



# Teachers and Trainers Matter: Skills Development for TVET Personnel in German Development Cooperation

Lessons learned from practical experience and recommendations

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# PREFACE

The **sector project Technical and Vocational Education and Training** supports the German Federal Ministry for Economic Cooperation and Development (BMZ) in developing strategies and approaches for technical and vocational education and training (TVET) in German and international development policy. By means of TVET, BMZ seeks to increase the supply of qualified labour in order to contribute to improving employment opportunities and economic growth. At the same time, promoting TVET as a part of lifelong learning plays a significant role in boosting individual capacity for social and political participation. **Qualified TVET personnel is essential for high-quality initial and continuing vocational training that meets the needs of the labour market.**

Currently, the **issue of the future of work** is very important for the future development of German development cooperation, in particular in TVET. The focus here is, on the one hand, on how work and employment are changing in

developing countries and, on the other hand, on the corresponding consequences for TVET in development cooperation.

- > What kind of employment in which sectors calls for what skills?
- > How must TVET systems be designed to cope with these altered and continuously changing requirements?
- > How can vocational training projects be planned and carried out to prepare for work in the era of digital transformation, and to harness the opportunities afforded by digitalisation?
- > How is the profile of requirements for TVET personnel evolving due to technological change and what does this mean for skills-development measures for teachers and trainers?

- > The background materials are available in both German and English.

To answer these questions, the sector project TVET is releasing a publication series with **background materials on TVET in development cooperation**. Published on an ad hoc basis, each of these papers examines a specific aspect of the issues described above. The aim is to compile concise, relevant information, to illustrate this with good practices, and then to make practical recommendations for both development advice and implementation.

The intention is to provide decision-makers and practitioners with inspiration for their own tasks so as to help TVET and development cooperation to respond to the challenges of 'new work' and to make use of the opportunities it affords.



Female apprentice in industrial mechanics at Umnugobi Polytechnic College, Mongolia.

# ABSTRACT

The digital transformation of the world of work poses major challenges for existing training and employment systems, but also brings opportunities, especially for development cooperation (DC). Whether the advancing digitalisation will ultimately offer more advantages or disadvantages depends to a large extent on whether educational policy in the developing and emerging markets makes effective use of existing scope for action. The COVID-19 pandemic has further highlighted the new qualification requirements associated with 'new work', for instance in the field of distance learning.

Qualified TVET personnel is essential for high-quality initial and further vocational training that meets the needs of the labour market. Teachers and trainers with technical and pedagogical expertise ensure that curricula are practically relevant and oriented to the changing needs of the world of work. This means that teaching and learning methods also have to be revised and developed on an ongoing basis. Qualified TVET personnel is a key factor in the implementation of reforms in TVET systems and is therefore of great relevance for German DC.

This fourth volume of background materials on TVET addresses the following central topics in the context of skills development for TVET personnel:

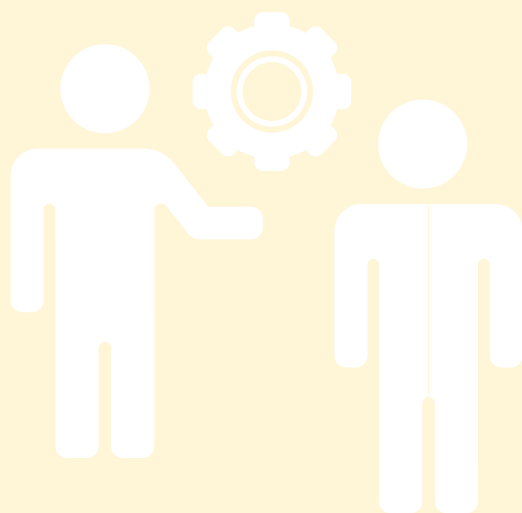
- > What challenges does German DC face in supporting skills development for TVET personnel in partner countries?
- > Which approaches and measures do German DC projects use to meet the training needs of vocational teachers and in-company trainers?
- > What recommendations for development advisory services and project design can be made, based on the analysis of case studies?

➔ **Chapter 1** provides a general overview of the training pathways and standards for TVET personnel.

➔ **Chapter 2** analyses and assesses 10 German DC projects and summarises the main challenges in relation to skills development for TVET personnel.

➔ **Chapter 3** formulates specific key questions to address when planning and implementing projects to train TVET personnel.

➔ **Chapter 4** draws on the findings of the analysis to formulate recommendations for development policy.



# INTRODUCTION

Universal access to high-quality and inclusive education and training is one of the core priorities of German development policy. The overarching framework is the UN's **2030 Agenda for Sustainable Development** and its underlying principle of 'Leave no one behind'.

Initial and continuing vocational training plays a key part in the learning continuum, from early years to adult education. Labour market oriented and practical TVET improves individuals' opportunities to gain decent employment in the current and future world of work. The availability of skilled labour is also an important prerequisite for a competitive economy. TVET is, therefore, an investment not only in an individual's future but also in sustainable economic and social development.

Well-trained TVET personnel are essential for high-quality initial and continuing vocational education and training that meets the needs of the labour market. The term 'TVET personnel'

covers teachers at vocational schools, in-company trainers, and the people who manage TVET institutions. Qualified TVET personnel with both technical and pedagogical expertise can ensure that initial and continuing training curricula remain practically relevant and that teaching and learning methods are continuously developed. These individuals are also key to the successful implementation of reforms within TVET systems. For a training system to be sustainable and effective, it is crucial to develop the technical and pedagogical skills of TVET personnel, so this aspect must be strengthened as a vital component of German technical cooperation (TC) and financial cooperation (FC).

The aim of this study is to identify and analyse measures designed to improve the initial and continuing training of vocational teachers and in-company trainers on the basis of 10 selected German DC projects: six TC projects, two FC projects and two projects that involve the chambers of commerce and business as-

sociations in development policy. The findings of this analysis will then be used to prepare specific policy recommendations for German DC and a guide to designing projects.

The analysis and assessment focus on challenges and success factors in relation to skills development for TVET personnel. The study also considers the role that TVET personnel plays in tackling the core challenges addressed by development cooperation in the area of vocational education and training. These include, in particular, digitalisation of TVET, education and training in the context of displacement, and gender equality. The ongoing COVID-19 pandemic also prompted the study to take a closer look at crisis resilience and the capacities required to deal with crisis situations. Another challenge is that skills-development measures for TVET personnel are usually based on a number of different standards. The study therefore considers specific relevant standards as a possible reference framework for determining the quality of measures.

The study was conducted in two stages. An analysis of project documents provided information about approaches, measures and objectives. The findings were then validated, updated and supplemented through semi-structured expert interviews with those responsible for the projects.



## TRAINING PATHWAYS AND STANDARDS FOR TVET PERSONNEL

Training courses for TVET teachers and in-company trainers can differ fundamentally from country to country and from one training system to another. Occupational specifications and standards as well as the modes of initial formal training for TVET personnel are influenced by a range of factors, including the socioeconomic environment, the capacity of the TVET system, and traditional national TVET models. Nevertheless, some overarching trends can be observed in training for TVET personnel.

In German DC partner countries, vocational teachers often have only a theory-based training background and lack practical vocational experience. In addition, in many countries, TVET teachers receive very little formal pedagogical training. They therefore tend to lack pedagogical and didactical competencies as well as basic subject-matter knowledge. In-company trainers in most partner countries have professional qualifications up to secondary level. In countries where in-company training

is integrated within the formal vocational training system and is therefore regulated, most in-company trainers have also either undergone further training in pedagogy or are required to provide evidence of their competencies. In many cases, however, in-company training is not systematically integrated into the formal TVET system, meaning that pre-service and continuing training for TVET personnel is often unregulated.

Alongside initial training, continuing education is becoming increasingly important for teachers and in-company trainers. Regular participation in skills-development measures enables them to expand their pedagogical and specialist competencies. Continuing education and training for teachers is crucial to boost the quality of vocational training. The importance of skills development for TVET personnel has also increased significantly as a result of the need to adapt to changing processes and technologies within industry.



Young instructor at Tegbareid Polytechnic College in Addis Ababa, Ethiopia

This is essential to ensure that TVET remains practically relevant and meets the needs of the labour market. Furthermore, the provision of in-service training plays a vital role in the successful implementation of reforms of the TVET system, such as the rollout of new curricula.

Around the world, many different standards have been developed and introduced to describe the quality indicators, levels of competence and relevant teaching skills for target groups and training personnel. Standards are a tried-and-tested way of ensuring training

quality and comparability of degrees in particular. They can be used as a reference point for curriculum and examination design and also help to create a better understanding of the role of teachers and trainers. A distinction has to be made between the training standards that apply to teachers in vocational schools and those for in-company trainers. If standards are of an appropriate quality and are applied consistently, they can help to improve and harmonise the quality of training courses for teachers and trainers.

In the projects examined in this study, the training of TVET personnel follows and builds on many different national and international standards. In some cases, standards have been indirectly adopted and modified to create ways of measuring the training of TVET personnel. These include, for example, German curricula, the German Ordinance on Trainer Aptitude (AEVO), translated textbooks and teaching materials used in TVET, web-based training materials, company materials, and requirements for skilled employment derived from working processes, technologies and manufacturers' specifications.

Working with standards promotes a shared understanding of project objectives and tasks and supports communication and cooperation between all those involved in a project. The development, adaptation and application of standards should therefore, as far as possible, form part of a joint process with national project partners. Where there are no national standards and no plans to devise any, international standards may serve as a guiding framework within development cooperation that can be modified accordingly to take regional characteristics into account. Below is a brief outline of standards that are relevant to the initial and continuing training of TVET

personnel. Training regulations are included in this summary, as they also specify standards.

### National qualifications frameworks

Many countries have a national qualifications framework (NQF) that is used to classify training qualifications and competencies acquired through formal or non-formal learning. NQFs enable learners, training institutions and employers to compare different training qualifications. The level of training in a particular country can be mapped onto the overarching qualifications framework and compared with that of other countries. NQFs also enable qualifications to be mutually recognised and facilitate the mobility of skilled workers. One structure that can provide orientation for classifying the competencies of TVET personnel is the eight-level German Qualifications Framework (DQR). For example, under the DQR, completing vocational training in Germany's dual system would normally be categorised as a level 4 qualification. Master craftsman/tradesperson or technician status awarded on the basis of an AEVO examination is categorised as level 6 and therefore ranks as equal to a Bachelor's degree. A Master's degree (which most teachers in German vocational schools have) is classified as level 7. The Eu-

ropean Qualifications Framework (EQF) enables such national qualifications to be classified and recognised across Europe. Thanks to the detailed description of the level of the competencies required for each level, it is possible to draw conclusions about an individual's qualifications and training. As far as development of curricula and training materials in DC projects is concerned, levels 3 and 4 offer good orientation for skilled occupations, and level 6 for TVET personnel. This can be used as a reference when formulating objectives and the underlying competencies model. In cases where there is no national qualifications framework or system for classifying training personnel, the requirements of the labour market can be used as a starting point to determine the competence dimensions and the level. The technical and pedagogical requirements for TVET personnel can be defined by considering which qualifications skilled workers need in order to carry out their job (occupational competence).



Promotion of dual training in Egypt



Vocational training in Cairo, Egypt

### German Ordinance on Trainer Aptitude (AEVO)

Alongside their technical expertise, in-company trainers also require vocational pedagogical competence. The German Ordinance on Trainer Aptitude (AEVO) specifies the prerequisites for accreditation as a trainer. In this context, a trainer is an individual who delivers practical training within a company or training

institution and fulfils the requirements of the AEVO. The objective is to ensure the quality of training. Candidates must demonstrate not only technical aptitude but also knowledge of the occupational profile and an understanding of workplace education. To prove occupational aptitude, candidates must have completed an apprenticeship or a course of study in a discipline of relevance to the training occupation.

The AEVO defines the competence profile of prospective trainers in four areas:

- > Assessing training requirements and planning training,
- > Preparing training and participating in the recruitment of trainees,
- > Delivering training,
- > Concluding training.

### Master craftsman (Meister) qualification

Training to the level of Master (Meister) in the crafts and industry sector includes continuing education in the areas of entrepreneurship, company management and training skills. Those who complete such trainings are awarded a recognised certificate and are entitled, for example, to run a craft-sector business and to provide in-company training. In Germany, this occupational profile is the highest standard of training for in-company trainers. It is more wide-ranging than the AEVO training and offers tried-and-tested skills-development modules for in-company trainers that can be transferred to DC projects. To work as a Master (Meister) in the crafts/trades sector or industry, individuals are required to undertake upgrading training following successful conclu-

sion of an apprenticeship, and to successfully complete the Master (Meister) examination. The examination requirements must be based on work processes within companies rather than merely testing knowledge. They recognise wide-ranging specialist practical and theoretical expertise in the appropriate occupational profile and competence in commerce and management and in delivering vocational training. Successful completion of the examination usually also counts as a higher education entrance qualification. The quality of Master (Meister) training is also reflected in the DQR and EQF classifications. It is classified as a level 6 qualification, equivalent to a Bachelor's degree or a technical diploma.

None of the projects considered in this study involved implementing training concepts leading to a qualification as a Master (Meister) in the crafts/trades sector or industry. To promote wide-ranging occupational skills development for in-company trainers, more use should be made of this tried-and-tested model, which is easily transferable and has specific examination and certification arrangements.



## ANALYSIS AND ASSESSMENT OF CASE STUDIES

### 3.1 FACTSHEETS

#### 3.1.1 Palestinian territories

Project title	> Pre-service and In-Service Training for Vocational Education Teachers in the Palestinian Territories
Commissioning party	> BMZ
Region	> Palestinian territories
Implementing organisation	> GIZ
Cofinancing	> Norwegian Agency for Development Cooperation (NORAD)
Term	> 2017 to 2021

#### Brief description

In 2008, the Ministry of Education and Higher Education (MoEHE) of the Palestinian territories adopted an education and training strategy. One focus was on initial and continuing training for TVET personnel. The objective was to align vocational training programmes better with the needs of the labour market.

The project operates in three fields of activity:

- > Providing advice on establishing a statutory and formal set of rules (vocational training act),
- > Running vocational preparation courses and further training for teaching and management personnel in vocational schools,



Vocational teachers in Gaza design practical teaching approaches

- > Developing a qualifications system for in-company trainers.

With support from the project, vocational training pathways are being introduced in general schools. The teaching staff responsible for career guidance measures also receive advanced training, and a training programme for teachers and in-company trainers is being developed. The addition of practical content is improving the skills level of the teachers/trainers. At the time the survey was conducted, a training institute for teaching staff was being set up. Initial drafts of the occupational standards for teachers at vocational schools and in-company trainers have been produced and will form part of the new NQF. The companies involved in developing the occupational standard receive information about continuing education opportunities and are able to take

part in continuing training courses for in-company trainers. A total of 428 vocational teachers, 64 school principals and 173 in-company trainers have received further training. Sixteen companies have taken part in specialist practical continuing education courses in selected occupational fields. Ten of these companies have reached binding agreements with schools on jointly providing training for vocational trainees. A module has also been developed to support teaching staff in dealing with traumatised students. Other modules on the cross-cutting issues of inclusion, gender, and the prevention of conflict and violence were also designed as part of the project. This included a module on gender-sensitive approaches to female trainees and interns.

3.1.2 Ethiopia

Project title	> Qualifications and Employment Perspectives for Refugees and Host Communities in Ethiopia (QEP)
Commissioning party	> BMZ
Regions	> Addis Ababa and the Somali, Benishangul-Gumuz, Gambella and Tigray regions
Implementing organisation	> GIZ
Partner organisation	> Ethiopian Ministry of Science and Higher Education (MoSHE)
Term	> 2017 to 2023

Brief description

The project supports the Ethiopian Government in improving the employment prospects of refugees and the host population by integrating refugees into the country's national TVET system. At a public integrated vocational school in Addis Ababa and in Assosa in the Benishangul-Gumuz region, refugees and Ethiopian nationals receive training and a state-recognised certificate in particularly sought-after occupations. Since 2017, more than 700 individuals have either completed this integrated training or are currently taking part in the course. A total of 500 refugees and Ethiopian nationals are acquiring practical experience in 135 companies. In refugee camps, TVET opportunities are being opened up by increasing the number of teaching staff

and providing them with continuing training and by introducing courses that are relevant to the labour market. More than 285 vocational teachers have received technical and psychosocial training and, as a result, over 14,700 trainees are benefiting from better teaching. The project is also strengthening the capacities of MoSHE and other actors to implement the new legislation on refugees.

The project operates in four fields of activity:

- > Improving the quality of TVET: the content of existing training courses is being adapted to reflect the needs of the labour market. Continuing education opportunities enable vocational teachers to develop their technical and social competencies and thereby enhance the quality of their teaching.

- > Widening access to TVET: new teaching staff are being recruited, and new training courses with relevance to the labour market are being introduced. As a result, more refugees and Ethiopian nationals – including those in remote regions and refugee camps – are receiving training that will give them good employment prospects. Cooperation networks are being established between TVET institutions and vocational training centres in refugee camps.
- > Facilitating the transition to employment: the project supports refugees and Ethiopian nationals in developing joint business ideas by providing advisory services and support for start-ups and mentoring. Partnerships are being established between companies and vocational schools to facilitate graduates in their transition to employment, thereby helping them to find their first job.
- > Strengthening key actors in implementing national legislation on refugees in the area of inclusive TVET: the management skills of relevant actors, including MoSHE, are being developed to support the systematic inclusion of refugees in the TVET system and working life.

TVET personnel working with refugee groups need to have specific knowledge and com-



Entry-level qualification in Ethiopia

petencies: alongside technical and practical expertise, they also require enhanced skills in social integration and psychosocial support. In collaboration with the Federal TVET Institute in Addis Ababa, the project is developing and standardising continuing training in handling psychosocial issues such as trauma and conflict resolution. A consultancy company delivered a training course designed to raise awareness and address these issues. National

multipliers were then trained to conduct this training for teachers at the TVET institutions cooperating with the project. The training courses for teaching staff are adapted to the needs of the regional labour market. Vocational training in Ethiopia has traditionally been more theory-based, so teaching staff are

now receiving practical skills training in the timber and metal-processing, agricultural, and automotive sectors. This decentralised training is delivered with the support of specialist development workers.

### 3.1.3 ASEAN states (Indonesia, Laos, Myanmar and Viet Nam)

Project title	> Regional Cooperation for the Development of Technical and Vocational Education and Training (RECOTVET III)
Region	> BMZ
Implementing organisation	> Southeast Asia
Partner organisations	> GIZ
Term	> The Division of the ASEAN Secretariat with responsibility for sociocultural development, and the Southeast Asian Ministers of Education Organization (SEAMEO) > 2020 - 2023

#### Brief description

The objective of the project is to improve technical, personnel and institutional conditions to support harmonised, labour market-oriented vocational training systems within the Association of Southeast Asian Nations (ASEAN). The project provides assistance in establishing regional and cross-border standards for

vocational training that have the character of regional guidelines. The Regional TVET Teacher Standard (RTTS) supported by RECOTVET was developed jointly by experts from the region and Germany. The Southeast Asian Ministers of Education Organization (SEAMEO) and ASEAN's Senior Officials Meeting on Education (SOM-ED) recognised it early on in 2017. In 2020, with the involvement of German experts, the



Practical vocational training in Vietnam

RTTS was updated to take green skills into account and is now being used to update national standards for vocational teachers in a number of countries in the region, including Brunei, Malaysia and Thailand.

The project operates in four fields of activity:

- > Strengthening technical capacities at regional level,
- > Involving the private sector in initial and continuing vocational training,
- > Improving regional initial and continuing training for TVET personnel,
- > Supporting quality assurance and quality development.



To train in-company trainers in line with the ASEAN standard, the project worked with national stakeholders (including chambers of trade and industry and business associations) to develop a tailored training programme and create a multiplier network. The involvement of local institutions in establishing regional standards and advanced training courses lays the groundwork for a high level of ownership and willingness to apply the measures in the national context. The project supports continuing training both for TVET personnel in vocational schools and companies as well as for managers of training institutions.

Following a survey among the institutions responsible for providing continuing training for vocational teachers from ASEAN member states, five areas have been identified in which there is considerable need for action:

- > Innovative teaching and learning methods for Industry 4.0,
- > Development programme for vocational teachers in Industry 4.0,

- > Curriculum design for Industry 4.0 working processes,
- > Quality assurance and quality development in TVET institutions,
- > Links between industry and vocational schools.

In the latter two areas, practical advanced training courses are being held for multipliers along with coaching in the local language.

The spread of COVID-19 meant that further courses had to be deferred in early 2020, and targeted digital formats were developed which use the regional TVET platform devised by RECOTVET with its partner SEAMEO VOCTECH ([www.sea-vet.net](http://www.sea-vet.net)). The platform is currently being expanded to include a learning management tool. The teaching methods used include action-oriented learning ('handlungsorientiertes Lernen'), the learning area concept ('Lernfeldkonzept'), problem-based learning, and competency-based training.



Apprentices at the Competence Centre in Myanmar

### 3.1.4 Myanmar

Project title	> Vocational Training Programme – Sinde
Commissioning party	> BMZ
Region	> Bago region
Implementing organisation	> KfW
Partner organisation	> Ministry of Industry (Mol), Myanmar
Term	> August 2017 to September 2020

#### Brief description

As part of the FC project, a training centre is being upgraded to turn it into a competence centre, taking a multifunctional approach. Investments in buildings and equipment, coupled with support for in-service continuing education measures for vocational teachers, will provide the foundation for a TVET facility

that is equipped to the latest technological standards. The centre's technical equipment is tailored to providing training at the four qualifications levels laid down in the ASEAN Qualifications Reference Framework (AQRF). The training courses offered by ITC Sinde will last four years. Teachers are therefore learning about both the theory behind the technology and how to operate it in practice.

Skills development for teaching staff is mostly provided through development workers and national and international experts. Continuing training for teaching staff is embedded in specialist pedagogical concepts and curricula and is needs-oriented. The personnel from ITC Sinde and other ministry institutions are undergoing advanced training in two phases. During the first phase, teaching staff acquire the skills they need to use the new technical equipment and are qualified to teach the

first two years of apprenticeships. During the second phase, their expertise is expanded to cover the third and fourth year of an apprenticeship. In addition, the teaching staff complete industrial internships in the private sector, thereby ensuring that their continuing training takes the needs of the labour market into account to a greater extent. These continuing education measures for teaching staff are recognised through nationally accredited certificates.

3.1.5 Kosovo, Laos, Western Balkans

Project title	> Regional Challenge Fund (RCF) – Western Balkans Six Economies, Regional Challenge Fund: Vocational Education Financing Facility (VEFF) – Laos and Kosovo Challenge Fund Project (KCF) – Kosovo RCF
Commissioning party	> BMZ
Region	> Kosovo, Laos, Western Balkans
Implementing organisation	> KfW
Term	> Vocational Education Financing Facility (VEFF): 2019 to 2023 > Regional Challenge Fund (RCF): 2020 to 2024

Brief description

The following measures are being financed as part of FC support: 1) courses for dual training coordinators in both TVET institutions and companies, focusing on conceptual and operational issues in vocational training under

the dual system; 2) in-company internships for teachers at TVET institutions; and 3) continuing training for skilled workers from companies in pedagogy and teaching methods (to enhance the skills of in-company trainers).

The projects aim to improve the employability

of those taking part in dual TVET projects. In each of the three financial cooperation (FC) projects, a fund has been set up to support dual training in the partner countries. The objective is to ensure that TVET reflects employers’ needs more closely, thereby increasing the employability of young people. At the same time, the projects seek to improve the availability of skilled workers on the labour market in order to boost businesses’ productivity, competitiveness and innovation.

Financing for the various support measures comes from the Challenge Fund. This fund

provides financial assistance for TVET institutions and companies that enter into vocational training partnerships and present strong concepts for designing dual training courses. Financial support includes investment in technical equipment for the TVET institutions, subsidies for training materials and health and safety equipment, and courses for TVET personnel in vocational training institutions and the companies with which they are cooperating. The disbursement of support payments is dependent on implementation in line with the agreement.



Participants of a training course for welding trainers in Kosovo use the Augmented Reality welding simulator



### 3.1.6 Mexico

Project title	> Consolidation and Expansion of the Mexican System of Dual Vocational Training
Commissioning party	> BMZ
Region	> Countrywide
Implementing organisation	> GIZ
Partner organisation	> Mexican Ministry of Education (Secretaría de Educación Pública) (SEP)
Term	> 2020 to 2022

#### Brief description

The project supports the Mexican Ministry of Education in rolling out the dual vocational training system in various sectors of the economy and federal states. The focus is on making qualitative improvements to the approaches developed in the previous project and ensuring institutional mainstreaming of the model. The project's approach is based on three areas, focusing on quality assurance during both the regional and the sectoral rollout of the model as well as on policy advice on approval standards for the dual vocational training system in Mexico. The project contributes in particular to building the competencies of the key actors at meso level (teaching and managerial personnel, HR officers, trainers). This is achieved mainly by developing concepts as well as

teaching and learning materials. In addition, guidance and training measures are being offered to TVET personnel and to counsellors in the chambers of industry and commerce. The aim is to improve the digital literacy of partners and of trainers working in schools



Electronics technician preparing to assemble solar modules in Mexico

and companies, and also to develop digital solutions for the school and company-based elements of training. Teachers have an opportunity to gain work experience in companies, establishing a link between school-based training institutions and company practice.

In this way, teachers in solar energy technology, for example, can gain practical experience in this field. Multipliers are trained to provide advanced training measures, thereby ensuring that training can continue to be offered after the project has been completed.

### 3.1.7 Mongolia

Project title	> Cooperative Technical and Vocational Education and Training (cTVET)
Commissioning party	> BMZ
Region	> Western, eastern, central and southern Mongolia and Ulan Bator
Implementing organisation	> GIZ
Cofinancing	> Australian Department of Foreign Affairs and Trade (DFAT) and Korean International Cooperation Agency (KOICA)
Partner organisation	> Ministry of Labour and Social Protection of Mongolia
Term	> 2019 to 2023

#### Brief description

The project builds on a previous project – Cooperative Vocational Training in the Mineral Resource Sector – which was implemented between 2013 and 2019. It supports the Ministry of Labour and Social Protection in sustainably establishing seven capacity development centres (CDCs) and putting the requisite regulatory conditions in place across Mongolia. The project also assists with the introduction of a

skills-development system to support the initial and further training of vocational teachers. A Master's course based on the UNESCO-UNEVOC framework programme is being developed and implemented by an interdisciplinary team of teachers from four universities. This is improving the effectiveness of TVET for technical occupations in the metalworking, electrical and electronic engineering, and construction sectors. Seven selected vocational schools are being turned into CDCs to deliver training in



Vocational training at the 'Inter-Company Training Center' of the province Darkhan-Uul, Mongolia

specialist sectors. Training is also being provided for teachers at other vocational schools, along with continuing education opportunities for industrial workers and short courses for jobseekers. In cooperation with the national TVET Assessment, Information and Methodology Centre, the project is also assessing competencies and providing courses to prepare participants for the WorldSkills Competition in vocational skills. To this end, teachers and administrators working in the CDCs are trained, coached and advised by international and local experts and development workers. Systematic advanced training ensures that teachers at CDCs and other vocational schools improve both their practical skills and their pedagogical competencies. This is achieved through various measures, including further

training courses run by development workers and local multipliers. An international expert is also offering pedagogical training sessions. In addition, skills-development measures provided by local multipliers for in-company trainers will raise the quality of placements in companies. The project supports the Ministry of Labour and Social Protection in devising a systematic and institutionally mainstreamed skills-development system to support initial and further training for TVET personnel.

### 3.1.8 Armenia, Azerbaijan, Georgia

Project title	> Private Sector Development and Technical Vocational Education and Training, South Caucasus
Region	> South Caucasus
Commissioning party	> BMZ
Cofinancing	> EU
Implementing organisation	> GIZ
Partner organisations	> Ministry of Economy in Armenia, Ministry of Economy in Azerbaijan, Ministry of Economy and Sustainable Development in Georgia
Term	> 2017 to 2024

#### Brief description

The focus of the project is on fostering co-operation between training providers and the private sector to develop TVET approaches that are tailored to the labour market. To achieve a wide-ranging improvement in the conditions for job creation and employment, the project operates on both the supply side and the demand side of the labour market. This means, on the one hand, supporting organisations in the economic sector and, on the other, strengthening vocational qualification institutions in order to improve the demand for and supply of a qualified workforce.

In all three partner countries, a variety of skills-development measures are being carried out through short-term training as well as longer-term cooperation with local and international experts. In Azerbaijan, the project is working with partner companies to pilot a dual-type approach to vocational training in occupations in the tourism, agriculture, and transport and logistics sectors. To this end, mechanisms have been established to facilitate coordination between pilot vocational schools and the training companies. In-house trainers in these companies have participated in training to enhance their pedagogical and organisational skills. Capacity-development measures have been devised for management and teaching personnel in the areas of



Practical examination in the catering sector in Azerbaijan

pedagogy and cooperation with the private sector, while teaching staff have also received training in curriculum development. In Georgia, work is under way to create an advanced training programme for vocational teachers and in-company trainers in the viticulture, tourism, transport and logistics, construction, and ICT sectors. Since late 2016, the project has also been supporting three universities in Georgia with developing and piloting a Master's course in vocational education. The first cohort will begin their studies in Batumi in the second half of 2021. In Armenia, short courses are being developed for teachers in eight disciplines in the form of on-the-job

training and continuing education modules. To ensure the sustainability and quality of the dual training approach in Armenia, the Ministry of Education has been receiving support with improving the legislation on vocational training and the accompanying statutory and regulatory framework. At regional level, the project fosters exchange on cooperation arrangements and solutions across the South Caucasus. Private and public-sector stakeholders are learning from each other and networking through thematic exchange formats focusing on topics such as 'improving the image of TVET', 'digital solutions in dual vocational training' and 'involving the private sector in TVET'.

### 3.1.9 Tanzania

Title	> Training of Vocational Trainers in Zanzibar
Commissioning party	> BMZ
Implementing organisation	> Sequa and the Training Association Teltow (AVT) e.V.
Partner organisations	> Vocational Training Authority (VTA), Zanzibar National Chamber of Commerce (ZNCC) and other private sector institutions in Zanzibar
Term	> 2017 to 2020 (phase 1), 2020 to 2023 (phase 2)

#### Brief description

The objective of the Vocational Education and Training Partnership (BBP) implemented by sequa is to improve initial and further training for TVET personnel in public vocational training centres and selected companies, and to enhance their technical, methodological

and social skills. As part of the first phase of the project, a competence centre is being set up in a public vocational training centre. In addition, the competences of the Zanzibar National Chamber of Commerce (ZNCC) in the area of vocational education and training will be strengthened. ZNCC promotes dialogue between the public and private sector to secure



Training of skilled welders in Zanzibar, Tanzania



the long-term involvement of companies in vocational training and to improve the image of TVET in society.

As part of the project, a five-module training course – which has been recognised by the Vocational Training Authority (VTA) – was developed for TVET personnel in training centres and rolled out. VTA and ZNCC produced a concept for the competence centre on the basis of the existing qualification for trainers on the

Tanzanian mainland and the German Ordinance on Trainer Aptitude (AEVO) and adapted it to the local conditions in Zanzibar. In 2019, the ZNCC established the Private Sector Dialogue working group to strengthen the participation of the private sector in vocational education and training. The focus of the second phase of the project is to demonstrably increase and improve the practical relevance and quality of vocational training under VTA supervision in Zanzibar.

3.1.10 Indonesia

Project title	> Vocational Education and Training Partnership between the Chamber of Commerce and Industry (IHK) Trier and KADIN Indonesia (KI), BKSP East Java and EduKADIN
Commissioning party	> BMZ
Implementing organisations	> Sequa and the Chamber of Commerce and Industry (IHK) Trier
Partner organisations	> KADIN Indonesia, BKSP East Java, EduKADIN, Yogyakarta Chamber of Commerce
Term	> 2018 to 2021

Brief description

The Vocational Education and Training Partnership implemented by sequa aims to increase the involvement of companies in TVET in Indonesia. It uses the expertise of the German private sector – in particular the chambers of

industry and commerce, and business associations, along with their institutions – to develop Indonesia’s TVET system. A basic skills-development course for in-company trainers is being provided in partnership with the Chamber of Commerce and Industry (IHK) Trier and KADIN, the umbrella organisation of Indonesian



Training in Indonesia

business chambers and associations. In addition, in-company vocational training instruments are being trialled and local bodies set up to coordinate cooperation between schools and companies.

Together with the training centre of the Central Java Chamber of Commerce (EduKadin), the coordination point for occupational certification in East Java (BKSP) and the Chamber of Commerce of the Special Region of Yogyakarta, the project is qualifying 72 Indonesian master trainers in a ‘train the trainer’ (TTT) approach. In the programme, German experts from the Trier Chamber of Commerce and Industry and predominantly Indonesian trainers provide

courses for in-company trainers in two country-specific programmes. So far, 27 introductory TTT courses have been run with 600 participants. It is planned that this training will be continued by the umbrella organisation KADIN Indonesia. The project also cooperates with the responsible authorities, training initiatives and other donor projects, vocational schools, business associations and interested companies. For example, curricula are being coordinated between vocational schools and companies. Monitoring of the examination for the basic TTT course is the responsibility of the German Chamber of Commerce Abroad (AHK) in Jakarta.

### 3.2 CHALLENGES IN SKILLS DEVELOPMENT FOR TVET PERSONNEL

**Key question:** What challenges are often encountered in skills development for TVET personnel in German development cooperation (DC) partner countries?

Many interviewees cited the poor performance of TVET systems in meeting the needs of local labour markets as the greatest challenge. Vocational training systems often have only limited ability to provide the vocational competencies required for local and regional labour markets. The quality of skills development for TVET personnel is crucial in this context.

The analysis of project documentation and interviews with project managers in the 10 countries surveyed were used to identify the typical challenges encountered in skills development for TVET personnel. In addition to country-specific and region-specific aspects, structural challenges were also identified. The generally poor image of vocational education and training is a core problem. This has a negative impact on the attractiveness of the workplace – especially for vocational teachers – and thus makes it more difficult to recruit qualified teaching staff. The low motivation of active teaching staff was also frequently mentioned. The main reason here is a lack

of social and financial incentives: wages are generally poor, so many teaching staff have second or even third jobs, and this exacerbates the low status of teaching staff and their engagement with their main occupation.

One typical structural challenge is determining how to tailor skills-development measures given the considerable heterogeneity of TVET personnel with regard to their qualifications, practical experience, theoretical expertise and teaching experience. Standards for entering the profession are not formalised, so TVET personnel have very different backgrounds and skills levels. Projects therefore need to implement target group-specific, differentiated measures in initial and continuing training and define minimum standards for the examination and certification of TVET personnel.

The effectiveness of skills-development measures supported by international training staff is often hampered by language barriers and challenges that arise when training materials are not available in the local language and communication in that language is not possible. A lack of foreign language skills on the part of TVET personnel is often cited by projects as a major challenge. Compiling glos-

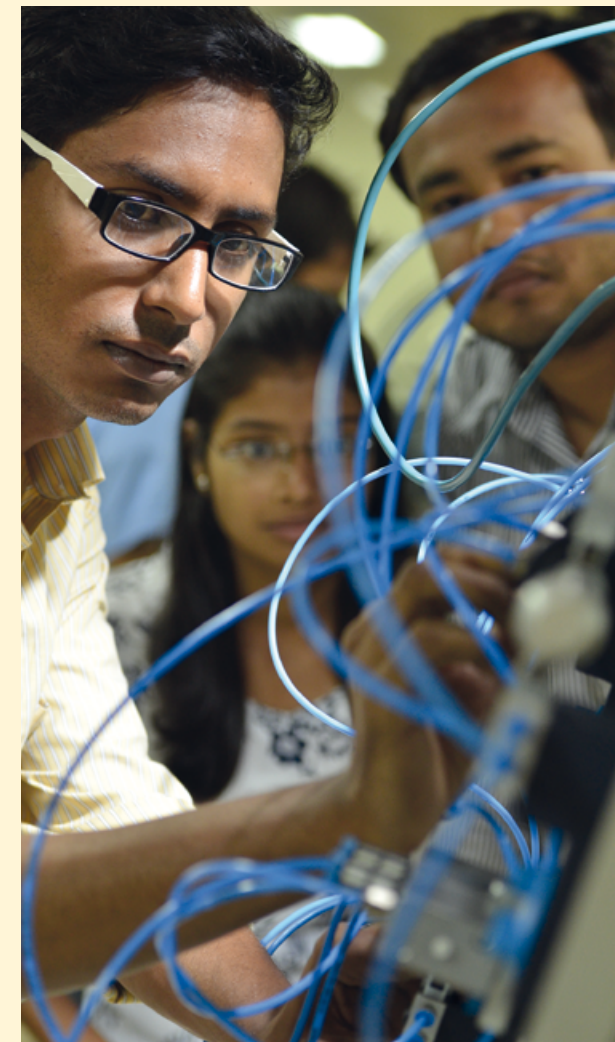
saries and using online translation aids is one way of tackling this issue. Only a few projects (for example the one in Indonesia) provided continuing training and materials in the local language.

Interviewees questioned the effectiveness of skills development through further training conducted in Germany. It is not always possible to transfer the findings from such costly measures to the local context in the partner country.

The existing teaching formats are frequently teacher-centred, hierarchical and theory-driven. Curricula and methods are often not geared to the needs of the labour market. This contrasts with the objectives of labour market-oriented training and with modern pedagogical concepts.

Teaching institutions have professional technical equipment, but many teachers are unfamiliar with the theory behind the latest technological standards and how to apply them in practice. This challenge was reported primarily in connection with IT-related areas.

Cooperation with the private sector is consistently acknowledged as a key aspect for improving the quality of the occupational skills of TVET personnel.



Vocational Education in India



However, interviewees identified a range of factors hampering links between vocational training institutions, TVET personnel and the private sector. In many cases, the private sector has a clear interest in cooperative training, but the quality of TVET often fails to meet the needs of the companies. There is too little awareness within the training institutions in many partner countries of the advantages of working with the private sector in vocational training. The lack of state incentives for companies is also reducing the attractiveness of cooperation with vocational training institutions.

From an overarching perspective, sustainable development of TVET systems also needs to be put in the context of the timescale required for any change. The average term of

the projects forming the focus of this study is three years. Moreover, the funding available for projects, the frameworks within which they work locally, and the willingness of local project partners to be involved in implementing projects all have a strong influence on the achievement of project objectives.

Recommended action in this area includes enhancing coordination and cooperation with local partners in the intervention regions and with responsible ministries, creating incentive systems to encourage teachers to participate in initial and continuing training measures, and strengthening the responsibility for TVET reforms at governmental level. At the same time, projects must ensure that the changes achieved are permanently mainstreamed.



Mechatronics training at Ha Tinh College in Viet Nam

### 3.2.1 Approaches to and challenges resulting from technological developments

**Key questions:** What specific challenges do TVET personnel face as a result of technological developments and changes in skilled employment in the context of digitalisation and the 'new worlds of work'? What approaches can be used to develop the skills of teachers and trainers to make use of digital teaching and learning methods?

In the projects analysed for this study, digital media had been used principally to support communication during the training of TVET personnel. During the COVID-19 pandemic and lockdowns in educational institutions and companies, the use of digital media focused initially on ensuring that teaching staff were able to work.

In some projects, training in the use of digital media formed part of the training measures for teaching staff. Overall, moves to include the use and learning effectiveness of digital media as an intended learning object in the education and training of TVET personnel are still in the early stages. The use of digital media to design, implement and assess the effectiveness of vocational training processes was included as a specific focus in TVET teacher training in

one of the projects in Myanmar.

Against the background of the COVID-19 pandemic and its massive impact on education systems, even more importance needs to be attached to systematically promoting digital literacy among teachers and trainers.

Overall, the study observed a variety of uses for and perceptions of digital tools in relation to curricula and to the overall management of training programmes, personnel and learning processes. In Mexico, for example, the use of virtual technologies (augmented reality (AR) and virtual reality (VR)) was identified as an appropriate instrument for delivering training. These technologies enable processes and applications to be simulated and presented clearly. They could be of particular benefit to institutions in which a specific training measure is difficult or impossible to deliver because of the lack of technical equipment.

Digital learning platforms and information systems facilitate access to learning content in TVET. E-learning platforms are considered the method of choice to tackle the challenges posed by the COVID-19 pandemic and the difficulties it has created in providing face-to-face training. Transferring course material to online platforms enables remote access, although it is important to take into account the fact that



Digitising the future through education, Kigali, Rwanda

some participants will have restricted access due to technical, geographical, language and social factors.

The widespread use of digital programmes and media makes it essential to integrate them into modern teaching methods. With regard to learning materials and the issue of how learning can be improved through the use of digital tools, the 'bring your own device' (BYOD) and 'substitution, augmentation, modification, redefinition' (SAMR) approaches provide guidance.

To mainstream the use of digital media in TVET institutions, teachers were systematically involved in developing the IT infrastructure in the project in Myanmar. They received training to enhance their technical and teaching skills and enable them to take responsibility for operating, maintaining and repairing technological equipment themselves. This includes, for example, selecting and installing hardware and software, setting up and maintaining Wi-Fi networks, and completing training in learning and teaching using digital media.

For digitalisation in TVET to be a success, occupational profiles need to be updated simultaneously and close attention must be paid to the requirements of the private sector. Occupational profiles must be tailored to the needs of the labour markets. A coordinated national qualifications framework (NQF) that defines the digital skills that teachers need can play a major role in establishing standards in TVET institutions and ensuring standard practice and teaching quality. Suitable TVET personnel must be trained and upskilled both to draw up new occupational profiles and to develop curricula and improve the way technological innovations are managed.

### 3.2.2 Approaches and strategies for crisis management

*Key questions: How do TVET personnel receive initial and continuing training in crisis situations? What measures are currently being taken to boost the resilience of the project in light of the COVID-19 pandemic?*

Of the 10 projects examined in the study, only a few included approaches and strategies for crisis management in the initial and continuing training of TVET personnel. The most common elements were the use of digital media to aid communication and the introduction of digital teaching formats to replace face-to-face events as a result of the restrictions during the COVID-19 pandemic.

The projects' approaches to adapting to crisis conditions can be divided into two categories: measures for maintaining the teaching structures of TVET institutions and teacher training, and the digitalisation of learning materials and processes (e.g. databases, audio and video versions of course materials, etc.). In the project in the South Caucasus, school textbooks were digitised. For instance, audiobooks were created on road construction, and a website was set up with learning materials on road construction and viticulture. In some cases, teaching staff encouraged students to record

their own YouTube videos on parts of the curriculum. Teaching was conducted on Zoom and broadcast on a TV channel. Alongside the conversion of specific course materials to digital formats, structural changes were also made at a number of TVET locations. These included the introduction of personalised digital coaches, online platforms for completing exercises, and communication channels for obtaining online advice, as well as the development of a national platform for learning materials.

The overall conclusion is that a greater concentration on systematic skills development for TVET personnel in using digital teaching and learning methods is urgently needed and is particularly important in crisis contexts to enhance the resilience of education and training systems. The SAMR model can provide orientation for the systematic skills development of vocational training staff.

### 3.2.3 Involving women teachers and trainers in vocational training

**Key questions:** What approaches are being taken to provide more initial and continuing training for women teachers and trainers? What measures are being taken to raise awareness of gender aspects among TVET personnel? How is gender-relevant content mainstreamed in skills development for TVET personnel?

A number of projects systematically included gender-specific content and approaches in skills development for TVET personnel. Examples of this are quotas (indicators) for women taking part in further training and activities to raise awareness of gender-specific issues. The objective is to foster integration within TVET across the board and to make participants aware of gender-specific challenges.

The projects encountered significant opposing attitudes and unhelpful sociocultural norms when implementing gender-specific activities, such as perceptions of typically male occupations. Attitudes and norms of this kind vary widely from one country to another, so projects must address them in the local context. The Pre-service and In-service Training for Vocational Education Teachers/Train the Trainers (TTT) project in the Palestinian ter-



Apprentices in a training centre in Lebanon

ritories includes specific training modules to raise awareness of women in the workplace, particularly in occupations dominated by men. This involves organising gender training for teaching staff and managers. Women training personnel are included in all planned training activities. Male teachers are equipped with skills that enable them to meet the specific training needs of female trainees.

In the Private Sector Development and Technical Vocational Education and Training, South Caucasus project, teaching staff receive support with organising awareness-raising and inclusion events to which students and parents are invited. Active pedagogical work helps to dismantle gender stereotypes, while teachers learn to identify and tackle the gender norms that influence specific occupations.

The expected outcomes of these initiatives include a higher proportion of women in employment, for example working with new technologies such as photovoltaics. The project is also seeking new areas of training that will expand the employment opportunities open to women. Further measures aimed specifically at increasing the involvement of women TVET personnel include the introduction of integrated daycare facilities for children in vocational schools, regular 'take a girl child to workdays', and the development of a training programme for women childcare workers looking after the children of women teachers and students in the vocational training sector.

The Cooperative Technical and Vocational Education and Training (cTVET) project in Mongolia is already seeking to raise awareness of gender issues in pre-service training for TVET personnel. On the basis of an analysis of the current situation of vocational teachers and of the experience gained on working visits to European countries, the project is creating gender-sensitive initial training programmes for TVET personnel. Development of both preparatory and in-service training for teachers that deliver initial and continuing TVET is part of the draft National Teacher Training Programme.

### 3.2.4 Skills development for TVET personnel in the context of displacement

**Key question: What approaches exist to develop the skills of TVET personnel that provide initial and continuing training in the context of displacement?**

TVET personnel are particularly important in the context of vocational training for displaced persons. The Qualifications and Employment Perspectives for Refugees and Host Communities in Ethiopia (QEP) project aims to integrate refugees into the national education and training system and introduce measures to train

displaced people and the local population together. School-based TVET personnel face particular challenges here. Alongside technical expertise, they also need psychosocial and integration skills. Continuing training for TVET personnel in the context of the QEP project has three priorities:

- **Developing teaching staff's practical skills in their subject, with a focus on the needs of regional labour markets to prepare learners specifically for their transition from school to the regional labour market. This training is delivered by development workers, and the teaching staff also gain practical work experience in participating companies;**
- **Strengthening the pedagogical competencies of teaching staff to manage integrative learning groups made up of refugees and local people;**
- **Strengthening the psychosocial, trauma and conflict-related expertise of teaching staff to overcome the challenges posed by displacement.**

To ensure that young refugees are able to learn alongside residents of local communities, skills development for TVET personnel needs to focus on managing heterogeneity, inclusion,

and linguistic and intercultural differences. In addition, training for multipliers should cover curriculum development, the design and implementation of advanced training for adults, and adapted moderation and communication techniques. Continuing education courses for TVET personnel at institutional management and leadership level should give them the knowledge and skills they need to design an institutional framework for integrated learning.

When designing projects in a displacement context, more attention should be given to incorporating these skills requirements into initial and continuing training for TVET personnel.



Vocational training in Rwanda



## KEY QUESTIONS TO ADDRESS WHEN PLANNING AND IMPLEMENTING PROJECTS TO TRAIN TVET PERSONNEL

On the basis of information from interviews and the assessment of project documents on skills development for TVET personnel, the following section formulates key questions relating to the planning and implementation

of projects. The focus is on the identified challenges, success factors and measures to create sustainable structures in skills development for TVET personnel.

### KEY QUESTIONS TO ADDRESS WHEN PLANNING SKILLS-DEVELOPMENT PROJECTS FOR TVET PERSONNEL AT MACRO LEVEL

#### General:

- ✓ How can objectives take into account national TVET legislation as well as national and international standards as quality standards and benchmarks? How can the required (NQF) levels of technical and pedagogical expertise of TVET personnel be determined and implemented as a standard?
- ✓ How can the working conditions of teaching staff be improved (e.g. social recognition, financial remuneration, career paths, workplace conditions, recognised certification)?
- ✓ How can skills development for TVET personnel address specific challenges (e.g. technological developments, displacement, crisis situations, consideration of gender aspects)?

#### Recruitment:

- ✓ What formal initial, continuing and further training, including certification, should be included in the initial requirements for TVET personnel (e.g. Bachelor's or Master's degree, postgraduate study, continuing education, vocational training or work experience, additional examinations)?
- ✓ What should the entry qualification for recruitment be, and what standard can be used to assess it?
- ✓ Does the partner country have valid statistical data on the training pathways of teachers?

#### Working conditions:

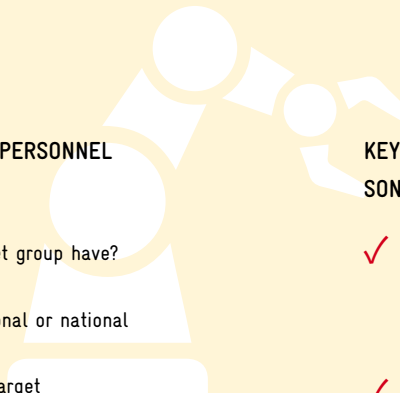
- ✓ Is there an evidence-based link between the working conditions (e.g. workplace, social recognition, equipment, career paths, etc.) of TVET personnel and their qualifications?
- ✓ How can working conditions for vocational teachers and in-company trainers be improved and a standard agreed?

### KEY QUESTIONS TO ADDRESS WHEN PLANNING SKILLS-DEVELOPMENT PROJECTS FOR TVET PERSONNEL AT MESO LEVEL

- ✓ Who is responsible for the formal initial and further training of TVET personnel and is therefore the contact organisation or cooperating partner institution (e.g. ministries of education, industry or economic affairs, universities and academies, organisations representing industry and craft occupations)? How can different institutional responsibilities be brought together and coordinated within a single cooperation concept or similar framework?
- ✓ What role should chambers of commerce and business associations play in planning and implementing skills-development measures for TVET personnel (e.g. determining skills levels, accrediting prior learning, quantitative needs, the weighting of practical vocational components, etc.)?
- ✓ How can chambers of commerce and business associations improve the working conditions of TVET personnel by providing support to boost their skills development, thereby helping to enhance the image of vocational training?







## KEY QUESTIONS TO ADDRESS WHEN PLANNING SKILLS-DEVELOPMENT PROJECTS FOR TVET PERSONNEL AT MICRO LEVEL

- ✓ What prior technical, pedagogical and specialist teaching expertise do the teachers in the target group have? How can these skills be identified?
- ✓ What role do TVET personnel's language skills play, and what resources can be mobilised (regional or national resources, short-term experts, long-term experts, development workers, institutions)?
- ✓ What would ensure that advanced training programmes can be planned and implemented in a target group-specific way (formal qualifications, work experience, foreign language skills, teaching skills, gender, interaction with displaced persons)?
- ✓ How does the programme design shape pre-service and in-service training measures for TVET personnel?
- ✓ Which (standardised) certificate qualifies trainers to deliver initial and further training to TVET students?
- ✓ What form could a standardised workplace and (flexible) remuneration system take? Does the project have an adequate budget for training TVET personnel (including materials)?
- ✓ How can TVET personnel be prepared for and supported in crisis situations?
- ✓ What formats/instruments are available for digital training (e.g. e-learning, AR, VR, virtual meetings and the use of learning platforms)?
- ✓ What tailored package of measures will ensure effectiveness and knowledge transfer in skills development for TVET personnel (on-the-job training, specific teaching methods, teaching concepts that actively involve participants (e.g. AoL, CBT, etc.), and media)?

## KEY QUESTIONS TO ADDRESS WHEN IMPLEMENTING SKILLS-DEVELOPMENT MEASURES FOR TVET PERSONNEL AT MACRO LEVEL

At all levels, efficient and effective cooperation with project partners and teachers – and, ultimately, their willingness to change – underpin implementation of skills-development programmes.

- ✓ Standardisation processes at macro level are long-term initiatives. What would the meaningful interim stages and transitions be in such a process?
- ✓ What indicators at implementation level could increase the willingness of ministries and institutions to make changes (e.g. legislation on in-service teacher training, technical standards, remuneration systems, monitoring of budget data, recognition of certificates, etc.)?

## KEY QUESTIONS TO ADDRESS WHEN IMPLEMENTING SKILLS-DEVELOPMENT MEASURES FOR TVET PERSONNEL AT MESO LEVEL

- ✓ Which measures have a positive or negative impact on the ability and willingness of TVET institutions and TVET personnel to make changes (e.g. training in new technologies, digitally supported work processes, specialist teaching concepts for theoretical and practical training and in relation to workplace conditions, inadequate language skills, inadequate theoretical knowledge, the heavy workload on teachers, and heavy involvement in management)? How can the project respond?
- ✓ What additional competencies do TVET personnel need in order to provide training in the context of displacement?
- ✓ What contribution can TVET personnel make to the economic and social integration of displaced persons in host communities? What competencies and training provision is needed to facilitate this contribution?
- ✓ What structures and partnerships need to be activated to implement occupational (workplace-based) further training components for TVET personnel?
- ✓ How can training institutions be recruited to provide specific training components for TVET personnel (e.g. a hub for multipliers, master trainer formats)?

## KEY QUESTIONS TO ADDRESS WHEN IMPLEMENTING SKILLS-DEVELOPMENT MEASURES FOR TVET PERSONNEL AT MICRO LEVEL

- ✓ What minimum technical and financial resources are needed for skills-development programmes for TVET personnel (e.g. IT, software licences, usage fees, etc.)?
- ✓ What approaches are required and have proved effective in training teachers to use digital learning tools?
- ✓ What special timeframes are suitable for in-service training?
- ✓ What specific advanced training content and cooperation arrangements (e.g. with NGOs) need to be developed to meet the requirements placed on teaching staff in crisis situations?
- ✓ How can all those concerned be involved in designing an attractive workplace for TVET personnel? What incentives could be created to improve the image of teaching staff?
- ✓ How is it possible to ensure that certificates/qualifications awarded via a DC project are recognised in the partner country?

## DEVELOPMENT POLICY RECOMMENDATIONS

The following recommendations for action are based on the observations made during this study:

- Projects should support efforts by the responsible actors to integrate TVET personnel training measures into existing education and training systems in partner countries. It is important to create appropriate structural and statutory frameworks so that initial and continuing training for TVET personnel can help to make an overall improvement in vocational training.
- Wherever possible, binding agreements should be concluded with partner countries on the design of conducive general conditions regarding skills development and working conditions for TVET personnel. These general conditions should cover areas such as strengthening effective national institutions with a clear mandate to train TVET personnel and creating targeted incentive systems to improve the skills development and motivation of TVET personnel.
- A sustainable improvement in skills development for TVET personnel can only be achieved if projects take into account measures to improve teachers' social and material workplace conditions. This requires concrete political agreements at bilateral level.
- A more systematic emphasis on skills development for TVET personnel can contribute to a qualitative improvement in TVET in the partner countries of German DC. To this end, more TVET projects should be initiated that focus on this aspect. In order to reflect the far-reaching importance of this topic, skills development for TVET personnel must be anchored more systematically in the

module objective or at output level.

- The use of appropriate regional, national or international quality standards should be considered at an early stage when designing projects and measures to train TVET personnel. Examination and certification systems based on uniform standards can be helpful when defining standards for the training of TVET personnel. This can facilitate quality assurance of skills-development measures for TVET personnel.
- Projects with skills-development measures for TVET personnel should seek the active involvement of the private sector. By providing work experience for teachers from vocational schools and other cooperation formats, local and international companies can make a valuable contribution to improving the practical vocational competencies of TVET personnel. This in turn can ensure that vocational training is practical and labour market oriented.
- In the medium to long term, certified academic training for teachers in vocational schools should be established as a prerequisite for sustainable and competitive vocational training. Technical and financial cooperation can help to bring about a broad-based improvement in academic training for TVET personnel.
- For in-company TVET personnel, occupational skills and practical experience should be supplemented with further development of didactical competencies. Teachers in vocational schools should have proven experience of occupational practice or take part in practical training courses.
- Practical and theoretical training for TVET personnel must be adapted on an ongoing basis to reflect technological and social change. Development of digital teaching and learning options and appropriate skills development for TVET personnel can also boost the resilience of training systems.

## CONCLUSIONS

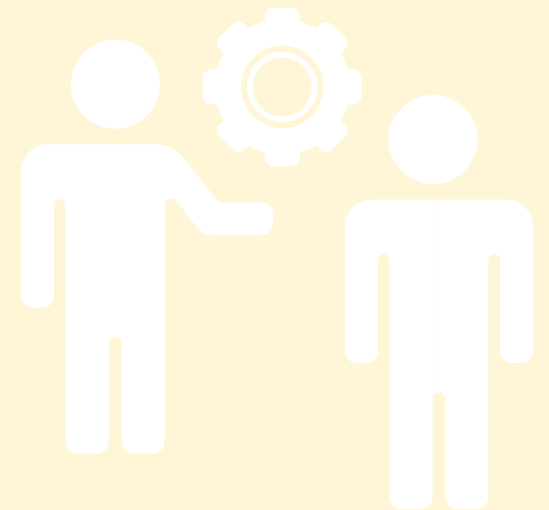
The analysis of the 10 selected projects shows that, in most cases, skills development for TVET personnel is not an independent focus, but is implemented as a contribution to achieving the overarching objectives of the projects. As a decisive factor for the success of vocational education and training, skills development for teaching and training professionals should, as a basic principle, be a designated focus of development cooperation projects.

In all projects, a variety of standards formed the basis for action. The application of standards to describe and ensure quality in the training of TVET personnel should be considered during project planning. For the development of vocational standards in the partner country, contractual agreements should be made at political level.

Due to the complexity of standards, strong project partners are required to implement them nationally. This means that the standards to be established can hardly be realised within the usual project timeframes. Their development and implementation should be planned beyond the timeframe of individual projects.

Digitalisation processes played an important part in all the projects examined. This includes technological equipment, the management of hardware and software, and the design of teaching and learning processes. TVET personnel require not only technical expertise but also specific competencies to shape technological change. The integration of digital media into vocational training should be a standalone element of initial and continuing training for TVET teachers and trainers.

A modular curriculum should be designed to deliver practical, theoretical and pedagogical continuing training to TVET personnel. To build the competencies of TVET personnel in the context of displacement, or in the areas of gender equality and female empowerment, the study recommends developing standalone approaches and concepts to supplement the curriculum.



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German Federal Ministry for Economic Cooperation and Development (BMZ)

2030 Agenda for Sustainable Development:  
[http://www.bmz.de/de/themen/2030\\_agenda/index.html](http://www.bmz.de/de/themen/2030_agenda/index.html)

Vocational education and training:  
[http://www.bmz.de/de/themen/nachhaltige\\_wirtschaftsentwicklung/berufliche\\_bildung/index.html](http://www.bmz.de/de/themen/nachhaltige_wirtschaftsentwicklung/berufliche_bildung/index.html)

Digitalisation in German DC: <http://www.bmz.de/de/service/sonderseiten/ikt/start/index.html>

Special Initiative Tackling the Root Causes of Displacement, (Re)Integrating Refugees: <http://www.bmz.de/de/themen/Sonderinitiative-Fluchtursachen-bekaempfen-Fluechtlinge-reintegrieren/index.html>

Pact on the world's future: [http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren\\_flyer/infobroschueren/Materialie270\\_zukunftsvertrag.pdf](http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/Materialie270_zukunftsvertrag.pdf)

Supporting TVET – Shaping the Future:  
[http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren\\_flyer/infobroschueren/sMaterialie340\\_berufsbildung.pdf](http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/sMaterialie340_berufsbildung.pdf)

BMZ Education Strategy:  
<https://www.bmz.de/de/entwicklungspolitik/menschenrecht-bildung>

Economy – opportunities for sustainable development: <https://www.bmz.de/resource/blob/23376/5599b34839bc2e9a6bdaaf02341cc6eb/materialie278-wirtschaft-data.pdf>

(The BMZ website is under construction. Therefore, some pages are currently only available in German, retrieved on 7 April 2022)

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# ABBREVIATIONS

<b>AEVO</b>	Ausbildereignungsverordnung (German Ordinance on Trainer Aptitude)	<b>BKSP</b>	Ostjava Development Cooperation Agency Ostjava	<b>DQR</b>	Deutscher Qualifikationsrahmen (German Qualifications Framework)	<b>KOICA</b>	Korean International Cooperation Agency
<b>AHK</b>	Auslandshandelskammer (German Chamber of Commerce Abroad)	<b>BMZ</b>	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development)	<b>EduKADIN</b>	Training Center of the National Chamber of Industry and Commerce Zentraljava, Indonesia	<b>MoL</b>	Ministry of Industry Myanmar
<b>AoL</b>	Action-oriented learning	<b>BYOD</b>	Bring your own device	<b>EQF</b>	Europäischer Qualifikationsrahmen (European Qualifications Framework)	<b>NORAD</b>	Norwegian Agency for Development Cooperation
<b>AQRF</b>	ASEAN Qualifications Reference Framework	<b>CBT</b>	Competency-based training	<b>EU</b>	European Union	<b>NQF</b>	National Qualifications Framework
<b>AR</b>	Augmented reality	<b>CDC</b>	Capacity-Development-Center	<b>FC</b>	Financial cooperation	<b>RECOTVET</b>	Regional cooperation for the Development of Technical and Vocational Education and Training
<b>ASEAN</b>	Association of Southeast Asian Nations	<b>cTVET</b>	Cooperative technical and vocational education and training	<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	<b>RTTS</b>	Regional TVET Teacher Standard
<b>AVT</b>	Ausbildungsverbund Teltow (Vocational Training Association)	<b>DC</b>	Development cooperation	<b>ILO</b>	International Labour Organization	<b>SAMR</b>	Substitution, augmentation, modification, redefinition
<b>BBP</b>	Berufsbildungspartnerschaft (Vocational training partnership)	<b>DFAT</b>	Department of Foreign Affairs and Trade	<b>ITC</b>	Industrial Training Center Sinda		
				<b>KADIN</b>	Indonesian Chamber of Commerce and Industry		

<b>SEAMEO</b>	Southeast Asian Ministers of Education Organization	<b>VTA</b>	Vocational Training Authority
<b>SEAMEO</b>	Regional Centre for Vocational and Technical Education and Training	<b>ZNCC</b>	Zanzibar National Chamber of Commerce
<b>SEP</b>	Secretaría de Educación Pública		
<b>SOM-ED</b>	Senior Officials Meeting Education		
<b>TC</b>	Technical cooperation		
<b>TTT</b>	Train the trainer		
<b>TVET</b>	Technical and vocational education and training		
<b>VEFF</b>	Vocational Education Financing Facility		
<b>VET</b>	Vocational education and training		
<b>VR</b>	Virtual reality		

## ENDNOTES

<sup>1</sup> This study focuses on teachers in vocational training schools and in-company trainers. Both groups are referred to in this study as 'TVET personnel', 'TVET trainers' or 'teaching staff'.

<sup>2</sup> Skills development for TVET personnel is an integral part of most projects with TVET components and forms part of the relevant (TVET) programme without a standalone module objective. The factsheets in chapter 3.1 illustrate this.

<sup>3</sup> BYOD ('bring your own device') in this context means the use of personal digital consumer devices such as laptops, tablets and smartphones for initial and continuing training at TVET institutions.

<sup>4</sup> SAMR ('substitution, augmentation, modification, redefinition') is a four-stage approach to integrating learning technologies that ultimately – at the redefinition stage – enables the creation of new roles that would previously have been unthinkable.





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