as well as their implementation (not at least in training processes)?
- How is the involvement of the business sector in OS setting and assessment and certification realised, organised and ensured?
- What legal basis exists for involving the business sector in processes such as standard-setting, assessment, testing and certification and how effective are they?
- How are the necessary funds and other resources planned and do they provide for the development, implementation and review of standards?

**Networking level**
- How (in the national dimension) is the cooperation, involvement and networking of different stakeholders organised and realised in the development, review and quality management of standards (OS, assessment standards and derived TVET delivery standards)?
• What kind of cooperation and networking exists (in the regional dimension) in the field of development and review of standards and how they compare with a view to mutual acceptance and recognition?
• What demands can be identified for improving networking with the objective of contributing to improving the quality and acceptance of standards by the business sector in the region as well as strengthening the capacity of the actors involved?
• What kind of organisational structures, sectoral or thematic exchange, cooperation and networking exists within the business sector (in the national and regional dimension) to address the issues of standard-setting, assessment, testing and certification in particular?

Technical level
• What kind of methodology is used in developing and reviewing occupational standards?
• How is the institutional basis (e.g. regarding assessment, testing and certification) for the implementation and quality control of standards developed?
• How can the conceptual/methodological capacities within the business sector be defined so that they can take part in the processes of standard-setting, assessment, testing and certification? What demands exist regarding the development and/or strengthening of capacities and in which areas?
• What aspects and areas can be defined for the necessary development of staff capacity and the type of staff responsible for the implementation (e.g. teacher and instructor) of standards?
• How can the interest and motivation of representatives of (different levels) business sector be defined and enhanced so that they can be involved in the processes of standard-setting, assessment, testing and certification?

3.4 Selected examples of regional and international practice

3.4.1 Korea’s National Competency Standard

Korean National Competency Standard is a concept which identifies and standardises the competencies required for successful job performance. It is a comprehensive concept including occupational competence such as knowledge, skills and attitude necessary to perform a job - and assessment of the ability.

In the 1960s and 1970s when economic development was driven by the government, Korea’s VET (Vocational Education Training) and qualification systems

2 Source: http://nos.hrdkorea.or.kr/nos
played a major role in producing industrial workers. But from the late 1990s, criticism has been raised that those systems do not reflect the requirements of industries, weakening the effectiveness of VET undermining the credibility of the qualifications.

Korea began to develop occupational standards through its Ministry of Labor and Human Resource Development Services of Korea (HRD Korea) in 2002. Korean National Competency Standards are developed according to procedures which involve the establishment of a development plan, analysis of development areas’ characteristics, occupational structure analysis, job analysis, competence unit design, standardisation, evaluation of basic competencies, determination of competency level, code allocation, and occupational standard verification. The process involves experts in industry, VET, and question-setting and each major step involves a feasibility review. More details on http://nos.hrdkorea.or.kr/nos.

3.4.2 Indonesian National Competency-based Certification System

In Indonesia, certification takes place through certification agencies (Lembaga Sertifikasi Profesi, LSPs), which are licensed by Badan Nasional Sertifikasi Profesi (BNSP), the national autonomous body under Ministry of Manpower and Transmigration (MOMT), for assessment and certification. The LSPs are usually set up by industry associations, but some LSPs are private companies. The actual assessment of graduates takes place in LSP licensed assessment centres called Tempat Uji Kompetensi (TUK).

Functions of the LSPs include:

- Designing and planning competency-based certification schemes according to the needs of the respective occupational group through close consultation and co-ordination with related concerned parties (government and private)
- Developing assessment tools and procedures on the basis of the occupational competency standards or international standards or specific standards
- Appraising, establishing and monitoring of TUKs
- Organising competency-based assessments in co-ordination with an associated TUK
- Implementing competency-based assessment and certification procedures
- Training and assessment of assessors

LSPs are organised as private organisations and funded by the industry as well as through fees from the assessment candidates. Assessment is undertaken by
Reflections on Conference Topics – Outcome-based standards in TVET
external assessors who may be staff members of training institutions or private industry. All assessors are licensed by BNSP. Places of assessment are also licensed and are most often located in training institutions but may also be set up by companies.

Under the National Competency-based Certification System in Indonesia, three different approaches for competency-based assessment and certification are possible:

- **First party approach**: Competency-based certification conducted by a BNSP-licensed TVET institute or company to certify its own students, graduates or employees
- **Second party approach**: Competency-based certification conducted by a licensed company certification agency to certify assessment candidates who are employed by its suppliers or subcontractors
- **Third party approach**: Competency-based certification conducted by an independent organisation

In order to maintain the integrity of the assessment and certification system, MoMT and BNSP favour the third party approach as the preferred delivery mode of the National Competency-based Certification System. Therefore, third party competency-based certification is the most common form of the three approaches being implemented through the LSPs.

During the conference, other Indonesian experience in Occupational Standard-setting and implementation as well as assessment and certification will be shared.

### 3.4.3 Structure and major components of “National Occupational Standards (NOS)” in Germany

From the very beginning, the occupational outcomes needed at the workplace set the occupational standards. Standards in the Dual System, therefore, have always been outcome-based. Even though it is not explicitly declared as an occupational standard, the “Berufsbild” (occupational profile) fulfils a comparable function. Vocational training school curricula for the school-based part of TVET delivery as well as in-company training plans for the company-based part of TVET delivery are developed in line with the occupational requirements defined in these profiles.

In the early days, the leading electrical and mechanical engineering industries set occupational training standards by structuring TVET into a basic training year and two specialist training years.
The traditional structure of training regulations in the Dual System up to the mid-1990s offered three different types:

- **The mono-structured NOS**, a three-year training without specialisation, typical for business administration.
- **The profile-structured NOS**, e.g. mechanical engineering with different occupational profiles such as car mechanic, industrial mechanic, etc.
- **The two-level-structured NOS**, first level and qualification after two, second level and qualification after three years, e.g. construction industry.

Since 1995, a broad variety of structuring opportunities have been introduced into the standardisation process: compulsory and optional competence modules, additional competence modules, e.g. foreign language or further training modules, for high achievers and other opportunities. Most of these new structures are part of the last third of the training period - in the context of improving occupational outcomes and hence employability.

Major components of the initial training regulations ("Ausbildungsordnungen") are:

3. **The name** of the "training occupation" (i.e. mechatronic);
4. **The duration** of the training (2 to 3.5 years);
5. **The characteristics** of the "training occupation" or its main functions ("Berufsbild");
6. **The in-company-training specification** ("Ausbildungsrahmenplan"), an outcome-oriented training curriculum
7. **The assessment requirements** and assessment procedure

**Further Training Standards (national and regional)** have only two components:

1. The name of the "further training occupation" (e.g. "Industriemeister")
2. Assessment requirements and procedure
COOPERATION WITH THE BUSINESS COMMUNITY – IMPROVING DEMAND-ORIENTATION OF TVET
COOPERATION WITH THE BUSINESS COMMUNITY – IMPROVING DEMAND-ORIENTATION OF TVET
4. Cooperation with the business community – improving demand-orientation of TVET

4.1 Introduction

TVET which is relevant to the world of work prepares the individual for the workplace and enables people to find employment, generate income and escape from the spiral of poverty and dependency. In many countries all over the world, TVET is regarded as part of basic social services and is the exclusive responsibility of the state. This perception is mainly based on the aim of free education and shall not as such be questioned.

Nevertheless, in countries where the TVET system is functioning exceptionally well robust participation of the business community can often be observed: this participation relates to various issues of TVET planning and implementation, such as policy formulation, occupational standard development, TVET delivery, certification and assessment as quality assurance. The TVET trainees are prepared for the future workplace and the outcome of TVET is recognised by industry. The role of the state, however, remains important: even with a strong business sector involvement, government remains involved in a prominent role in mail responsibilities for aspects of TVET regulation and for steering TVET delivery and finance. Furthermore, it will always be the responsibility of the state to ensure broad access to TVET for all kinds of target groups, particularly for the poor and other disadvantaged groups.

Particularly in rapidly developing economies such as in ASEAN the demand for skilled labourers is continuously increasing. In this situation, TVET systems are often unable to provide sufficient numbers of qualified workers for the labour market. Experience has shown that TVET offered in TVET institutes/schools very often lacks a workplace orientation and internships provided at companies aren’t sufficiently linked to the training objectives. Practical phases in companies is very often too short, unstructured and thus does not provide enough scope for real practical work. As a consequence internships are mainly work observations. Companies are usually not interested in short-time trainees since it is perceived as time-consuming to adjust them to the working environment and introduce them to the safety requirements.

Companies claim that TVET graduates are mostly not equipped with sufficient practical skills and knowledge about working in production processes as well as workplace-specific behaviour. TVET graduates would therefore not fulfil the workplace requirements of the industry. Therefore, companies are having to provide additional targeted on-the-job training for newly recruited TVET graduates.
in order to overcome their lack of practical industry experience and to ensure that the graduate’s competences match the requirements of the workplace. Thus, e.g. in Viet Nam job training schemes by German companies reportedly increase the annual budget costs by up to 20%.

Ideally, government and business community will cooperate on a basis of common goals and mutual respect, where both partners make efficient use of their competitive advantage. Companies need to take a prominent role due to the fact that in the end they are TVET’s “customers” and have to utilise its outcome. Therefore, companies need to be involved when it comes to defining occupational standards, TVET content, delivery and assessment. The key message therefore is: “TVET with the business sector – for the business sector”.

### 4.2 Status of discussion

The business sector can be considered as an important stakeholder for expanding the required resources and capacities for TVET and at the same time to improve the demand-orientation basis of TVET. By taking part in a regular sector dialogue, the business community can have a positive influence on the content and mode of training delivery, as long as the business community is respected by the state as a valuable partner. It can be assumed that robust participation of the business sector in TVET will help to:
• Strengthen the relevance to the labour market and demand-orientation of training
• Generate additional training capacities in the real world of work
• Equip individuals with the skills, knowledge and attitudes/soft skills needed for a future workplace and thus shorten the functional familiarisation period of TVET graduates at the workplace and reduce the companies’ recruitment costs
• Recognition of the TVET outcome by employers through transparent assessment and certification with business sector involvement
• Reduce the demand for public funding

4.2.1 Forms of cooperation with the business community in TVET

In order to ensure the maximum demand orientation of TVET, it is important to involve representatives of the business sector in decision-making and implementation processes at several stages/levels of a TVET system, mainly:

• Formulation of TVET policies
• Development of occupational standards
• TVET delivery
• Assessment and certification processes

Ideally, responsibility for the overall steering and management of a national TVET system is given to an independent TVET agency, where government, companies, trade unions and civil society are all adequately represented. However, if such a joint multi-stakeholder agency for TVET is not in place, the business sector can be involved in each of the above mentioned fields/levels. Companies may be represented, for example, on the advisory boards of TVET governing bodies or authorities (at regulation and steering level) or of TVET providers (at implementation level). Company representatives are then invited by the respective authorities e.g. to participate in the development of a national TVET strategy or TVET laws; providing information on required competencies, they should take over a leading role in occupational standard development; they might offer training at the in-company training phases, define testing requirements, participate in vocational assessment and certification of graduates, define standards for TVET teacher qualifications, offer practical (further) training for teachers, etc.

Training offers by private TVET institutes form another special form of linkage between private sector and the TVET system, where the same principles for cooperation with companies apply.

Therefore, the following sub-sections provide a short but differentiated overview of possible forms of business sector participation.
Business sector involvement in policy formulation

For the adequate and demand-oriented regulation, steering, financing, delivery and quality assurance of vocational training, capable institutions are required at both, national and provincial level.

Primarily working in institutions responsible for regulation and steering, the active participation of all the relevant stakeholders (including government, business sector and civil society) is important, if each of them at the same time contributes substantially to a functioning TVET system. Acceptance and compliance with TVET laws and policies is greater where stakeholders are already involved in the decision-making process. This applies in particular to statutory frameworks governing the obligations (e.g. financial obligations) different interest groups may have. Furthermore, a clear and agreeable differentiation of roles and responsibilities between national and decentralized level is necessary to consider region-specific general situations (e.g. social structure, labour market).

However, participation of the business sector in policy formulation at national level often remains a challenge. If, for example, the organisational structures of Chambers of Commerce and industry associations are weak, the issue of adequate representation of companies is difficult to resolve. Furthermore, it is often not clear to what extent economic sectors and regions are to be incorporated into the process. Nevertheless, a steady stakeholder dialogue is an important step towards cooperation, through which interest can be articulated and balanced between the different partners.

Business sector role in occupational standard development and assessment/certification

The development of occupational standards (OS) – clearly addressed by the Vietnamese government as a key element within the TVET system for improving quality – may serve as an initial step in strengthening cooperation with the business sector. As the OS development process is limited to a selected occupation, it seems more feasible to identify competent representatives of the industry and to organise working groups to jointly define the competence profile related to an occupation as demanded by companies. At the same time, this step is highly relevant, as OS shall build the basis for curriculum development and hence for the training programmes offered by TVET providers and implemented by TVET institutes. In other words: only if companies define the required profiles by formulating occupational standards can demand-oriented TVET delivery be achieved later on.

In addition to that, graduates’ certificates are only accepted by employers if the final examinations are based on the same occupational standards developed by the industry. Hence, twofold involvement of the business sector is needed for
assuring the quality of TVET: first, in the development of occupational standards and secondly in the certification procedures. In accordance with this, close cooperation with the business sector will take place at national as well as at provincial level.

**Business sector participation in TVET delivery**

When TVET delivery takes place in the form of in-company training, trainees have the best opportunity to become familiar with real workplace requirements and work processes. This ensures that training is highly relevant to practice and provides the trainees with competencies to work under real production conditions independently. Furthermore, they gain the social skills they will need for the future workplace (e.g. for communication, conflict resolution and negotiation, personal effectiveness, creative problem-solving, teamwork). At the same time, in-company training creates additional training capacities. Therefore, there is no need to build new expensive workshops at TVET institutes, equipped, for example, with high-tech machinery. So it reduces the financial resources to be spent on TVET institutes.

Possible options of in-company training are:

- Relocation of practical training phases to companies – e.g. through the organisation of properly structured internships.
- Operation of company-owned TVET centres (for both initial and further training).

Other forms of business sector participation in TVET are:

- Integration of skilled company employees (or in-house trainers) in the training programmes provided at TVET institutes.
- Combination of institute-based TVET with the preparation of tailor-made products or services at the special request of companies.

**Role of the business sector regarding the training of TVET teachers**

An important area to achieve a “TVET Quality Breakthrough” is providing the best-possible training for TVET teaching personnel according to the respective occupational requirements. The business sector can also play a beneficial role here too.

Competent TVET teachers and instructors need to have in-depth experience in workplace reality and knowledge about the organisational procedures with which the trainees will be faced after graduation. Therefore, workplace exposure and in-company training need to be an integral part of TVET teacher training.
and will be regularly organised during their later assignment as teachers as well. Only exposure to a regular workplace ensures that TVET teachers can catch up with technological progress and changes in production processes. Companies usually understand this demand but still need to be convinced to allow trainee teachers and teachers to gain practical work experience within their organisation.

Another field of cooperation between TVET institutes and companies is in the assignment of highly skilled workers or technicians from the industry as practical teachers at TVET institutes. For the TVET institute, this has the advantage that workers and technicians from industry contribute practical workplace knowledge and organisational expertise, while on the other hand through such cooperation the ‘practical teachers’ acquire additional didactical skills which they can use later on for in-house training purposes at their companies.

### 4.2.2 Motivating factors for business community involvement in TVET

Companies may have different reasons for being involved in TVET. The experience gained through German Development Cooperation projects show that attempts to create participation solely via legal enforcement do not result in the intended effect. It is usually more advisable to set up a beneficial arrangement, to regard companies as partners of the government, and the government as a partner of the companies. Entering into a mutual dialogue between the state and the business community is fundamental. Only in the course of such a dialogue can companies be convinced about the benefits of their involvement in TVET. In other words: creating intrinsic motivation ensures the most sustainable contribution of the business sector. Related motivating factors in companies contributing to the training provision are mainly:

- **Investment in own personnel**: This forms the basis to gaining independence from the labour market. Also intensive re-training phases on employment can be considerably reduced.
- **Screening of trainees**: Getting to know trainees during the training provides a good basis for decisions on possible later employment (minimising the risk of appointing the “wrong” graduates). A main fear of companies in Viet Nam, for example, is that their trained labourers will leave their jobs and move to competitors even for very small increases in salary; this effect can be reduced by screening the personal behaviour of a trainee.
- **Reputation**: Training efforts can be used for marketing campaigns. Training can form part of the company’s Corporate Social Responsibility strategy.
- **Production**: Trainees can be assigned to productive activities during the training and can thus contribute to generating revenue.
Taking these motivating factors into consideration, it seems advisable that discussions with companies emphasise what employers can reliably expect to benefit from through TVET activities as this can help to win arguments for their greater participation in TVET within the above-mentioned dialogue. On the other hand, the training costs arising on the employer’s side also have to be recognised in order to create a meaningful picture.

Systematic analyses of cost and benefits of TVET for employers can raise awareness of the significant financial and non-financial benefits of providing workplace-integrated training. However such analyses are as yet rarely available for Asian countries. Initial examples of cost-benefit-analysis from a company perspective conducted in Viet Nam with support from German Development Cooperation will be available during the conference.

4.3 Core elements of a quality breakthrough

Considering the above-mentioned positive effects of a robust business sector involvement, one of the purposes of the Regional Conference is to share experience and solutions on how effective cooperation between state and business sector can be achieved in the ASEAN context.

Firstly, it is important to understand the interest of the business sector, state and civil society in TVET and to support their capacity to articulate and communicate this appropriately as well as the organisation of companies e.g. through chambers and associations. Ideally, the state, the business sector and civil society organisations jointly provide the general framework for TVET. These include occupational standard development and assessment and certification as quality assurance in vocational training. Apart from that, companies should also participate in the TVET delivery for more practice and “real world of work” orientation. It is necessary to set incentives for TVET institutes to engage in effective cooperation with companies. At the same time, companies need to be convinced to become actively involved in TVET planning and implementation. Therefore, governments should create favourable conditions for companies and TVET institutes who train workers for the future in a cooperative manner; for example, tax breaks and other incentives may attract companies to become actively involved in TVET. Nevertheless, the financial contributions from company to initial and further training courses may contribute to a diversification of funding.

During the conference session on “Cooperation with Business Community in TVET”, decision-makers and practitioners from ASEAN countries will share approaches and lessons learned through practical examples of forms of cooperation in comparable contexts and discuss the transferability of international and regional “good practice” within ASEAN countries. Experience has shown that
good practice models can only be transferred to countries with different contexts and general conditions in an adapted form. For example, cooperative TVET approaches need to be developed gradually and synchronised with the existing general conditions so that they fit into the specific national environment. Furthermore, fundamental aspects will be examined that have proved to be relevant for enhancing business sector participation in the regional context.

Core guiding questions for discussion in the conference include:

**Policy level**
- What legal measures are sufficient to create effective incentives for more business sector participation in TVET? What incentives are already in place and how effective are they?
- What legal measures have been proven to improve the business sector participation in TVET in other countries? How do these measures work? Which stakeholders are addressed?
- What kind of body is appropriate for ensuring a sustainable dialogue between government and the business sector at policy level?
- What general statutory conditions can serve as incentives for TVET institutes to increase their cooperation with companies?

**Networking level**
- What are the key challenges with regard to cooperation between TVET institutes and companies?
- How can companies be convinced to become more involved with TVET?
- What are the key fields of cooperation?
- What are the most important decision-making processes, in which company representatives should participate?
- Which institutions/organisations are appropriate as business sector representatives? Are these institutions in a position to fulfil this role?

**Technical level**
- Which models of cooperative TVET delivery currently exist and which ones should be (further) developed?
- What are the main obstacles faced by TVET institutes and companies with regard to cooperative TVET delivery companies?
- How can companies be motivated to invest in their own training activities, or to support the training activities taking place at TVET institutes?
4.4. Selected examples of regional and international practice

4.4.1 The German dual system as international good practice

Without doubt, the German dual vocational training system can be regarded as an international best practice model for effective and successful cooperation between the state and the business sector. In the German dual system, the degree of participation of the business sector in TVET is one of the highest worldwide. This covers all of the above-mentioned aspects. The aim of German vocational education and training is to create comprehensive employability skills – the ability to work autonomously. With regard to training delivery, the share of in-company training on all practical training phases is therefore estimated at approx. 70%.

The five strategic success factors of the German vocational training system are:

1. Close cooperation between the state and trade and industry: The state and private sector jointly provide the general framework for vocational training. This includes the development of occupational standards and curricula, assessment, certification, and quality assurance. Various bodies of knowledge and vested interests are integrated into the further development of vocational education and training systems. Decisions enjoy broad acceptance. The needs of the labour market are taken into account. Companies participate in TVET delivery. Trade and industry participate in the financing of vocational training.

2. Learning on-the-job: German vocational training aims at development of competences which allow the graduate to perform a job independently. This is achieved through a combination of practical and theoretical training at the two locations of the company and the vocational school (dual approach). In-company learning fosters knowledge and skills and supports social and personal competences. Participation in working life motivates trainees, improves learning outcomes and reduces drop-out numbers. This supports the social integration of young people. Also, the productive division of labour which occurs during training allows the cost of in-company training costs to be largely recouped.

3. Broad acceptance of standards: Occupational standards as well as related training and assessment standards are applied across the
entire business sector and provide for continuous quality and the broad acceptance of vocational qualifications. Comparable qualifications form the basis for employability and mobility in the labour market and foster lifelong learning.

4. **Qualified vocational education and training staff**: The training of teaching personnel is a core pre-requisite for high quality TVET. Only teaching staff with in-depth technical, didactical and pedagogical knowledge will be able to develop the vocational competences of trainees by applying modern teaching and learning methods.

5. **Institutionalised research and consultancy**: Systematic TVET and labour market research allow for a continuous adjustment of TVET towards technical, economic and social development. Careers guidance and advice support the selection of training and further training schemes as well as the successful shift from training to employment.

### 4.4.2 LILAMA 2 Technical and Technology College as a future Centre of Excellence in Viet Nam

The Vietnamese government in its recent policy papers has highlighted the target of an “interconnectedness between vocational training with the labour market and the participation of companies”. Not least in this context, it is planned to establish a number of selected TVET institutes as Centres of Excellence (CoEs) of outstanding quality that will meet the training requirements both of national and international standard. These CoEs are intended to cover the following key functions:

1. Provision of highly qualified workers in 3 to 5 selected occupations with the purpose of satisfying national, regional and international labour market demands
2. Fulfilment of additional functions within the TVET system including teacher training, assessment/certification and piloting of new training programmes in close cooperation with the business sector.

The first Centre of Excellence to be established in Viet Nam is the LILAMA Technical and Technology College 2 (LILAMA 2) in Dong Nai Province with support from German and French Development Cooperation.

LILAMA 2 already has an outstanding reputation for high quality vocational training in Viet Nam – mainly due to the fact that it has cooperated closely with industry for many years. The college places trainees with various industrial companies, such as Siemens or ABB, in order to complement the training offered.
at the institute with practical workplace experience. At the end of the industrial placement, the college receives a detailed rating of trainees from the companies - whereby companies have the chance to pre-select those trainees who they would like to employ after graduation. Apart from that, close cooperation with industry offers significant advantages for LILAMA 2 as well: through the regular exchange of expertise, the companies have an influence on the specification of the training content as well as the selection of modern training equipment. Representatives of LILAMA 2 will share their experience during the conference.

4.4.3 Teaching Industry concept at SMKs in Indonesia

The Indonesian Directorate of Vocational Education promotes a learning method through the concept of “Teaching Industry” (TI) for SMKs (Sekolah Menengah Kejuruan, equivalent to vocational high schools). Teaching Industry is a learning concept based on production (products and services) through school’s synergy with industry to produce graduates whose competence is in accordance with industry requirements. Demand-oriented vocational education by involving the industry as a major partner aims to improve vocational competency in accordance with industry demands and also emphasize greater entrepreneurship. Different models of Teaching Industry are applied in Indonesia. The experience of applying these models will be presented during the conference.
4.4.4 The National Training Council in Laos

In the Lao PDR, relevant stakeholders from the public and private economic sectors participate in the National Training Council (NTC). The NTC is a creative dialogue platform providing for the further development of the TVET system in accordance with the needs and requirements of the socio-economic development of the country, especially the quantitative and qualitative demands of the labour market and the upcoming economic changes and challenges in key economic areas. The nearly ten years of experiences with the NTC shows the direct impact of strong cooperation between the public and private stakeholders in the TVET sector. Relevance and significance of TVET grew in political and economical sense and in public acceptance. More school leavers found qualified and diversified training offers in recognized occupations, interested state owned and private companies employed trained people easier. Nonetheless, the expectations from the public and private sector remain quite high. Some important lessons learned are among others:

- The achievement of important TVET and labour market reform issues cannot be successfully tackled by the state alone and need a sustainable business sector engagement;
- TVET cooperation is not a one-way road – consensus between public and private stakeholders is needed consequently and permanently;
- Stakeholders special needs and interests have to be recognized and balanced out to avoid disparities and to act closely together;
- Legal framework and capacity development is needed on time to ensure a demand oriented and creative cooperation environment within the TVET sector.

The establishment of a modern and demand oriented vocational training system results from a strong and efficient partnership of public and private TVET-stakeholders, associated with the view to promote a common policy and adequate funding. The This multifunctional political and technical body NTC and the professional dominated sub-structures named Trade Working Groups (up to 10 TWG are implemented and functioning) provides an creative working environment, qualifications and certification for both TVET and skills development and brings the two ministries mainly involved, namely the Ministry of Education and Sports and the Ministry of Labour and Social Welfare and the business community closer together. Lessons learned in the Lao PDR about how the close collaboration of public and private stakeholders in TVET is implemented will be presented during the conference.
Reflections on Conference Topics

FINANCING OF TVET – ENSURING THE SUSTAINABILITY OF TVET FINANCING
5. Financing of TVET – ensuring the sustainability of TVET financing

5.1 Introduction

The sustainable financing of TVET includes defining financial requirements and sufficient generation, efficient administration and allocation of funds in the long-term – thus ensuring not only the provision of initial investment (e.g. in TVET infrastructure) but also the coverage of the operational costs of TVET delivery. Hence, sustainable financing systems are the key to both TVET quality and sufficient capacities. In Viet Nam as well as in many ASEAN countries, sustainable TVET financing has thus become an increasingly important issue for TVET policy and decision-makers in the context of TVET reforms.

The reasons for this are diverse. In Viet Nam, for example, a quantitative increase is supposed to be combined with ambitious goals with regard to quality improvement. High quality TVET in this context means: the competencies imparted are widely in line with labour market demands for skilled labourers. The training cost of TVET is varies, depending on a number of aspects. In most cases, however, high quality TVET is expensive – generally more expensive than various forms of general education. New occupational standards and curricula, modern training equipment, more and updated teaching, training and learning materials, more and better qualified teachers: All this is clearly envisaged within the ongoing Vietnamese TVET reform. Hence, overall expenditure for TVET is constantly growing. At the same time, the public resources made available for TVET are limited and in many countries are subject to more and more budget constraints.

With increasing expenditure for TVET and restricted or even decreasing availability of public resources, governments are forced to put the financing of TVET systems on a broader, more sustainable basis. This firstly means diversifying the generation of funds. Diversification of TVET financing involves a sustainable and socially acceptable participation of all three stakeholders: government, business sector and individuals. This strategy is also pursued by the government of Viet Nam. In particular, increasing the involvement of the business sector is crucial in this context.

However, diversified TVET funding is only one factor in achieving the goal of sustainable TVET financing. The efficiency of administering funding at national...
and institutional level is another key element. Furthermore, demand-oriented allocation mechanisms are important – not only do these ensure that TVET courses meet the requirements of labour market and society but they also provide incentives for internal efficiency and the quality orientation of TVET providers.

5.2 Status of discussion

5.2.1 Approaches to ensure sustainable TVET Financing

The main challenges for sustainable TVET financing – in the international as well as in the ASEAN context – can be summarised with the three main elements: (1) fund generation, (2) fund budgeting and administration and (3) fund allocation. The most important mechanisms and instruments of fund generation, administration and allocation are briefly described below. At the same time, the status of the discussion about conditions for efficient and effective implementation as well as the experience gained in reforming TVET financing will be considered.

Generation of Funds

There are a number of stakeholders who can be generally considered as potential sources for generating funds - and in fact participate in TVET financing. These stakeholders are government, trainees and their families, TVET institutes and the business community.5

The government bears most of the cost for construction and operation of public TVET institutes, the provision of social benefits for (poor) trainees, subsidies for certain target groups as well as the cost of operating the TVET systems. With high and increasing costs for providing TVET – specifically with regard to high-tech intensive TVET – governments are looking for ways to diversify the generation of funds and to put the systems of TVET financing on a broader, sustainable basis. In this, they face maintaining the balancing act of satisfying the demands of both society and the business community for TVET while not overstretching the capacities of stakeholders to contribute.

Governments often turn to trainees and their families (individuals) for financing TVET. Asking for adequate contributions from them to finance TVET is generally a reasonable expectation, as trainees directly benefit from TVET offers – they form the “social demand” for TVET. However, mainly financing TVET through fees is, as international experience shows, rarely sustainable. First, as

5 In the developing countries of the ASEAN region, international donors also play a role in the financing of TVET. Experience shows however that donor financing as such often lacks long-term sustainability.
many (poor) people cannot afford the financial burden of vocational training themselves, there is a risk of excluding certain target groups if fees increase too much. A possible solution for this could be to differentiate the fee level in accordance with the income situation of the trainees (although it requires administrative work to determine and verify information on the target groups). This approach has also been chosen by the Vietnamese government, as “vocational training for unskilled workers and […] vulnerable groups” as well as “poor and sub-poor” target groups is to be subsidised in particular. Nevertheless, especially in the developing countries of ASEAN, due to limited resources only a few individuals would be able to pay the tuition fees to cover the cost of TVETs. Cost-covering tuition fees hence bear the risk of social discrimination – and access by a large proportion of the young population to TVET may be thwarted.

Another source of **fund generation are the TVET Institutes** themselves. Within the context of cost diversification, the current policy in many countries expects a greater share to be recovered by the “Income-Generating Activities” (IGAs) of TVET providers. Such revenue generation activities can be widespread in the TVET sector. However, even when considering international best-practice, their overall potential for fund generation appears to be overestimated. Furthermore, apart from the limited financial impact, there are also concerns that such activities create unfair competition to private businesses and distort local markets – specifically when TVET institutions are exempt from paying taxes, as is the case for instance in Viet Nam. Another concern is that training quality suffers if income-generating activities are given priority over training quality.

Contributions of the **business sector** to the TVET system represent another possible major source for TVET funding. To involve them is legitimate as companies are after all the ones who demand skilled workers to secure their productivity and competitiveness. In the ASEAN region where TVET is mainly financed by the state, it can however be difficult to involve the business community. Governments face the challenge that companies are often not very prepared or willing to invest in training, even though their demand for skilled labour is high. For instance, a study conducted by GIZ in 2009 has shown, that many Vietnamese companies suffer from a lack of availability of skilled labour; nevertheless, it remains a challenge to motivate them to get further engaged in the training process. High TVET costs combined with unclear or unpredictable benefits are often used as an argument by employers against increasing their involvement in TVET. The example of Germany, where an estimated 70% of the cost of practical training phases is covered by companies, shows however

---

6 Examples are: producing simple industrial components (e.g. welded joints, electronic controls, concrete blocks); producing end products for consumption by private customers (e.g. furniture, lights, etc.); maintenance services, such as oil changes for cars, repairing household devices or consumer electronics, PCs; tailor-made professional development courses for company employees.
that companies can take on a hugely important role in financing the provision of high-quality TVET. In ASEAN, a wide range of possibilities for involving companies in TVET financing exist and have been tested: from companies bearing the cost for company-based training, training components or placements (e.g. personal cost for in-house trainers, equipment, etc.) to the nationwide application of training levies (e.g. in Malaysia).

Budgeting and administration of funds
In cases of inadequate budgeting, the funds available may not be sufficient to finance the relevant “input factors” of TVET to the required extent. These are teaching staff, training materials, infrastructure, maintenance of buildings and equipment, etc. A lack of these input factors, however, influences the training quality: the practical competences required in the metal industry, for example, cannot be provided in an underfunded institute with insufficient availability of training materials. Hence, budgeting TVET activities requires reliable data about the real cost of training for the different occupations and is indispensable for any macro planning of TVET at regional or national level. Cost calculation, moreover, is not only important for public budgeting at a macro level. It is also necessary for training institutes as the basis for pricing their training courses.

In many ASEAN countries, a more robust knowledge base of the training costs in TVET is needed. Calculation of public budgets is often not based on the real cost of TVET. After all, the cost of initial and further training in TVET are mostly higher than for other areas of education. And not only that: costs also widely vary, depending on the occupational discipline, the place and the organisational form of training (e.g.: TVET institute vs. in-company training, proportion of practical vs. theoretical elements). In technical occupations, the organisation of the practical part of training in particular involves high costs (school workshop vs. on-the-job training).

Regular funding from the state budget for public TVET institutes not based on training expenditure may lead to an insufficient allocation of funds mainly for cost-intensive (technical) training programmes in areas such as metalwork, electrics/electronics, mechatronics, etc. Thus, TVET providers are given an incentive to offer even fewer training courses in these fields or to offer the courses at lower quality (with regard to trainers’ qualification, low trainer/trainee ratio, insufficient training materials, etc.). For the ASEAN countries with emerging industrial sectors in particular and therefore with increasing requirements for occupational competencies, this carries the substantial risk of failing to provide adequate TVET courses. In Viet Nam, MoLISA/GDVT is for example aiming...
to install more differentiated budgeting models, which in turn require an in-depth analysis of the real training costs of TVET programmes - in different occupations and at different training levels.

One key element for this would be an in-depth analysis of all relevant cost types at selected TVET institutes. For such analysis to take place, information about the following data (“input factor”) and respective cost types would be necessary (among others):

- Teachers’ salaries and hours of training in courses to be analysed
- Investment cost for building facilities and equipment, depreciation periods, maintenance and energy costs
- Utilisation of training equipment in relation to courses to be analysed
- Material costs incurred by training activities
- Overall administrative costs

As a result of the analysis, coverage of direct and indirect costs and the overall unit cost per trainee can be identified for each of the selected training programmes. It is useful to demonstrate the cost differences between various TVET programmes and institutes. It also demonstrates the cost differentials between the three levels of TVET existing in Viet Nam in one and the same programme.

The results of a “benchmark” cost calculation, which is conducted under ideal conditions, helps to find out whether actual training costs are more or less in line with what the cost should be according to international TVET standards. For example, if the comparison shows that in reality TVET institutes spend fewer resources than is identified in the ideal cost calculation, this may be an indication for possible underfunding in the TVET system.

Allocation of funds
When considering the TVET financing mechanisms in place worldwide, it is noticeable that many governments have started to move from budget-orientated allocation towards a more transparent performance-based and programme-orientated mechanism. Thus, more and more countries – such as – Viet Nam – are starting to work with systems of performance-based budgeting in the ed-
In a few cases, contract-based (purpose-specific) purchasing or tendering of training or a trainee-centred purely market-orientated training is targeted. A pilot tender scheme was launched in Viet Nam, for example, in 2007 for five occupational areas covering the training of 2,700 long-term trainees.

Various approaches and instruments exist for the distribution (allocation) of funds. Basically, they can be aimed either at the input factors of training (e.g. personal resources such as trainers, training materials, etc.), or at the output/results of training (e.g. number of graduates, level of competency after the training). There is no country where only one of these two forms of allocation is applied; the applicability of allocation instruments varies according to the special objectives set, target groups and type of training to be financed.

In general, the method of fund allocation is not necessarily interlinked with the sources of funds. Hence, a TVET system which is “traditionally” financed by the public sector may introduce and apply innovative demand-oriented and competition-based allocation mechanisms, for example. In the figure 2 below, four basic models for the allocation of funds in a TVET system are illustrated. In this illustration, the vertical axis is used to depict the degree of decentralisation of the allocation mechanism while the horizontal axis expresses the degree to which a government is paying for the outputs instead of the inputs.
Based on this methodology, four TVET financing models can be identified:

- The **budget-orientated model** represents the traditional, highly centralised and input-driven allocation model. Such supply-oriented funding allocation by the government is mainly applied using the following approaches:
  - Financing of public and non-public TVET providers through the provision of subsidies, tax reductions/exemptions or favourable loans
  - Operation of state-owned TVET institutions
  - Provision of training infrastructure (buildings, equipment and training / teaching materials).

In most cases (also in Viet Nam), these public subsidies are not linked to performance indicators. Once the budget is allocated, funds are disbursed to institutions independent of quality indicators such as graduation rate, success in job placements, or others. This allocation system of state subsidies to TVET institutions does not provide incentives for improving TVET outcomes, i.e. institutes are not given any financial motivation to improve the suitability of their TVET offers in line with the demands of the labour market: only the number of enrolled trainees determines the amount of funds they receive. Hence, their emphasis is often directed to “low-cost training for as many as possible” instead of promoting both cost efficiency and quality (such as cooperative training approaches).

However, other options exist in the allocation of funds:

In the ** programme-orientated model**, the extent of planning by the government (or respective national TVET agency) is also very great. The funding allocation still takes place on a centralised basis. Although - due to economic and social reasons (e.g. labour market needs, cultural/regional diversity) - the government decides which special programmes/occupations are to be financed, the output of TVET is financed, not the input: a TVET institute, for example, is offered a specific amount of funding for the successful training of a certain number of trainees. Only if this success is proven (e.g. by graduation certificates accepted by or issued in cooperation with employers, or by tracking students) will the institute receive the full amount of funds again for the following year. Otherwise, funding will be cut. Thus the model is performance-related, and TVET providers are given an incentive to aim the training at the requirements of the labour market. At the same time, institutes tend to use resources efficiently (and do not “waste money”), as the input is not financed but only the outcome. These advantages, however, are only robust if the definition of detailed success criteria (e.g. training quality, demand-orientation) and the means of their verification are developed with participation of the employers. Otherwise, the intended demand-orientation of the programmes funded may not be assured.
In the **contract-based model** the strategy of the TVET provider is of highest importance. TVET providers are contracted on a short or medium-term basis for delivery of a defined output. They try to distinguish themselves from other providers by means of the training courses they offer. One example of this model is a public tender scheme, designed to introduce competition among public TVET providers on the basis of evaluation through a quality/cost formula. In order to incentivise quality improvement in TVET delivery, budget allocation structures consider indicators to be included in performance contracts. Those can be, for example,

- Results in examinations and graduation rates. However, such indicators would require the successful set-up and implementation of an external system of quality control and measurement, for example a system of occupational standards together with a standard-based assessment system.
- Success in the job placement of graduates, measurable by tracking students.
- Success in cooperating with employers, for example, in the implementation of cooperative training schemes (number of apprenticeship contracts).

This model also requires a well-functioning quality assurance system in order to ascertain the fulfilment of such criteria, as the government no longer directly influences the provision of training inputs. One option could be to accept only those TVET providers for the tender, who had been accredited according to certain quality standards beforehand.

As TVET providers are encouraged to enter into direct competition with each other, they undertake efforts to increase internal efficiency: organizational structures, responsibilities, processes, etc., have to be analysed and internally evaluated by the institutes themselves. The strongest advantage of this model is the improvement in TVET quality and at the same time reduced costs: when participating in a tender, TVET providers have to prove in detail why their offer fulfils the respective demands (social demand or labour market demand), and they are obliged not to exceed competitors’ prices.

One risk, however, is the “creaming-off effect”: TVET providers participating in a strong competition tend to accept only those trainees who fulfil strict entrance requirements (i.e. previously gained qualifications). With this strategy, institutes hope to improve their chances of fulfilling the indicators with regard to the skills levels of later graduates. This can lead to the exclusion of target groups with a more limited educational background. An option to avoid that effect is to include specific success indicators for such target groups in the Terms of Reference for the tender – either as a conditional criterion, or correlated with additional financial incentives if disadvantaged target groups are particularly considered.
The **trainee-centred model** is in fact the most demand-driven allocation mechanism. Typical instruments are for example:

- TVET Vouchers
- Loans for specific, mainly advanced further training,
- Grants with income-related repayment scheme (Human Capital Contracts),
- Stipends.

Here, individuals are provided with the opportunity to choose the TVET provider – and hence to decide on their own who shall receive the funds. Both state and business sector are not directly involved in this decision.8

Positive effects related to the strong competition of TVET providers are similar to the ones outlined above for the contract-based model (e.g. efficient utilisation of funds). As training quality is mainly defined by the individuals, satisfying their expectations requires the highest degree of flexibility and social/market research activities on the part of TVET providers. Furthermore, for the decision of who is to benefit (i.e. receive grants, vouchers, credits), the government can utilise such instruments to particularly promote disadvantaged target groups.

The trainees themselves are also the key to external quality assurance for the training provided: if TVET courses provide the individuals with the skills they need to find employment, they will to others recommend the respective institute whose training courses will then be in further demand in the future. Hence, a good reputation is of huge relevance for the training providers.

In turn, the key role played by individuals can also be a disadvantage. The model is based on the assumption that individuals seeking for employment choose occupations which are also in demand by industry. However, this is not necessarily the case; differences between society’s demands and the labour market’s demand might occur. The chosen training courses are then not sufficiently relevant to employment. A possible way to avoid this effect is to issue, for example, vouchers valid only for certain occupational areas for which the labour market demand is proven (“purpose-specific”).

Other challenges - particularly of **voucher programmes** – are:

- Individuals (consumers) are given considerable freedom to decide, but there might be incomplete information about the training on offer (all above in rural areas)
- Subsidy fraud (arrangements between providers and consumers) can oc-

---

8 In a voucher system, for example, individuals “pay” with vouchers; the training providers are refunded later by a central voucher administration agency.
In some countries (e.g. South Africa), a certain share of the voucher value had to be covered by the individual as own contribution in order to mitigate this effect.

- Requirements for well-performing administration and monitoring structures are very high.

To summarise, the advantages of demand-oriented models mainly refer to the incentives given to TVET providers a) to increase internal efficiency of fund utilisation and b) to align their training courses with requirements of the labour market: only TVET offers that fulfil the requirements of such demand are financed.

However, in countries such as Viet Nam, where the TVET system has been widely dominated by the budget-oriented allocation model so far, a widespread training market is not yet established - and is unlikely to develop in the short term. A fundamental change in the allocation mechanisms towards demand orientation and competition requires both the establishment of respective quality assurance and administration systems, and adjustments in managerial thinking and the behaviour of institutional decision-makers. These things certainly need time. A feasible option in this context could thus be to start with a demand-based allocation approach for

- a small number of key occupations
- selected types of training (e.g. further training as short-term courses) only, and
- in a few regions only, where the development of sufficient training courses in a competitive context can be expected.

As mentioned above, the Vietnamese government has already piloted some demand-based allocation mechanisms in the past and has now expressed the intention to strengthen the contact-based model in particular. These pilots may serve as possible starting points for discussions and information exchange during the conference.

### 5.2.2 Forms of involvement of the business community in generation of funds

In the ASEAN context, with restricted state budgets and the drive to improve TVET quality, a diversification of funding is already taking place. In accordance with international experience, diversifying funding of TVET by involving the business community appears to be the most promising direction to pursue. Greater participation of the business community can be realised through different modes and can include direct and indirect contributions.

#### Involvement through provision of training
An important form of involvement is the participation of companies in TVET. In this mode, no new funds are generated but TVET delivery is organised more cost-efficiently.

The current predominant mode of TVET delivery, in many ASEAN countries and in Viet Nam, is school-based training often complemented by a relatively short internship period. As per the experience gained in TVET projects of German Development Cooperation worldwide, alternative delivery modes may impact substantially on the cost-effectiveness of TVET. Cooperative training – for example, combining education and training in TVET institutions with learning-on-the-job at a workplace – can lead to substantially reduced costs. Systematic cooperative training approaches usually reduce institutional training time, thus decreasing costs incurred at (public) TVET institutions. In the workplace, on the other hand, trainees are involved in productive work, thus producing value while learning.

Apart from the aspect of reduced training costs for the public sector, in-company training is in itself highly relevant to employment, as most companies do not provide training in occupations they do not demand. As a result, the direct involvement of companies can be very effective in terms of quality improvements as well.

**Involvement through training funds**

Another form of involvement is the participation of companies in training funds. In recent years, training funds have been established in many countries. They are considered to be a promising instrument for creating a solid basis for TVET financing - and at the same time promoting increased demand-orientation of vocational training courses. Furthermore, training funds are expected to provide better incentives for companies to get more involved in TVET.

A well-known example for successful implementation in this regard (“best practice”) is the Human Resource Development Fund in Malaysia. Singapore provides another example of well-operated funds in the ASEAN region, and in Cambodia too a “National Training Fund” has been successfully established.

In its first phase after establishment, training funds are often donor-financed. Nevertheless, the gradual transfer to a sustainable financing system funded by own resources by the partner country is generally foreseen in the conception of the fund. Such resources can be collected in the form of general taxes, or by raising training levies (see above). With regard to the purpose-specific distribution and application of resources, suitable sub-budgets (“funding windows”) can be set up, e.g. for promoting special target groups, key economic sectors, etc.
Key characteristics of a training fund are that the budget is clearly addressed to TVET purposes only, with no access through other state budget positions. The fund can be fed by sources in the public and/or private sector, donor contributions and the establishment of a fund is frequently (not necessarily) combined with a levy system.

The main advantages are as follows: ss funds are reserved for TVET purposes only, the financing of TVET can be reliably and predictably planned. Through “funding windows” different areas of the TVET system (e.g. teacher training, infrastructure, etc.), specific economic sectors or target groups can be directly addressed. Cross-subsidisation between different TVET sub-systems is easier to control. Fund administration often leads to increased business sector engagement in the financing and design of a TVET system (in particular when combined with a levy system). An independent/performance-based allocation of funds to providers is facilitated.

However, specific challenges might also apply, such as the non-compliance or non-acceptance of companies due to mistrust in the funding administration, inadequate funding structures may lead to high levels of administrative work/cost. If the funding is subject to political influence, a conflict of interest might arise.
As a consequence, a very clear definition and regulation of function, structure, responsible bodies and the flow of funds are important for administration via training funds. Widespread acceptance in society, politics and the business sector, adequate representation of all relevant stakeholders in decision-making bodies, an effective administrative structure and monitoring system are important pre-conditions for its establishment. As a result, a great deal of attention is paid to transparency in Singapore’s “Skills Development Fund”, for example.

All these aspects appear highly relevant to the plans of the Vietnamese government to establish a training fund - and they show that a sharing of information and experience among ASEAN countries might be very valuable in this regard too.

**Involvement through levy systems**

Another option to encourage the business sector to participate in TVET is the use of indirect (monetary) contributions via compulsory levies or taxes. This option – in contrast to direct involvement – is mainly targeting at mobilising additional funds, not cost-saving. Tax systems are used by the majority of industrial countries. At the moment, advantages and feasibility of levy systems are also being examined in several emerging countries as well. The levy system established in Singapore, for example, is known to be a well-managed programme. Other Asian countries that have established a levy system are Fiji, Korea, Malaysia, New Zealand and Taiwan.

There are different types of levy systems; the most common is based on a percentage of the company payrolls – in Asia mostly approx. 0.5 - 1.0%.9 Another option is to impose specific taxes or levies which only apply for certain economic sectors – e.g. based on the contract value of building measures or the sales value of fisheries. In such cases, companies in the respective sector are of course the only ones to benefit from the collected revenues. In the context of reform programmes, in principal various forms of a levy system can be implemented – if the system is widely accepted by the stakeholders (especially companies).

Differences also exist in the specific targets and utilisation of the TVET levy. In its simplest form, governments use the funds generated for financing labour market-orientated TVET programmes, mainly through improvement of TVET courses. However, the levies collected are sometimes also used for financing overarching institutions in the TVET system, such as national TVET authorities. From the companies’ point of view, this kind of utilisation of “their” resources creates no direct benefit. Many companies therefore consider the contribution merely as an additional burden and thus refuse to pay it.

---

9 South Korea: 0.5%, Malaysia: 1%, Singapore: 1%. Source: A Review of National Training Funds. The World Bank, November 2009. Author: Richard Johanson.
Especially companies in the formal sector that are already paying taxes and actively participate in TVET incl. further training, often find it hard to accept a TVET levy. Therefore, clear regulations for the purpose-specific utilisation of funds, or combination of levies with pay-back/refunding mechanisms, are necessary.

That is why levies are often combined with exemption schemes for companies providing training (‘Levy-Grant systems’). Only if this is the case might monetary contributions in turn provide incentives for companies to embark on their own training activities. Malaysian levy-reimbursement schemes, for example, are known to be good practice in this regard.

Mainly two options combining TVET levies with pay-back mechanisms have been developed:

- Refunding companies’ costs spent on vocational training
- Exemption from the TVET levy for those companies who are proven to provide training.

The following figure 4 shows an overview of the possible repayment procedures.

**Figure 4: Two pay-back mechanisms for training levies**

![Diagram showing two pay-back mechanisms for training levies]

- **Option 1:** Exemption from Training Levy
- **Option 2:** Re-funding of training cost

The TVET Fund is at the center, with arrows indicating the flow of training levy, administration cost, TVET funds, and fund allocation to training providers.
Advantages and disadvantages of indirect monetary contributions can thus be summarised as follows:

**Advantages:**
- Adequate measure if involvement of companies in TVET is weak: levy systems in Singapore and Malaysia are proven to have had a positive impact on more enterprise-based training.
- Purpose-specific utilisation of funds.
- Constant flow of funds independent of public budgets.

**Disadvantages:**
- In the micro and small enterprise sector, the ability-to-pay is negligible. Therefore, in Malaysia, the levy rate for SMEs is by far smaller than the standard rate.
- Companies (particularly tax-paying companies already involved in TVET) often see levies as a burden, not as an incentive.
- Existing mistrust of the business sector in public institutions.

In any case, in-depth analytical work is recommended to better understand existing barriers and to assess the feasibility of levy schemes. A substantial feasibility analysis, for example, looks at the following issues before establishing a levy scheme:

- Justification, political obstacles and chances to introduce a training levy
- Level of acceptance in the society and particularly among companies
- Feasibility of a levy-grant system
- Estimates of levy income under different design scenarios
- Options for organisational structure of levy collection
- Options for the use of the levy income
- Management of the levy funds including decision-making structures
- Relationship to/integration with other levy approaches in the education sector

Furthermore, a training levy system can only be realised in combination with a special TVET Fund (see above). Experience gained in many German Development Cooperation partner countries shows that this requires considerable additional effort towards institutional development.

**Possibilities for motivating the business community to participate in TVET financing**

To raise interest, motivation and ownership among companies to take a greater stake in TVET through company-based training, it seems advisable that discussions on enterprise-based training are based on reliable estimates of what employ-
ers are already contributing (e.g. through internship offers and further training on the job after the recruitment of graduates) and figures on the costs involved on the employer’s side. On the other side, the identification of employers’ benefits from TVET activities can help to win arguments for greater participation of companies in TVET.

Furthermore, increasing the involvement of employers in the delivery of TVET requires the existence of appropriate, functioning and reliable systems. For example, the development of cooperative TVET schemes (apprenticeship training) can be instrumental in providing avenues for employers to directly participate in TVET delivery.

Other activities include easing the regulatory environment for new investment in company-based TVET, and providing flexible recognition/accreditation rules for in-company training programmes. Examples are:

- Tax reduction or refunds for companies who prove they are involved in TVET.
- Exemption from customs for companies importing learning/teaching materials.
- Preferential loans/allowances for constructing company-owned training centres.

In Viet Nam, companies are exempt from corporate income tax for investments aimed at vocational training for their employees.

An important non-monetary incentive to motivate companies to increase their involvement in TVET is the active participation of the business community in developing the regulatory framework of a TVET system. This was considered by MoLISA, for example, in the recently issued “Project TVET Reform and Development for the Period 2011-2020”: According to that, companies are to be involved in the process of developing vocational skill standards and curricula, as well as assessment and certification procedures, etc.

5.3. Core elements for a quality breakthrough

From the above, it can be seen that any reform targeting a “quality breakthrough” in TVET is closely connected with sustainable financing mechanisms. In Viet Nam as well as in many ASEAN countries, sustainable TVET financing has therefore become an increasingly important issue for TVET policy and decision-makers in the context of TVET reforms. Accordingly, the following key aspects for quality breakthrough are worthy of further exploration:
Reflections on Conference Topics – Financing of TVET
• Generation of funds for TVET needs to be diversified. The involvement of the business community is crucial for putting TVET financing on a sustainable basis.
• Budgeting and fund administration needs to be based on a comprehensive knowledge of TVET costs.
• Allocation of public funds shall be oriented to the performance of TVET providers.

Financing is an important overarching issue that is interlinked with all relevant fields of TVET and thus can hardly be seen as an isolated topic. Within the conference, the different aspects relevant to ensuring sustainable financing will be an underlying key issue. Reference will always be made within the other key topics of the conference: a dominant issue for the diversification of funds generation is the participation of the business sector in TVET, e.g. through the direct involvement of companies in training, or the financial contributions of companies. Also the competence level of the teaching staff is dependent on financial issues, as highly qualified teachers expect a certain level of salary / incentive schemes and similar. Not least the development process of occupational standards requires a solid financial basis accepted by all the stakeholders involved.

In this framework, the discussion in the conference will mainly highlight two aspects.

• One focus will be on Human Resource Development funds as a potential instrument for creating a solid basis for TVET financing and more involvement of the business community. Examples of successful implementation of such funds within the ASEAN region can be demonstrated e.g. by Malaysia, Singapore and also Cambodia.
• Moreover, attention will be given to cost/benefit analysis of TVET for employers as an important instrument for raising awareness and winning arguments for greater participation of the business community in TVET. The initial experience with an example of cost/benefit analysis conducted within the Vietnamese-German Development Cooperation will be presented at the conference.

Based on the inputs, the main intention is to share experience of these selected financing mechanisms and to jointly discuss transferability to other ASEAN countries and Viet Nam.

Core guiding questions for discussion in the conference include:

Policy level
• What are the most urgent challenges of TVET financing?
• What different mechanisms for funds generation, administration and allocation exist?
• What financing and allocation mechanisms contribute to the demand-orientation and quality breakthrough of TVET?
• What sequences of reform steps have to be taken and at what point?

**Networking level**

• What lessons can be learned from other countries and are applicable in Viet Nam?
• How could the business sector be motivated to further contribute to TVET financing?
• Which countries have successfully implemented national training funds and/or training levy systems? Which general conditions in these countries are similar and which ones are different to those in Viet Nam?
• Which countries can serve as a reference for Viet Nam for the differentiated analysis of TVET cost structures as a basis for annual long-term budget planning?
• Which were the key success factors for implementation in these countries? Are these aspects the most relevant ones in Viet Nam as well?

**Technical level**

• Is a national training fund an appropriate method for administering TVET funds and what pre-conditions need to be met?
• Is a levy system (or levy grant system) an appropriate form of funds generation (respectively funds generation and allocation) to ensure greater business sector involvement?
• Is a tender-based fund allocation system able to increase the demand-orientation and efficiency of TVET delivery in Viet Nam and how can such system be established?

**5.4 Selected examples of regional and international practice**

**5.4.1 The Malaysian Human Resource Development Fund (HRDF)**

The Malaysian HRDF is an internationally well-known example of the establishment and sustainable operation of a training fund in conjunction with a levy-grant system. The aim is to encourage the business sector towards greater participation in TVET. This example shows that a fund can be successfully implemented where a) there is widespread acceptance among business sector and society, b) relevant stakeholders are adequately involved and c) a substantial legal basis is provided.

The Malaysian Ministry of Human Resources has established the *Pembangunan Sumber Manusia Berhad* (PSMB), an HRD Council which is aimed at “the
imposition and collection of a human resources development levy from the employers for the purpose of promoting training of employees in workplace”. This also includes the set-up and management of the Human Resources Development Fund (HRDF). Finally, the legal basis for this training fund (incl. compulsory levy payments) is anchored in the *Pembangunan Sumber Manusia Berhad Act 2001*. The procedures are clearly defined here with regard to levy collection, establishment and administration of the fund, etc.

The HRDF’s Board of Directors includes different representatives of the business and public sector: the Federation of Malaysian Manufacturers (Chairman), the Ministry of Human Resources (Deputy Chairman), as well as different chambers of commerce and trade associations, representatives of the employers involved, unions, Ministry of Finance, etc. (all represented by board members).

Training levies are paid by certain groups of employers of different industrial sectors on a compulsory basis. This *Human Resource Development Levy* mostly amounts to approx. 0.1% of employers’ payrolls. Depending on the industrial sector, however, it applies to medium and large-scale companies only.

Contributing employers are eligible to apply for grants and financial assistance for the provision of training. They are entitled to claim for the reimbursement of training costs through various training schemes. These schemes promote, for instance, the purchase of training equipment by companies, or the implementation of apprenticeship programmes (i.e. direct business sector involvement in TVET delivery). Others enable several employers to be refunded if they jointly assign an external training institute to conduct training for their employees - and thus ensure (indirect) business sector participation in terms of quality assurance and the definition of training content. Also schemes promoting special target groups and emerging industrial sectors or entrepreneurs (SMEs) are financed by the HRDF.

During the conference, experience and key factors in the success of the HRDF will be presented and discussed.

### 5.4.2 Cost/benefit analysis of company-based training in Viet Nam

High training costs combined with unclear or unpredictable benefits are often used as an argument by employers against increasing their involvement in TVET. According to studies conducted by GIZ in other countries, it can be assumed that far more companies could be motivated if they are made aware of the significant financial and non-financial benefits of providing workplace-integrated training (see section 5.2.2). An IT-based tool for analysing the cost and benefits of in-company training activities was first successfully used on behalf of GIZ in
2010/11 for selected in-company training programmes in Georgia and Albania (occupations: hotel receptionist and bank management).

In 2012, this tool was adapted by KfW for the special conditions in Viet Nam, considering that in-company training here mainly takes place in the form of short-term internships. Based on this, an employer survey was conducted among 7 Vietnamese companies in August 2012, with support from LILAMA 2 as a future Centre of Excellence (see section 4.4.2). Financial issues were analysed for internships in 3 occupational areas which are highly relevant for socio-economic growth of Viet Nam (electricians, mechanics and welders).

In most cases, the quantifiable benefits gained through productive work of trainees still exceeded the costs spent by companies for the training provision. Furthermore, non-quantifiable benefits arise, such as less time spent on recruitment. The results will be presented during the conference in more detail.

Further application of cost-benefit analyses therefore seems to be a potential means of motivating companies to become further involved in the training process, even beyond the prevalent form of short-term work placements.
Reflections on Conference Topics

TVET TEACHERS - KEY ROLE IN PROVIDING HIGH-QUALITY TVET
6. TVET Teachers - key role in providing high-quality TVET

6.1 Introduction

Teacher training has a major influence on the quality of the entire education and training sector. Teachers are a crucial resource for providing young people with the occupational competences they need to meet the demands of the labour market and to earn money to support their families. TVET is also a major factor in efforts to combat poverty.

TVET worldwide has evolved from age-old craft traditions. This is true for Europe as well as Africa and Asia. Certain practices still exist to this day. The imitation principle is part of the traditional apprenticeship, in other words watching and imitating a master at work. In Europe and Germany in particular, a forward-looking vocational education system has evolved. Master craftsmen who have the necessary professional and teaching skills provide instruction to trainees and give them experience in production. Companies involved in trades and crafts have played a vital role. Vocational training has always been business-centric.

As industrialisation progressed, TVET continued to evolve from this tradition, remaining in the company environment. Because higher technical and technological demands were placed on production workers, TVET was organised into separate trainee workshops or separate parts of the production floor. Under the guidance of experienced people who were masters at their trade, the trainees acquired a set of skills, dexterity and expertise. As the body of knowledge continued to expand, it became necessary to provide supplementary school-based instruction on a part-time basis. This tradition forms the basis of Germany’s dual (two-track) vocational training system, where companies and vocational schools provide training and companies remain heavily involved.

ASEAN as organisation of Southeast Asian countries who have come together for the purpose of enhancing political, security, economic and socio-cultural development in the region faces rapid industrial growth. At the same time, low incomes in several sections of the population are typical of the region. Unemployment is often high, but the labour markets suffer from a shortage of workers who have the skills that are actually needed by industry. The lack of skilled workers in particular is impairing economic progress in some, if not most, ASEAN countries. TVET is often undervalued in the ASEAN region compared to higher education. TVET content is almost exclusively focused on theory, and the company context is lacking. Not only that, teachers are not used or not yet sufficiently capable of providing differentiated education and training which meets the needs of various segments of industry.
Now that ASEAN countries want to intensify the partnership between industry and the vocational training sector (i.e. companies and vocational institutions) and develop cooperative training models which involve both vocational training institutions and companies, it is vitally important that teachers are available who are able to take on the new challenges.

### 6.2 Status of discussion

For the following discussion, it’s quite important to give a clear definition of TVET professionals and their working contexts\(^\text{10}\).

**Teachers** encompass teaching professionals who work in educational institutions providing both initial and continuing vocational education and training. Teachers are in charge of delivering the theoretical and practical knowledge and skills to the learners. They also have main responsibility for the learner and their overall progress.

**Trainers** work in companies or institutions providing initial and continuing training. Compared to teachers, the trainers’ profile is more diverse. The training activities of trainers, for example, vary from full-time teaching to occasional training activities. Similarly, their responsibility for learners and their progress may vary.

**TVET leaders** refers to one or several persons in charge of TVET institutions, such as vocational upper secondary institutions and further education colleges or training centres providing continuing technical and vocational education and training. These individuals have overall responsibility for the running of an institution.

Based on the research, four main areas of activity common to the occupations were chosen: Administration, Training, Development and Quality Assurance and Networking.

The areas of Administration and Training can be considered to be the operational dimension of the work of TVET professionals, while Development and Quality Assurance and Networking can be considered to be the strategic dimension of their work.

---

10 The definitions follow the CEDEFOP handbook “Competence framework for VET professions”, see http://www.cedefop.europa.eu/EN/publications/5035.aspx
These four areas constitute the core competences of TVET professionals found in all training contexts where VET professionals are involved. The weight and importance of the different areas vary from one national and occupational context to another. Also, the boundaries of the activity areas overlap and require adaptation in different contexts. For example, in the case of leaders, the administrative responsibilities would generally be more prominent in decentralised systems. In the case of teachers, networking with the world of work would in turn be enhanced in TVET systems based on close cooperation and links with the labour market.

The most remarkable changes in the activities of TVET professionals include internal and external networking and adopting new approaches to learning. Consequently, teachers, trainers and leaders need to work in teams and networks. This requires experts to possess cooperation skills. Teachers, trainers and leaders will also have to possess the skills to mentor, guide and teach a learner who is learning in varied environments. They also have an important role in transferring tacit knowledge and professional ethics. In essence, they have to have practical skills in pedagogy.

The following section puts a specific focus on teachers as a key aspect for quality breakthrough in TVET. A formal qualification, professional and pedagogical, is generally required of VET teachers in most countries. Particularly for permanent teacher positions, pedagogical training is becoming a legal requirement. Routes to qualified teacher status can be pedagogical training undertaken before entering the profession or during employment as a teacher. Teachers’ careers are gener-
ally “flat”, that is, there is no career progression within teaching. It is common that teachers with career ambitions become leaders or administrators.

Being a teacher is very challenging. A good teacher needs to possess a wide and deep knowledge and understanding of the professional field, of human growth and development and how to steer this growth by means of education and training. Furthermore, teachers need to accept ethical responsibility for the profession. Finally, a teacher operates in a multi-dimensional context and must understand the dialogue and interlinkage between education, labour market and society to be able to advance learners’ progress in life.

6.2.1 Situation of TVET teachers in most ASEAN countries

A qualitative assessment of vocational teachers in most ASEAN countries indicates that the current staff have inadequate qualifications. There is a particular shortage of TVET teachers with practical skills, and the practical experience of the real world of work and the insights of the future workplaces of the trainees are inadequate. As a result, TVET tends to emphasise theory. It appears that the competence level of vocational teachers is relatively low compared to other teachers. The standard of teacher training is reflected in the poor teaching of practical and methodical skills.

Besides lacking teaching experience, teaching staff are unlikely to have experience working in industrial production or other areas of industry. The impression also exists in most ASEAN countries that the quality of teacher training at universities and other educational institutions suffers from the fact that the lecturers who train the teachers are themselves poorly qualified when it comes to insight in the real work of work and the requirements of trainees’ future workplaces.

The training outcomes at teacher training institutions, which provide vocational training for skilled workers as well as for engineers and teachers, are substandard. Often the needs of industry are not taken into consideration to a sufficient degree. The standard of scientific libraries (i.e. how diversified they are, how current the information is and the extent of international coverage) also influences the quality of teacher training, and the standard varies considerably.

Furthermore the quality of the teachers also depends on the structure and quality of the curricula, the quality of the teaching and learning methods at the teacher training institutions, the number of labs and workshops and the equipment available and the availability of up-to-date training materials in two very important areas, namely vocational skills and vocational pedagogy. The standard of the equipment varies considerably. Universities normally have good
Reflections on Conference Topics – TVET Teachers
lab equipment, but the same cannot be said of the workshops. As a result, vocational teacher training tends to concentrate on theory.

On the other hand, a shortage of TVET teachers is evident in most Asian countries. TVET is low on the social prestige scale, especially in comparison to higher education. Given the low prestige of TVET, it is hardly surprising that the social standing of vocational teachers and trainers is also at the lower end of the scale. Compared to equivalent work in the non-educational labour market, TVET teaching is poorly paid. In addition, in economically significant segments such as metalworking/machinery manufacturing, electrical/electronics, mechatronics, IT and economics where sectors of the economy have a need for the same or similar skills, the pay scales are higher than at state or private vocational colleges and other vocational education institutions. The incentives offered by many countries including Viet Nam do not appear to be sufficient to alleviate what in most cases is an acute shortage of TVET teachers.

A shortage of teachers can imply that teachers are overloaded with instructional and administrative work, unable to meet student needs, and are sometimes required to teach subjects outside their expertise. School systems often respond to teacher shortages in the short-term by a combination of lowering qualification requirements for entry into the profession; assigning teachers to teach in subject areas for which they are not fully qualified; increasing the number of classes teachers are allocated to, or increasing class sizes. Such responses, even if they ensure that classrooms are not left without a teacher, raise concerns about the quality of teaching and learning.\footnote{See, OECD: Preparing teachers and developing school leaders for the 21st century \hspace{1em} http://browse.oecdbookshop.org/oecd/pdfs/free/9812021e.pdf}

At national level, current policy could be improved in many instances if each country were to:

- Develop and express a clear vision of the respective professional identities and profiles of TVET teachers and trainers
- Set out the professional preparation processes considered appropriate for VET teachers and trainers
- Ensure that qualification as TVET teachers and trainers can be achieved by various pathways
- Ensure that qualifications relevant to the TVET teacher and trainer professions are referenced to national qualifications frameworks

### 6.2.2 Approaches and models to TVET teacher training

The issue of teacher demand and supply is both complex and multi-dimensional, as it reflects several challenges: how to expand the pool of qualified teachers, how
to address shortages in specific subjects, how to recruit teachers to the places where they are most needed, how to distribute teachers in equitable and efficient ways, and how to retain qualified teachers over time.

Three patterns of teacher preparation can be described as:

- **The standard preparation process**, comprising a vocationally-oriented Masters degree at a university of education, followed by a period of teaching practice and probation during which the trainee teacher is supported by in-school mentors and undertakes courses at a public teacher training college.

- **A second preparation process**, enabling ‘career-changers’ to enter the teaching profession. The holder of a (non-education) Masters degree, following a minimum of two years of practice in their original field, can begin teaching and undertake a course in pedagogy at a public teacher training college to qualify as a teacher.

- **A teacher or instructor of ‘workshop’** subjects must have a qualification in an occupational area (a Meister – master craftsman - or an equivalent qualification such as technician) and undertake a pedagogic course at a public teacher training college to support their teaching role.

The most relevant models to TVET teacher training are the following:

**The concurrent model**

In the international debate, there is general consensus that this is the preferred model (sometimes in the literature the term “integrative model” is also found), principally because students who enrol in a course designed specifically for TVET teachers identify with a career in TVET teaching at an early stage and the expectation is that the course will contribute to a desirable level of professionalisation in TVET teaching.

This approach would appear also to train teachers as “integrated teachers” who are qualified to provide theoretical and practical instruction. To place the qualifications in the academic framework, the qualification to provide theoretical and practical instruction might best be positioned at Bachelor level.

Teachers with a Bachelors degree would then have the opportunity to enrol in Masters programmes which are internationally recognised. This applies both to the ASEAN region and courses offered by European universities. Vocational training Masters programmes offered worldwide which match the goals of the different ASEAN countries can be used on a selective basis. The same applies to PhD programmes in the field which are offered in Germany and the rest of the world.
Based on the reasons mentioned above for the shortage of TVET teachers, in many countries including Germany and Viet Nam secondary school graduates who enter the university education system are reluctant to enrol in courses of study which provide a qualification in TVET teaching (only).

The curricula generally include the learning of:

- one vocational discipline/major subject
- vocational pedagogy/vocational didactics including teaching skills and methods as well as teaching practice

The typical qualification for TVET teachers in Viet Nam should be the “integrated teacher” who is able to provide both theoretical and hands-on instruction (at the TVET institution). They should deliver both hands-on occupational training and teach whatever theory is required as well. The learning of occupation skills and acquisition of industrial experience takes place worldwide using different models and to different extents:

- Prior to commencement of the degree course:
  - 6 -12 month work placement in industry or other sectors of the economy or
  - even a full vocational training (e.g. graduates from vocational colleges)
- Integration into the degree course as a short 6-month work placement or a full vocational education up to a specific level
- Practical phases while working as a teacher

Teaching practice placements taking place at regular intervals should be organised to ensure that teachers acquire and retain practical skills. Vocational colleges should recruit experienced skilled workers and supervisors from the industrial sector and offer them career advancement opportunities which enhance their social prestige.

By means of specific partnerships with industry on a contractual basis, the private sector can provide valuable initial and further vocational training services e.g. work process and production experiences, as in one of the factors in the success of the German TVET. The training content can be agreed and brought in line with curricula defined by the government. For example, in-company training stations should be set aside for trainees at different places within the company. Skilled workers involved in in-company-training at the production and training stations (in-company-trainers) should have the basic qualifications in teaching methods and teaching skills.

Because the acceptance for the concurrent/integrative model is relatively low among the target group in most countries, ministries and universities are being
forced to develop and offer alternatives into order to satisfy the need for TVET teachers. The list of the main alternatives includes:

**The consecutive model**
Subsequent teaching qualification for university graduates (Bachelors or Masters degree) in the key occupational and vocational disciplines through additional training - normally vocational pedagogy (in the curriculum range mentioned above) and in vocational skills either prior to or during commencement of work as a teacher (between 3 months and 1 year) as classroom instruction (course) or by means of a distance study programme (pre-service programme). Qualifications can be obtained while working as a teacher in the school (in-service programme) as an alternative: teaching and attainment of qualifications in parallel while partially released from teaching duties. The consecutive model has become the major model in many countries including Viet Nam.

**Recruitment of practitioners**
The perceived need to maintain and, if possible, extend the recruitment of career-changers as TVET teachers. Such teachers are clearly regarded as contributing useful real world experience to the school while at the same time keeping up with standards of teaching in general. It is not clear how the teaching profession generally, and the TVET teaching sector in particular, will accommodate these entrants. There is a fear that their introduction could ‘de-professionalise’ the sector, undermining the quality of teacher training and the status of existing qualifications. Issues also arise in relation to salary structures.

**Recruitment of “practitioners” with Bachelors degree:** The risk that experienced teachers will be tempted to move on to better-paying jobs in industry must be considered. A Practice Teacher Bachelors Degree should be introduced to impart engineering educational skills. It is equally advisable to think about whether a Masters degree programme should be introduced for industrial disciplines where theory plays a major role such as in electronics and IT and scientific/engineering research assistant positions.

**Recruitment of “real practical” practitioners:** By providing further training to enhance teaching qualifications, the best participants of further training courses are increasingly playing the role of multiplier and “master trainer” and are able to act with an ever greater degree of autonomy as coaches to spread the qualifications. These qualifications produce an immediate improvement in teacher training quality.
6.3 Core elements for a quality breakthrough

There is general agreement that the target qualification for TVET teaching staff in Viet Nam should be a teacher who is able to deliver both practical and theoretical instruction as a TVET teacher (integrated model). The level of production and workflow related skills is a particularly important aspect of teaching. In the past, university-based qualification was often heavy on theory, and the qualified teachers were not able to make the adjustment to actual production requirements at various levels of industry.

This type of integrated teacher with high competencies in practice and theory is important for Viet Nam. Therefore, consideration should be given to harmonising this element with the current existing Vietnamese articulation scheme for graduates of vocational colleges in order to achieve a Bachelors degree. This will ensure the comparability of the Vietnamese TVET teacher training program with international programmes and processes (e.g. as they are also found in European countries).

Initial teacher education is an important part of the equation to ensure the supply of a high-quality teaching force in the longer term. OECD research\(^\text{12}\) has identified some principles that are worth noting:

**Education systems benefit from clear and concise profiles of what teachers are expected to know and be able to do in specific subject areas.** This includes both subject-matter knowledge as well as knowledge of how to teach it. Such profiles can guide initial teacher education, teacher certification, teachers’ ongoing appraisal, professional development and career advancement, and also help to assess the extent to which these different elements are effective. The profiles can reflect the school’s learning objectives and profession-wide understanding of what counts as accomplished teaching.

Many countries have moved their initial teacher-education programmes towards a model based less on academic preparation and more on preparing professionals in school settings, with an appropriate balance between theory and practice and collaboration among teachers as a key aspect. In these programmes, teachers get into classrooms earlier, spend more time there and receive more and better support in the process. This can include both extensive course work on how to teach – with a strong emphasis on using research based on state-of-the-art practice – and more than a year teaching in a designated school, associated with the university, during which time the teacher is expected to develop and pilot innova-

\(^\text{12}\) See, OECD: Preparing teachers and developing school leaders for the 21st century
http://browse.oecdbookshop.org/oecd/pdfs/free/9812021e.pdf
tive practices and undertake research on learning and teaching, in partnership with other teachers and under the guidance of experienced teachers.

**More flexible structures of initial teacher education can be effective in opening up new routes into the teaching profession, without compromising the rigour of traditional routes.** The stages of initial teacher education, induction and professional development need to be interconnected to create a lifelong learning framework for teachers. In many countries, teacher education is not just providing sound basic training in subject-matter knowledge, pedagogy related to subjects, and general pedagogical knowledge; it also seeks to develop the skills for reflective practice and on-the-job research.

Core guiding questions for discussion in the Conference include:

**Policy level**
- How do you assess the status of qualification of TVET teachers in your country?
- What kind of intervention at a policy level appear to be necessary to improve the status of TVET teachers and how effective are they?

**Networking level**
- What approaches, models and methods for improving the practical skills and experiences are envisaged or already implemented in your country?
- What models for recruiting and qualifying TVET teachers outside of direct academic education pathways are applied and how effective are they?

**Technical level**
- Is there a standardised system (e.g. framework curricula) for TVET teacher education and training in your country?
- What measures are applied to improve the quality of TVET teacher training at the institutional level? What are the successes and what are the challenges?

### 6.4 Selected examples of regional and international practice

#### 6.4.1 Regional Co-operation Platform for vocational teacher education in Asia (RCP)

In 2009 GIZ, acting on behalf of the German Ministry for Economic Cooperation, initiated a regional cooperation platform project for TVET teacher qualification in Asia (RCP). With regard to supporting ongoing TVET reform pro-
cesses in Asia, the RCP intends to contribute to practice-led TVET development, by conducting joint research-based projects, peer-group learning, exchange of knowledge and experience to empower the instruction and research potential of RCP member institutes. Therefore, RCP’s mission is focused on:

- Researching products with a link to regional integration processes.
- Supporting national reform processes by enhancing TVET frameworks.
- Building institutions and developing the capacity of TVET institutions.
- Extending the RCP network and enhancing the relevance of cross-regional cooperation and integration in the field of TVET.
- Innovative concepts and sustainability.

The Regional Co-operation Platform for vocational teacher education in Asia (RCP) along with member institutes from China, Indonesia, Laos, Thailand and Viet Nam is in line with the introduction of AFTA in 2015 and the ongoing processes of integration and harmonisation in ASEAN as jointly agreed in the “Roadmap for an ASEAN Community 2009-2015”. The RCP focuses particularly on the cooperation of VTE institutions and the improvement of a free flow of information between universities and other institutions involved in TVET. Examples of best practice for the RCP show that cross-regional and cross-institutional cooperation leads to more transparency, greater efficiency and better quality in research and instruction in vocational teacher education in the ASEAN region. Experience from RCP will be provided during the conference.
6.4.2 Practical training of TVET Teachers in Viet Nam

In order to fulfil the economic objectives which are envisaged, the Vietnamese TVET Strategy highlights the importance of training a number of additional TVET teachers and significantly raising the quality standard of existing and newly qualified teachers. The General Department for Vocational Training in Viet Nam - also working in partnership with BMZ-supported German Development Cooperation - will develop further training strategies for key occupational areas. Once these strategies have been proven to work, they will be rolled out on a broad basis. Also in partnership with other countries, further training will be held for teaching staff currently working in the system. At the same time, a pre-service training model for Theory/Practice teachers was developed and will be piloted (formal pathway as well as articulation pathway with the prerequisite graduation from a vocational college).

Examples include two Public Private Partnership (PPP) projects carried out in collaboration with GDVT, the European Association of Vocational and Social Education (EBG) and GIZ. A further training model for teachers in CNC machining was developed, piloted and introduced during the project, and teaching and learning materials were also created for use by the teachers and the students who are in the process of obtaining their qualifications.

Manual, hands-on technical skills on the part of trainees play a key role in TVET disciplines such as industrial metalworking. With this in mind, additional further training courses organised jointly by the General Department of Vocational Training in Viet Nam and GIZ focus on teacher training in the area of manually-operated tools, conventional lathe operations and conventional milling as the necessary basis e.g. for CNC technology.
TVET Quality Breakthrough