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Promoting Employment-Oriented Cooperative TVET in Partner Countries

Approaches, Lessons-Learnt and Recommendations from German Development Cooperation

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\ GENERAL ABBRIVIATIONS

ADA	Austrian Development Agency
AEVO	(Ausbildereignungsverordnung) Ordinance on Trainer Aptitude
AHK	Auslandshandelskammer (German Chambers of Commerce Abroad)
BIBB	Bundesinstitut für Berufsbildung (Federal Institute for Vocational Education and Training)
BMO	Business Member Organization
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development)
CBET	Competency-Based Education and Training
CEDEFOP	Centre Européen pour le Développement de la Formation Professionelle (European Centre for the Development of Vocational Training)
CINTERFOR	Centro Interamericano para el Desarrollo del Conocimiento en la Formación Profesional (Inter-American Centre for Knowledge Development in Vocational Training)
CSR	Corporate Social Responsibility
DACH region	Germany (D), Austria (A), and Switzerland (CH)
DC	Development Cooperation
ELMA	Employment Labor Market Analysis
ETH	Swiss Federal Institute of Technology Zürich (Eidgenössische Technische Hochschule Zürich
EU	European Union
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GOPA	Gesellschaft für Organisation, Planung und Ausbildung mbH
HDI	Human Development Index
ICT	Information and Communication Technologies
IDB	Inter-American Development Bank
ILO	International Labor Organization
IRENA	International Renewable Energy Agency
KOF	Swiss Economic Institute *(KOF Konjunkturforschungsstelle)*
LAC	Latin America and the Caribbean
LNOB	Leave No One Behind
MOOCs	Massive Open Online Courses
MSMEs	Micro, Small and Medium-sized Enterprises
NGO	Non-Governmental Organization
NEET	Not in Education, Employment or Training
OECD	Organization for Economic Co-operation and Development
PPP	Public Private Partnership
RPL	Recognition of Prior Learning
SENA	Servicio Nacional de Aprendizage (National Training Service)
SENAI	Serviço Nacional de Aprendizagem Industrial (National Service for Industrial Training)

SENATI	Servicio Nacional de Adiestramiento en Trabajo Industrial (National Training Service of Industrial Work)
SDC	Swiss Agency for Development and Cooperation
SME	Small and Medium-sized Enterprise
ToRs	Terms of Reference
ToT	Training of Trainers
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Education and Training

\ ABBREVIATIONS OF CASE STUDIES PER COUNTRY IN ALPHABETICAL ORDER

REGIONAL AFRICA ATVET4W	
AUDA-NEPAD	African Union Development Agency
ATVET	Agricultural Technical and Vocational Education and Training
ATVET4W	Agricultural Technical Vocational Education and Training for Women
CAADP	Comprehensive Africa Agriculture Development Program
GmBS	Gender Makes Business Sense
GTA	Gender Transformative Approach
SIFA	Skills Initiative for Africa
REGIONAL AFRICA E4D	
ATP	Assessment and Training Package (Uganda)
E4D	Employment and Skills for Development in Africa
KAM	Kenya Association of Manufacturer
KOICA	Korea International Cooperation Agency
NORAD	Norwegian Agency for Development Cooperation
PuE	Productive Use of Energy
PV	Photovoltaics
SWOT	Strengths, Weaknesses, Opportunities, Threats
SWRW	Safe Way Right Way
UVQF	Ugandan Vocational Qualifications Framework
ASEAN	
ABA	ASEAN Business Awards
ASEAN	Association of Southeast Asian Nations
ATC	ASEAN TVET Council
BMO	Business Membership Organization
SEAMEO	Southeast Asian Ministers of Education Organization
SEAMEO VOCTECH	SEAMEO Regional Centre for Vocational and Technical Education and Training (SEAMEO VOCTECH),
SEA TVET	South East Asian Technical and Vocational Education and Training
SLOM-WG	ASEAN Senior Labor Officials Meeting's Group on Progressive Labor Practices to Enhance the Competitiveness of ASEAN
SOM-ED	ASEAN Senior Officials Meeting on Education
RECOTVET	Regional Cooperation for the Development of Technical and Vocational Education and Training

BOLIVIA	
CEA	*Centros de Educación Alternativa* (Alternative Education Centers)
CEE	*Centros de Educación Especial* (Special Education Centers)
CEE	*Comisión Episcopal de Educación* (Episcopal Commission for Education)
CEMSE	*Centro de Multiservicios Educativos* (Educational Multiservice Center)
FAUTAPO	Foundation FAUTAPO - Education for Development.
FTP	*Formación Técnica Profesional* (Technical Vocational Training)
INE	*Instituto Nacional de Estadística* (National Institute for Statistics)
ITT	*Institutos Técnicos Tecnológicos* (Technological Technical Institutes) (ITT)
SDC	Swiss Agency for Development and Cooperation
SILE	*Servicios de Intermediación Laboral y Emprendimiento* (Employment and Entrepreneurship Service)
VES	*Viceministerio de Educación Superior* (Vice Ministry of Higher Education)
BRAZIL	
IF	*Institutos Federais de Educação, Ciência e Tecnologia* (Federal Institutes of Education, Science and Technology)
MAPA	Ministério da Agricultura, Pecuária e Abastecimento (Ministry of Agriculture, Livestock and Food Supply)
MEC	*Ministério da Educação* (Ministry of Education)
MESoL	*Mulheres en Energia Solar* (Network of Women in Solar Energy)
MTP	Ministério do Trabalho e Previdência (Ministry of Labor and Welfare)
RE	Renewable Energy
Rede Federal	*Rede Federal de Educação Profissional, Científica e Tecnológica* (Federal Network of Vocational, Scientific and Technological Education Institutes)
CAMBODIA	
CSPM	Conflict-Sensitive Project Management
DGTVET	Directorate General of Technical and Vocational Education and Training
HIT	High Impact Training
HoKa	Hospitality Kampuchea
IHT	In-house Training
LSW	Low Skilled Workers
MoLVT	Ministry of Labor and Vocational Training
MoT	Ministry of Tourism
NEA	National Employment Agency
NSDF	National Skills Development Fund
OHS	Occupational Health and Safety
PDoT	Provincial Department of Tourism
PIP	Professional Industry Placement
PTB	Provincial Training Board
PTC	Provincial Training Center

SDF	Skills Development Fund
SDP	Skills Development Program
UNIDO	United Nations Industrial Development Organization
CUBA	
BTI	Bertelsmann Foundation's Transformation Index
CEM-FMC	*Centro de Estudios de la Mujer* (Center for Women's Studies of the Federation of Cuban Women)
CEPDE-ONEI	*Centro de Estudios de Población y Desarrollo* (Center for Population and Development Studies)
ONEI	*Oficina Nacional de Estadística e Informacion* (National Statistics and Information Office of Cuba)
EGI	*Estrategia de Género e Inclusión* (Gender and Inclusion Strategy)
ENIG	National Survey on Gender Equality
FMC	*Federación de Mujeres Cubanas* (Federation of Cuban Women)
H&I	Humanity and Inclusion NGO
IVM	Índice de Vulnerabilidad Multidimensional (Multidimensional Vulnerability Index)
MES	*Ministerio de Educación Superior* (Ministry of Higher Education)
MINED	*Ministerio de Educación* (Ministry of Education)
MINCEX	*Ministerio de Comercio Exterior y la Inversión Extranjera* (Ministry of Foreign Trade and Investment)
MTSS	*Ministerio del Trabajo y Seguridad Social* (Ministry of Labor and Social Security)
PROFET	*Programa de Fortalecimiento de la Educación Técnica y Profesional en Cuba* (Program for Strengthening Technical and Vocational Education in Cuba)
OSL	*Observatorio Social y Laboral de Cuba* (Social and Labor Observatory of Cuba)
UNDP	United Nations Development Program
VES	*Viceministerio de Educación Superior* (Vice Ministry of Higher Education)
EGYPT	
ATS	Applied Technology School
CIL	Collective Leadership Institute
DS	Dual System
EDS	Egyptian Dual System
EEDS	Enhancement of the Egyptian Dual System
EPP	Employment Promotion Project
IA	Investors Association
IAS	Industrial Apprenticeship Scheme
MoETE	Ministry of Education and Technical Education
MKI	Mubarak-Kohl Initiative
PVTD	Productivity and Vocational Training Department
QPI	Quality Pioneers Initiative
RUDS	Regional Unit for the Dual System

INDIA	
BCIC	Bengaluru Chamber of Industry and Commerce
BTP	Basic Training Provider
DGT	Directorate General of Training
DST	Dual System of Training
IGVET	Indo-German Program for Vocational Education and Training
ITI	Industrial Training Institutes
KP	Knowledge Product
MASMA	Maharashtra Solar Manufacturers Association
MoU	Memorandum of Understanding
MSDE	Ministry of Skill Development and Entrepreneurship
MSMEs	Micro, Small and Medium Enterprises
NAPS	National Apprenticeship Promotion Scheme
NSDC	National Skill Development Corporation
NSQF	National Skills Qualification Framework
SSC	Sector Skills Council
TNA	Training Needs Analysis
UWDMA	uPVC Window and Door Manufacturers Association
KOSOVO	
ALLED	Aligning Education and Training with Market Needs
EARK	Employment Agency of the Republic of Kosovo
EntreComp	EU Entrepreneurship Competence Framework
GreenComp	EU Framework for Sustainability Competences
HE	Higher Education
IPA	Instrument for Pre-Accession Assistance (EU)
KCC	Kosovo Chamber of Commerce
LMIS	Labor Market Information System
MESTI	Ministry of Education, Science, Technology and Innovation
MLSW	Ministry of Labor and Social Welfare
MSMEs	Micro, Small and Medium Enterprises
NQF	National Qualification Framework
QA	Quality Assurance
UP	University of Pristina
UPCO	University of Pristina for Competitiveness/Competencies/Cooperation

MEXICO

AMIS	*Asociación Mexicana de Instituciones de Seguros* (Mexican Association of Insurance Institutions)
ANTAD	*Asociacion Nacional De Tiendas De Autoservicio Y Departamentales* (Mexican Retailers Association
CANACINTRA	*Cámara Nacional de la Industria de Transformación* (National Chamber of the Manufacturing Industry)
CCE	*Consejo Coordinador Empresarial* (Business Coordinating Council)
CDMX	*Ciudad de México* (Mexico City)
COMCE	*Consejo Empresarial Mexicano de Comercio Exterior, Inversión y Tecnología* (Business Council for Foreign Trade, Investment and Technology)
CONALEP	*Colegio Nacional de Educación Profesional Técnica* (National College of Technical Professional Education)
CONOCER	*Consejo Nacional de Normalización y Competencias Laborales* (National Council of Standardization and Labor Competencies)
COPARMEX	*Confederación Patronal de la República Mexicana* (Employers Association of the Mexican Republic)
ED	*Educación Dual* (Dual Education)
EMS	*Educación Media Superior* (Higher Secondary Education)
MMFD	*Modelo Mexicano de Formación Dual* (Mexican Model of Dual Education)
SED	*Sistema de Educación Dual* (Dual Education System)
SEMS	*Subsecretaría de Educación Media Superior* (Undersecretary of Middle Higher Education)
SEP	*Secretaría de Educación Pública* (Ministry of Public Education)

NIGERIA

ALMM	Active Labor Market Measures
ELMA	Employment Labor Market Analysis
FMFBP	Federal Ministry of Finance Budget and National Planning
FOCI	Federation of Construction Industry
LSETF	Lagos State Employment Trust Fund
NBTE	National Board for Technical Education
NGCC	Nigerian German Chamber of Commerce
NIOB	Nigerian Institute of Building
NOS	National Occupational Standard
NSQF	Nigerian Skills Qualification Framework
SEDIN	Pro-Poor Growth and Promotion of Employment in Nigeria (GIZ Project)
SKYE	Skills Development for Youth Employment
TWG	Technical Working Group
WICA	Women in Infrastructure Community Africa

PAKISTAN

BIA	Business and Industry Association
CBT&A	Competency-Based Training and Assessment
D-BoM	District Board of Management
IMC	Institute Management Committee
NAVTTC	National Vocational & Technical Training Commission
SSC	Sector Skills Council
TVETSSP	Technical and Vocational Education and Training Sector Support Program

EXECUTIVE SUMMARY

The promotion of cooperative Technical and Vocational Education and Training (TVET) was defined by the Inter-American Development Bank (IDB) and governments in the Latin America and Caribbean (LAC) region as an important element for increasing the relevance of vocational training to the labor market, and thus addressing the challenge of youth unemployment. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) supports the IDB in its efforts to promote private sector involvement in TVET in order to strengthen the demand-orientation of TVET systems. It is in this context that GIZ conducted this study "Engaging Industry in Cooperative TVET". The study objective is to identify and summarize good practices, key challenges, and success factors of cooperative TVET projects worldwide, and to develop recommendations for adapting and transferring identified good practices to the regional context of LAC. Experiences in gender-sensitive, innovative, and scalable cooperative TVET designs were analyzed to promote the TVET projects in LAC that were more closely aligned with labor market needs. The dual TVET systems in the DACH region (referring to Germany, Austria, and Switzerland), served as a reference framework for placing the concrete practical examples in a theoretical context. Semi-structured interviews and project documents from 13 projects, as well as a literature review, were the basis for identifying and outlining challenges and strengths met in supporting cooperative TVET. The concrete project examples were described in the form of case studies, highlighting the most important steps and innovative approaches to strengthen the role of the industry and to promote the gender-sensitive, innovative, and scalable design of cooperative TVET measures.

This study shows that the overarching question – which strategic approach is best suited to actively involve the industry (companies and business associations) in cooperative TVET projects – cannot be answered unequivocally but is dependent on the specific context. From this, one recommendation can already be generalized, even if it sounds self-evident: the first step of supporting cooperative TVET requires a detailed analysis of the sector, its actor landscape and the local framework conditions before a project can be conceptualized. In most of the projects analyzed, it turned out that both a multi-stakeholder and a multi-level approach are appropriate to bring about positive changes in terms of industry involvement. Closely related to the multi-level approach is the question of whether a top down or a bottom-up approach is best suited to address industry involvement. The bottom-up approach proved successful when identifying the skill gaps in a specific sector and region as well as the associated specific challenges, and then deriving the specific training needs and the most appropriate type of cooperation among relevant stakeholders.

The development or reform of a TVET system is always a complex undertaking that requires the coordination of a wide range of actors from the education and labor market systems. In most countries and cultures this requires a cultural change, a change of mindset that needs time and resources. The country examples show that well-funded projects with mid- or long-term duration – that comprise several phases and good staffing (long-term personnel) – achieve a greater impact, particularly because they often involve high-level partner structures and thus have greater visibility in the country. Strong leveraging effects can be achieved by embedding a project in a broader context or framework. For example, when supranational regulations are generally accepted, standardized frameworks serve as orientation and motivation to achieve higher goals.

This study also shows that all forms of enterprises – irrespective of the economic sector – can make valuable contributions to the design and implementation of demand-oriented skill development projects. What matters is that companies show full commitment for skill development projects to be successful. A key finding is that forms of organized economy, such as chambers and business associations or other looser forms of collaboration such as exchange forums, can act as drivers for greater industry involvement in the design, implementation, and monitoring of employment-oriented TVET. In countries where there are not yet any forms of organized economy, cooperative TVET this is not possible until structures (e.g., cooperatives, business organizations, associations along value chains, etc.) are established.

In most of the projects analyzed, cooperative TVET is thought of in a multi-dimensional way. The improved relationships between TVET providers, enterprises and other (governmental) stakeholders fostered by the project activities were used to implement complementary measures. This included pre-training job counseling, post-training career guidance and other labor market measures to enhance the positive effects of the cooperative TVET activities. Many projects recognized that there is a bottleneck in integrating graduates of vocational training programs into the labor market. In many cases it was necessary to support the graduates in job search and job placement.

In the LAC region the introduction of any form of cooperative TVET often requires going beyond distributing information and raising awareness: a shift in mindset is often a precondition for introducing new forms of TVET. In order to overcome stereotypes, break the patterns of thinking and change habits, it is good to work with motivated organizations who can act as change agents. Moreover, with regard to the involvement of the industry in TVET, the use of role models who are visionary proved to be effective. Last but not least, it is necessary to provide continuous support and mentoring to the various stakeholders throughout the entire duration of the project.

Business associations are a key factor in engaging industry and disseminating the benefits of workplace learning. Project approaches that worked closely with industry partners were successful, e.g., by inviting and encouraging companies to jointly develop adapted solutions, meeting their needs for qualified labor. The provision of additional services – such as matching activities for internships and industrial placement involving companies, schools and associations – was another tool to convince companies of the value of trainees/graduates who completed dual training. It also provided an example of the benefits of investing in improving the skills of their workforce. Particularly important for MSMEs was providing ongoing support in overcoming obstacles to participation in TVET. In LAC, business associations can act as a buffer and linkage between industry and state. They can negotiate regulations and incentives with the state authorities and assume many support processes for the enterprises. A promising approach is to complement support programs with mentoring from large companies, through public-private partnerships that already have experience in the implementation of cooperative TVET. This proved as a method to share their knowledge and lessons learned. For strong industrial sectors, cost-benefit analyses are recommended to convince industry of the benefits of cooperative TVET.

In countries with a highly informal economy or in rural areas where structures of an organized economy are not existent, Development Cooperation (DC) projects should concentrate on establishing these structures before introducing cooperative TVET. As a first step of cooperation and trust-building, dialog forums and sectorial roundtables or councils are a proven measure. In order to create win-win-situations and to make sure that industry benefits from knowhow transfer and innovative power, it is recommended to use the dramatic changes in the world of work as a lever. LAC countries profit enormously from the new occupational profiles in the context of industry 4.0, agriculture 4.0, circular economy, bio-economy and energy efficiency, and last but not least digitalization. It is important that the industry (companies and business associations) are in the driver's seat and demand the implementation of a new training occupation and that these new occupations are based on a comprehensive market study. Thus, new jobs can contribute to improve the image of TVET, linking it to future-oriented economy and ensuring that cooperative TVET enjoys acceptance and recognition in society and economy. To integrate learning at the workplace as a second learning venue underlying the same quality requirements and needs learning objectives as school-based learning, a framework of legal regulations, quality standards, quality assurance mechanisms, standards and their monitoring and evaluation is needed. This must be provided by the state in consultation and consent with the industry. Lessons learnt provide evidence that – specifically in the context of a cooperative TVET system – codified standards help to create transparency about the learning contents in each learning venue and to foster a positive image of the vocational occupations. Certification of labor competencies is an important tool to provide trainees with formal recognition of competencies attained, facilitating their future labor market integration.

The qualification of school teachers and in-company trainers, as well as capacity-building for management personnel, are among the first issues to be addressed. Process manuals have proven to be very helpful to orientate TVET institutions and training companies on how to proceed in the planning, implementation, and testing of cooperative TVET. Moreover, the staff in the so-called transition system, such as social pedagogues, support teachers or career advisors, often need to be trained to increase the employability of trainees and rates of job placement. Occupational standards for all key positions and roles and corresponding standardized training programs, as well as processes for the training delivery and certification, need to be established. A regional observatory of cooperative TVET as an exchange platform for standards, curricula as well as training and certification measures would be an effective and efficient solution. Labor market studies to identify potentials for market-driven occupational profiles as well as employer surveys, skills anticipation models, or other forecasting instruments should be conducted on a regular systematized basis. With the support of international cooperation, vocational research could be institutionalized, potentially in form of a regional organization. One of their tasks could be to systematize lessons learned from successful experiences and good practices in cooperative TVET, so that they can be shared and replicated with adaptations at national levels.

CHAPTER 1 STUDY CONCEPT

1.1 INTRODUCTION

Creating an increase in the number and quality of jobs for young people is a major challenge in Latin America and the Caribbean (LAC), where entry into the labor market is characterized by high unemployment rates and informality. The COVID-19 pandemic has pushed the youth unemployment rate in LAC to 23.8% in 2021, a proportion three times higher than for adults and more than twice the average overall unemployment rate in the region. Women are particularly affected, due to the higher presence of women in economic sectors that have been severely affected by the crisis, such as tourism and gastronomy as well as services and activities in the household sector.[1]

The most frequently cited shortcoming of technical and vocational education and training (TVET) systems is the lack of connection between theory and practice, which leads to graduates of TVET not having the skills needed in the labor market. As a result, in many countries the transition from school to work is a major hurdle for young people. There is widespread recognition among policymakers and researchers that TVET programs are most effective in terms of employment when they closely link education and employment.[2]

Against this background, the promotion of cooperative TVET was defined by the Inter-American Development Bank (IDB) and Governments in the LAC region as one important element for increasing the relevance of vocational training to the labor market, and thus addressing the challenge of youth unemployment. This goal is promoted by a number of strategies supported by IDB and the German Federal Ministry for Economic Cooperation and Development (BMZ). The declaration of intent signed by IDB and BMZ formalizes a strategic partnership on cooperation in TVET. This is reiterated in the IDB *Vision 2025 to the Institutional Strategy* which highlights the new challenges and opportunities of the fourth industrial revolution (Industry 4.0) for education systems and labor markets.

In this context, it was agreed that the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) supports the IDB in its efforts to promote private sector involvement in TVET to strengthen the demand-orientation of TVET systems. It is in this context that GIZ has conducted this study on Engaging Industry in Cooperative TVET[3]. The objective is to identify and summarize the good practices, key challenges, and success factors of cooperative TVET projects worldwide, and to develop recommendations for adapting and transferring identified good practices to the regional context of LAC. Experiences in gender-sensitive, innovative,

Definition of cooperative TVET

\ We have defined the term 'cooperative TVET' broadly to refer to any kind of cooperation between the education sector and the industry aiming at making TVET more demand-oriented.

\ According to Euler (2013) who differentiates between the "dual system" and the "dual principle", we take into account all types of cooperation and describe successful actions that strengthen the involvement of industry in cooperative TVET.

\ Industry can engage at different stages of cooperative TVET design and implementation, e.g. curriculum development, examinations, providing internships, participating in Sector Skills Councils, etc.

Definition of TVET

\ Education and training for the world of work leads us to many theories and definitions. The language of vocational education and training (VET) is complex and particularly susceptible to jargon and acronyms and is strongly influenced by national and sociocultural contexts. Therefore, we regard it necessary to define some key terms used in this study.

\ In accordance with the official use in Germany, we speak of Technical and Vocational Education and Training (TVET), understanding TVET as "comprising education, training and skills development relating to a wide range of occupational fields, production, services and livelihoods" (UNESCO (GC) 2015, UN). In this sense, it is "used as an equivalent term for vocational education and training (VET)" (NCVER 2013, Australia).

\ TVET serves here as an overarching term to describe all kinds of formal and non-formal training and learning provided by or in all different institutions, providers and learning locations.

[1] See ILO website: International Youth Day: Youth employment crisis: disarming the pandemic-triggered time bomb (ilo.org), published 21. August 2021.

[2] See also Caves, Katherine; Ghisletta, Andrea; Renold, Ursula; Kemper, Johanna (2019): Meeting in the middle: TVET programs' education-employment linkage in developing contexts, KOF Working Papers, No. 460, ETH Zurich, KOF Swiss Economic Institute, Zurich, https://doi.org/10.3929/ethz-b-000356567

[3] The full name of the study is: Engaging Industry in Cooperative TVET - Transferring German, Swiss and Austrian Development Cooperation Experience to LAC

and scalable design of cooperative TVET are analyzed to promote TVET projects in LAC that are more closely aligned with labor market needs. Cooperative TVET in LAC has moved into the spotlight and has gained importance. In August 2021, representatives of TVET institutions from 15 LAC countries[4] established a strategic alliance for dual VET in the region. At the end of a three-day virtual conference, coordinated by the Mexican TVET organization Colegio Nacional de Educación Profesional Técnica (CONALEP) and with the support of the German Federal Institute for Vocational Education and Training (BIBB) and International Labor Organization (ILO)/CINTERFOR), the delegates pledged to actively support the expansion and consolidation of dual TVET in LAC[5].

One of the major challenges in creating cooperative TVET systems is fostering the engagement and commitment of the industry as one of the key pillars of cooperative TVET. In Europe, pronounced forms of dual TVET are implemented in Germany, Austria, and Switzerland, also known as the DACH region.[6] Therefore, this study will analyze TVET projects executed by the development cooperation (DC) agencies of: Germany, Austria, and Switzerland; GIZ; the Austrian Development Agency (ADA); and the Swiss Agency for Development and Cooperation (SDC). Whenever this study refers to a TVET project, it indicates projects commissioned by one of the three DACH donor organizations.

1.2 METHODOLOGY

The preparation of this study followed the subsequent four-step methodology[7]:

1 – DESK RESEARCH

The team conducted a literature review (studies and research papers) on approaches to promote cooperative TVET. The publications were compiled based upon recommendations from GIZ and IDB and draws from the Gesellschaft für Organisation, Planung und Ausbildung mbH's (GOPA's) literature pool and the experience of the authors. Additionally, a comprehensive strategy was used to map the international research literature, which included hand searching websites, bibliographies of included studies and relevant reviews. There were no country restrictions to the search, however, a focus was laid on LAC countries, corresponding with the IDB's sphere of interest. The identification of DC TVET projects followed a similar approach.

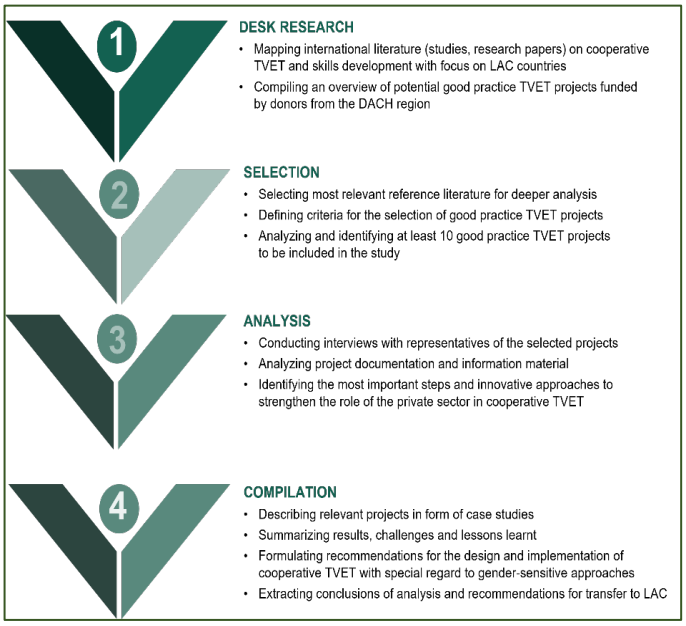

Figure 1: Four-step methodology of work

2 - SELECTION

A total of 60 relevant publications were identified and screened, of which 15 were considered for further analysis. The 15 selected publications served as a theoretical framework for the classification of the projects to be reviewed and their conceptual positioning in an international context. They provided criteria for the outline of the study regarding format, structure, and methodology.

Based on an extensive desk analysis, the team identified 48 TVET projects worldwide, funded by the three development cooperation agencies (GIZ, SDC ADA) in the DACH region that were appropriate for the study. An eight-point selection scheme was defined and applied to decide on the most relevant projects regarding the goal of the study (see introduction to Chapter 2 Case Studies). Thirteen projects were selected to be included in this study. The assessment of the projects was based on comprehensive online information and project reports.

3 - ANALYSIS

Semi-structured interviews were conducted with the responsible project managers, technical consultants and/or other staff to gain further information and understanding of the projects. One interview partner was always the project manager, sometimes plus technical advisors and a representative of a partner organization, to capture a second point of view. Occasionally, additional interviews were organized with persons responsible for specific

[4] Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Honduras, Mexico, Nicaragua, Panama, Paraguay, Dominican Republic, Uruguay.

5 www.bibb.de/en/141019.php

6 DACH region refers to the three countries Germany (D), Austria (A), and Switzerland (CH).

7 The work on the study started in May 2022 and was concluded in November 2022.

components, e.g., gender equality. The semi-structured interviews used the criteria set out in the analytical framework to collect qualitative data and were supported by a questionnaire. In addition to the interviews, further documents like reports, graphic material, images provided by the projects built the basis for identifying and outlining challenges and strengths of the projects.

4 – COMPILATION

Concrete project examples were described in the form of case studies (see Chapter 2), highlighting the most important steps and innovative approaches to strengthen the role of the industry and to promote a gender-sensitive, innovative, and scalable design of cooperative TVET measures. The case studies do not reflect the projects with all their activities in their completeness, but rather set priorities that are relevant to the objective of this study. Based upon the main findings of the 13 case studies, final conclusions, successful interventions, and lessons learnt were summarized and recommendations formulated with a specific focus on the LAC context (see Chapter 3).

1.3 FRAMEWORK CONDITIONS

The dual TVET systems in the DACH region serve as a reference framework for placing the concrete practical examples (case studies) in a theoretical context. In order to understand approaches of cooperative TVET in development cooperation, it is important not only to identify the main features of the 'dual system', but also to understand the framework conditions under which this system has developed. Today's TVET systems are the result of country-specific historical, economic, social, and cultural developments[8]. This means that; a) TVET systems are always a means to achieve certain goals (e.g., to reduce youth unemployment, increase economic productivity, but also social inclusion etc.); and b) that elements of such TVET systems cannot be transferred one-to-one to other countries and contexts[9], which will be discussed in detail in Chapter 3. From the historical development of the European dual TVET system (see Historical-cultural context box), we can extract three framework conditions for the development and functioning of a dual TVET system, which are particularly important regarding the active involvement of industry. The three framework conditions are: political, financial and legal; economic; and societal. Their below descriptions include a brief assessment of the specific challenges in the LAC countries.

\ POLITICAL, FINANCIAL AND LEGAL FRAMEWORK CONDITIONS

Ownership and governance of TVET are crucial factors in the development of cooperative TVET structures. In many non-European regions, including LAC, TVET is in the hands of the state and is implemented by the responsible ministry (Ministry of Education, Labor or other relevant ministries) via subordinate training institutions (e.g., vocational secondary schools). Since the cooperative TVET system requires the active participation of enterprises, the political-legal framework should be opened in such a way that enterprises can take on their own tasks so that TVET can be implemented under joint responsibility.

Linked to the governance aspect is the financing of the cooperative TVET system. In the spirit of shared responsibility, the industry should participate financially in TVET and/or provide in-kind contributions such as infrastructure, premises, equipment, working materials and supplies as well as human resources. The financial engagement of industry also helps to further strengthen the quality and acceptance of TVET. The more financial investment required from companies, the more persuasive power is needed that financial participation in cooperative TVET will ultimately pay off for the companies.

Historical-cultural context

\ In the Middle Ages in Germany and other European countries, trades and crafts organized themselves into guilds and developed their own training and quality standards. Historically the business community entered the scene as a key player in TVET long before the state. The later development of chambers, which speak and act on behalf of the registered businesses in a city or district, stems from the tradition of the guilds.

\ The functionality and standardizing power of the guilds could only exist/progress because they included all the trades in a city. This created the conditions for business to assume responsibility for public tasks such as vocational training, which in other countries are usually performed exclusively by public institutions.

\ The decisive factor is that the guilds, and later the chambers, were and are prepared to perform tasks of economic self-administration, and that the state acts in a complementary way by delegating regulatory tasks to structures of society that are established and competent in governance. On this basis, the state and industry have entered into a partnership and are prepared to assume joint responsibility for the regulation of and sharing of cost for TVET.

[8] For further information see Fazio et al. (2016). Apprenticeships for the XXI-Century and Federal Institute for Vocational Education and Training (BIBB) (2014). Training regulations and how they come about

9 Euler, German dual VET.

Cost-benefit analyses can help to convince companies that investing in TVET is worthwhile. Further incentives can be, for example, tax breaks, but also awards for innovative cooperation approaches between school and enterprise, which promote a positive public image.

TVET legislation regulates a number of important aspects for both TVET institutions and companies. In Germany, the state sets the framework and standards for dual TVET through the *Vocational Training Act and the Crafts and Trade Regulation Code*, which define the rights and obligations of training providers and trainees. The central element of the legal basis for cooperative TVET in Germany are the training regulations which are specified by the *Act and the Crafts Code*[10]. Industry contributes to shaping the training regulations by defining the learning content and conditions for the individual training occupations. In addition, employers and trade unions jointly develop the minimum standards for the in-company training, which are aligned with the framework curricula for the school-based part of cooperative TVET. BIBB is responsible for drafting the training regulations and is assisted in this task by experts from vocational practice (appointed by the social partners).

\ SITUATION IN LAC

In the 1940s and 1950s, the wars in Europe and Korea stimulated economic and social development in LAC and the emergence of a local industry. These developments placed greater demand for a qualified workforce. The International Labor Organization (ILO) responded to this by promoting the establishment of TVET organizations throughout the LAC region to provide the required skills. These organizations shared a number of common characteristics. They were mostly subordinate to labor ministries and had no legal or institutional connection with the existing technical secondary schools under the responsibility of Ministries of Education and offered one or two years of practical vocational training in industrial and craft trades. In addition, they aimed to target disadvantaged groups of the population. A compulsory payroll levy imposed by law on employers in virtually all Latin American countries has ensured that they receive a continuous and substantial funding.

In the 1990s, partly due to their over-bureaucratic structures, latent politicization and remoteness from industry, these organizations were unable to keep pace with rapid technological change and changing workforce skills and were strongly criticized by industry for failing to supply the workforce they needed. This led to pressure for reforms in terms of decentralization and privatization, or real participation of the productive sector. Chile opted for a neo-liberal policy of privatization. In many other LAC countries TVET organizations sought to modernize (see case study Mexico and the introduction of the dual system) and to respond more effectively to industry demand, (e.g., by introducing sector skills councils). Nowadays, national training institutions like the Servicio Nacional de Aprendizage (SENA) in Colombia and the Serviço Nacional de Aprendizagem Industrial (SENAI) in Brazil have to allocate a proportion of the payroll levy on specific vocational training activities agreed with employers and to transfer a certain number of training courses to other private institutions (Wallenborn 2001).

\ ECONOMIC FRAMEWORK CONDITIONS

The structure of a national economy and the importance of the industrial sectors in terms of their contribution to the gross domestic product (GDP) is a key determining factor for cooperative TVET. More specifically, the relevance of cooperative TVET depends on the extent to which an economic sector and the companies representing it are relying on the availability of skilled labor to supply their products or services.

At the level of the companies, a set of criteria can be applied to distinguish between the different types of companies and to determine the extent to which they tend to actively participate in the development and implementation of cooperative TVET. These criteria include private sector companies organized according to private law versus public enterprises controlled by the state; small, medium, or large enterprises; sectors with low or high technology and equipment intensity, etc. When formulating recommendations for the promotion of cooperative TVET approaches in LAC, the informal sector cannot be ignored as it is an important pillar of economic activity in many developing economies. The development of cooperative TVET structures depends also on other company-related factors like: the recruitment of staff (graduates from schools or higher education programs versus graduates from a dual TVET program) and related opportunity costs; and the organization of in-company work flows (there need to be in-company positions for TVET graduates to make best use of their skills which is often not the case in polarized work organizations where only academic and unskilled labor force are employed). Finally, business umbrella organizations play a supporting and motivating role in the cooperative TVET system and can take on concrete responsibilities in curriculum development, examination etc.

[10] For further details see “Presentations on the German VET system” on the website of GOVET - German Office for International Cooperation in Vocational Education and Training. www.govet.international/en/54879.php

\ SITUATION IN LAC

In recent decades LAC countries have experienced rapid economic and social development. However, the economic strength of the various states in LAC is very heterogeneous: Brazil and Mexico are countries in transition that have long since risen to become important global players[11], while Peru and Colombia are emerging states with economic prospects. On the other hand, there are small and less developed countries such as El Salvador, Guatemala and Nicaragua and most of the Caribbean states, where a high proportion of people live in poverty and emigrate to the United States in large numbers for lack of opportunities at home. Moreover, many of the LAC countries are characterized by a high degree of regional disparities. In Brazil, the extreme regional inequalities have led to the term "Belindia" when assessing the level of development. This means that federal states such as São Paulo, Santa Catarina and Rio Grande do Sul have indicators comparable to Belgium's level of development, while large inland regions in the Northeast resemble poor rural regions in India. In Mexico, we find world-class companies that include telecommunications, brewing, cement, oil, and the tourism sector. Colombia is home to a globalized entertainment industry, and so on. In virtually all Latin American countries, income and wealth are very unequally distributed.

\ SOCIETAL FRAMEWORK CONDITIONS

The societal framework conditions should be viewed from two different angles:

Perspective of companies: Unlike Europe, most developing and transition countries do not have TVET structures that have evolved since the Middle Ages. This means that there is no tradition of business engagement in TVET to build on, which can lead to a lack of understanding and knowledge of the TVET system, and potentially a lack of interest and willingness to engage in the development of a cooperative TVET system. This is amplified when companies realize that cooperative TVET requires commitment and financial investment on their part. Where these traditions and experiences are lacking, awareness must be created from the outset, communicating that company investments in TVET not only benefits the individual company but also helps to improve the TVET system as a whole. Therefore, confidence-building measures are essential to bring about an increase in awareness among companies, and to win them over as active partners.

Perspective of youth and their families: Due to a lack of "TVET tradition" and knowledge about the benefits of training in a cooperative TVET system, hesitation and lack of awareness is also experienced with young people (potential trainees in cooperative TVET programs), and their families. This is often accompanied by a low regard for TVET in general (a worldwide pattern) compared to the prestige of academic education and jobs. Therefore, the reservations of young people and their parents must be taken seriously. In addition to promoting social acceptance of cooperative TVET, greater awareness should also be raised of the material benefits of cooperative training in terms of income, career opportunities and quality of work.

\ SITUATION IN LAC

Latin America and the Caribbean is the continent with the highest level of social inequality and one of the most violent regions on earth (BMZ 2015). It is characterized by a great diversity of ethnicities and cultural identities as well as languages that often discriminate against population groups living in the interior or other remote regions. Compared to higher education, TVET has a low societal status in all LAC countries. This may be due to the fact that when TVET was introduced, it often targeted the socially disadvantaged or picked up school dropouts who abandoned Ministry of Education courses. TVET is often seen as a second choice: the greatest wish of most parents is that their "son becomes a doctor". The common attitude is that there is hardly any European professional identity and there is no pride in being a good carpenter or tailor.

1.4 KEY FEATURES

Based on the dual TVET systems in Germany, Austria and Switzerland, the key features of cooperative TVET structures are described in the following segment. It should be noted that even though these three countries implement dual TVET systems, they differ in detail and are adapted to the respective country context[12]. What they all have in common, however, is a range of key features that can be regarded as quality criteria for cooperative TVET (BIBB 2022). The relevance and implementation of the key features and focus topics (see next section) were also the basis for the selection of the 13 case studies presented in Chapter 2. The following section highlights the status quo and challenges related to the adoption and implementation of these key features in the LAC region.

[11] Both countries are members of the G20 forum.

12 See ibw Austria – Research and Development in VET (2016): Dual VET in Austria, Germany, Liechtenstein and Switzerland. Zurich.

1.4.1 COOPERATION OF STATE GOVERNMENT, BUSINESS COMMUNITY AND SOCIAL PARTNERS

Cooperation between the state, industry and the social partners with regard to cooperative TVET can be defined by several characteristics – duality, consensus and shared costs. Duality is the most concise criterion for cooperative TVET and can be analyzed in terms of two core elements: duality with regard to the learning location; and duality in terms of TVET governance (i.e., the cooperation between the state and the industry). In the course of this study, the term 'industry' is used to describe the business sector or business community. We understand 'industry' to be all-encompassing, thus including both private and public enterprises, and covering all economic sectors including the manufacturing industry, trades, services and commerce.

Duality with regard to the learning location: In a typical dual/cooperative TVET system, theoretical training takes place in school (learning site 1) and practical training in the company (learning site 2[13]), and this blend of theoretical and practical learning is mandatory. The ratio between theoretical and practical training can vary in percentage, depending on the needs of the country and the particular sector of the economy. The dual principle of TVET thus refers to the integration of theory and practice combining systematic fundamental and work-based learning. The latter is crucial, as the workplace environment is the only place where training and learning takes place under real working conditions. It ensures the acquisition of skills relevant to the labor market, but not too narrowly focused on the needs of individual companies.

Duality in terms of TVET governance: Cooperative TVET is understood as a joint task of the state and industry, as a close cooperation between public and private sector actors, which includes both employers' and employees' organizations (social partners). They share responsibilities for the cooperative TVET system with specific roles and responsibilities at different levels of the system (macro, meso and micro). Cooperation between public and private sector organizations can take place on the basis of different forms of agreements, ranging from more informal bilateral agreements between schools and companies to a more systematized form, ideally based on the consensus principle.

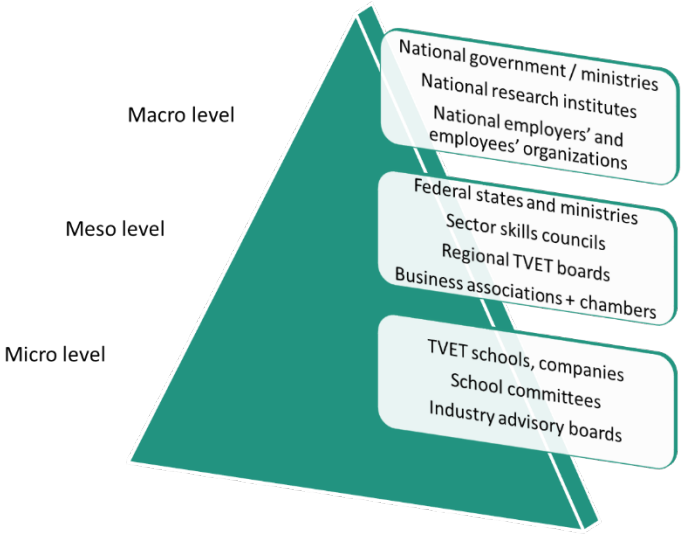

Figure 2: TVET stakeholders at three levels, adapted from different sources

Governance of cooperative TVET by consensus: The stakeholders of cooperative TVET systems have different interests, but joint engagement is possible because the actors subordinate their interests to common overarching principles. A prerequisite for the implementation of the consensus principle is the existence of different methods of interest representation and articulation by special interest groups such as trade unions, employers' associations, etc. Thus, the governance of cooperative TVET requires a constant process of negotiation. The most important areas in which the consensus principle is applied are the definition of the training regulations (see framework conditions), safeguarding a balanced distribution of theoretical and practical learning content, and assuming joint responsibilities for the examination and certification of competences acquired at the alternating learning sites. The consensus principle enables cooperation on equal footing by involving all parties in the decision-making process, thereby also promoting social acceptance of cooperative TVET. One potential drawback is that any consultative and consensual approach takes time and could thus delay the pace of cooperative TVET reform processes (Ebner et al. 2016).

Shared costs for cooperative TVET: The contributions of all partners to the financing of the system is another important element of TVET governance. In the German-speaking countries, expenses for TVET are shared by the state and the industry. Typically, costs related to classroom learning, such as the infrastructure of vocational schools and salaries of vocational schoolteachers, are borne by the state. Companies generally pay for the job-related part of TVET (e.g. the monthly salaries paid by training companies to their trainees, the provision of workplaces, equipment, and training workshops), and the deployment of staff as in-company trainers. A small part of the costs are also assumed by the trainees who accept lower earnings in return for training. Co-financing can also take other forms, for example, when training providers and companies join forces for income-generating measures or companies supplement the school-based training with equipment and materials.

[13] Sometimes a third training location such as a training center with specific equipment is included. This is typical for industries with many SME that often do not cover all aspects of a specific training occupation, e.g. in the construction sector.

\ SITUATION IN LAC

Education systems in LAC countries vary greatly with regard to maturity and capacity. TVET organizations like SENATI in Peru (founded in 1961), SENA in Colombia (founded in 1957) or SENAI in Brazil (founded in 1942) are institutions with a longstanding tradition. They work closely with industry and are supported by employers' associations in the respective economic sectors. SENAI and SENATI implement school and workplace learning which is close to cooperative TVET. Lately, SENA has set up mechanisms for cooperation with employers at a local level.

All of them operate sector skills councils or sectorial round tables. They serve to align the curricula with the needs of industry, to discuss technological changes and their impact on initial and continuing vocational training and to keep training courses up to date.

Due to legal regulations, the financing model (levy through payroll tax) and the contribution to the national TVET training system, these TVET organizations fulfill parastatal functions, with the exception of SENA that is state-owned.

Other countries like Cuba, Chile, Paraguay, and Guatemala have weak education systems and need to build up a demand-oriented TVET system that corresponds with the needs of industry. They often do not have the financial means to invest in modern equipment and to keep up with the latest technologies. Learning materials and equipment are often obsolete.

1.4.2 LEARNING WITHIN THE WORK PROCESS

Nowadays, employees are needed who work independently and show responsibility for quality and work productivity. This requires not only professional knowledge but also the ability to act appropriately, intelligently and socially responsible. These qualities are referred to as "action competence", which consists of willingness (motivation) and having the abilities (knowledge and skills). Action competence is demonstrated in how an individual applies his/her knowledge, capabilities, skills and resources in a targeted and deliberate manner to achieve his/her goals. Self-organization is the basis of action competence. By formal workplace learning in combination with school-based learning, trainees acquire the ability to work independently and develop action competence. Guided by the training staff and supported by colleagues, the trainees learn to master increasingly demanding tasks in real work situations. It is not only about technical knowledge and good work results, but above all about developing an understanding of work processes as an interplay of individual work steps, some of which build on each other.

However, the quality feature "learning within the work process" is complex. Looking at the characteristic from an educational policy perspective, the following aspects come into focus:

- Adaptation of regional or federal education, labor and/or financial laws to the dual principle of learning
- Implementation of regulations on the suitability of training sites, (e.g. through certification)
- Introduction and establishment of a mechanism for standardizing the training of in-company training personnel
- Reorganizing school-based and company-based learning plans, (e.g. transferring learning content to companies)

In addition, there are fundamental aspects of occupational safety and dealing with minors in the company. This list can be extended with a detailed analysis of the situation. The hurdles for companies to train young employees according to needs and existing standards are therefore high. Particularly in training when education laws only allow for a few hours of in-company training and schools show little willingness to deviate from their schedules (BIBB 2017).

\ SITUATION IN LAC

Many TVET organizations in LAC provide for practical learning units in the final phase of training to increase the employment opportunities of their students. These are mostly conducted as internships. This type of "learning in the work process" accounts for between 25-50 % of the training programs. However, the practical work of the trainees is rarely accompanied and systematically evaluated, nor interlinked or integrated with school-based learning. The proportion of participants in dual apprenticeship programs in the region is significantly low. Alternating training activities between a training center and the enterprise are implemented by SENATI in Peru and CONALEP and the other subsystems in Mexico, which maintain apprenticeship agreements with enterprises in various industries. Others, such as SENAI and SENAC in Brazil, SENA in Colombia, INFOTEP in the Dominican Republic, and SENCE in Chile, have successfully implemented localized apprenticeship programs in some demand niches that are significant and relevant (ILO/CINTERFOR 2017). New approaches and a much larger scale are needed to create the conditions necessary for the development of skills through quality cooperative TVET.

1.4.3 ACCEPTANCE OF NATIONAL STANDARDS

The codification of standards represents another key quality feature of cooperative TVET, as codified standards are recognized and accepted by all parties and are therefore also protected (such as a trademark).

Inter-company occupational standards and uniform examination standards are developed in consultation and negotiation between the state, the industry, and civil society representatives. The codified standards are then stipulated in the Vocational Training Act (Germany), regulating the following areas of cooperative TVET:

- Curricular standards for any recognized training-based occupation
- Standards for the content and procedure of the examinations
- Rights and duties of the signatories of a training contract (e.g., trainee and company representative)
- Requirements for the aptness of training institutions and training personnel
- Duties of the bodies responsible for monitoring the quality of training

Accepted occupational standards help to structure the world of work and augment the employability of successful graduates. They provide graduates with a certificate based on a quality standard that is accepted by all stakeholders. The mutually accepted standards bring benefits in several ways. First of all, they provide companies with transparency about what they can expect from graduates having completed dual training and constitute a transparent basis for both companies and job applicants during the application process. Secondly, the acceptance of occupational standards is accompanied by social recognition and thus a certain social status, an important aspect with regard to increasing the social acceptance and attractiveness of cooperative TVET. Moreover, quality standards also contribute to the mobility of the workforce and form the basis for the Recognition of Prior Learning (RPL), thus contributing to the integration of vulnerable groups who acquired their skills informally or in another country or contexts, for example migrants.

TVET approaches from the Anglo-Saxon world, such as Competency-Based Education and Training (CBET) and National Qualification Frameworks (NQF), follow a similar logic as they also provide a regulatory framework for the competencies acquired in the training system and form the basis for the formal recognition of certificates.

\ SITUATION IN LAC

Some LAC countries have opted for a CBET system and created corresponding qualifications frameworks, at national or sectoral/regional levels. Nine countries[14] in the region have established NQFs. Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama participate in a regional framework, the Central American Higher Education Qualifications Framework (MCECSCA, Spanish acronym). Mexico and Cuba jointly implement a regional sectoral framework, the Qualifications Framework for Skills in the Sugar Agroindustry (MCAA, Spanish acronym). In addition, the Pacific Alliance Qualifications Frameworks Network, composed of Chile, Colombia, Mexico, and Peru was agreed in 2017. The purpose of the latter is to "generate mechanisms for regional cooperation among the countries of the Pacific Alliance to establish a common benchmark for student and labor mobility based on progress in the development of qualifications frameworks", on the basis of analysis and discussion of progress on frameworks in the region and the establishment of a reference framework for labor and educational mobility (ILO/CINTERFOR 2020). Both the CBET approach and the qualification frameworks can be perfectly integrated into and capitalized by a cooperative TVET system.

1.4.4 QUALIFIED TVET STAFF (IN-COMPANY AND IN SCHOOLS)

High-quality TVET requires qualified and dedicated TVET staff. The personnel in TVET comprises a heterogeneous group of people. On the one hand, this includes: direct training personnel, such as in-company trainers and skilled workers in training; training personnel in inter-company training centers; and teachers in vocational schools. On the other hand, staff in the so-called transition system, such as social pedagogues, support teachers or career entry guides, are an important group of professionals working on the interfaces of the system.

As diverse as the different groups of vocational training staff are, so are their qualification paths, which can range from a pedagogical qualification based on work experience to a university degree. The minimum standards for the qualification of school and in-company TVET training staff are also set by the state. For in-company trainers, these must combine an occupational specialization with a vocational teaching qualification. The further qualification as in-company trainer is integrated into the daily work processes (advanced training) and focuses primarily on the acquisition of general pedagogical competencies. The authorization to act as in-company trainer is granted on the basis of a standard. In Germany, this is either the Ordinance on Trainer Aptitude (AEVO) or a master craftsmen qualification. For TVET school teachers a master's degree is usually required that is awarded upon completion of a study at university including a practical phase at a vocational school. TVET staff in companies and schools performs a number of roles across the TVET system. Together, the in-company trainer and the TVET school teacher fulfill the requirements of dual TVET, meaning both complement each other. For example, an in-

[14] Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Honduras, Mexico, Panama and Peru (ILO/CINTERFOR 2020)

company trainer instructs a trainee in electrical wiring for well-functioning lighting, intercom, and other electrical systems, while the TVET school teacher explains the fundamentals of electrical engineering.

\ SITUATION IN LAC

The lack of qualified teachers is, in many cases, perhaps the biggest bottleneck in the implementation of high-quality TVET in LAC countries. Training for vocational teachers that is comparable to training in European countries is rare. Those appointed are generally either former (best) graduates of the training course they now teach, or, increasingly, unemployed university graduates who have received no pedagogical training or, at best, a brief basic didactic training. It is evident how quickly skills in fields such as electronics and electrical technology become outdated without continuous professional training. However, there are some exceptions. In May 2014, SENA founded the National Instructor Academy (ENI, Spanish acronym) as the main axis of the policy to improve the quality of training offered by SENA and to guarantee that the institution has excellent instructors. In most cases, training is related to updating skills of teachers and instructors according to the technological change. However, in 2015/2016 ENI implemented a comprehensive methodological-didactic training for over 150 master trainers as a multiplier for vocational teachers at SENA. Likewise, the Academic Training School of SENATI is responsible for updating the professional competencies of the instructors, encompassing personal, social, methodological, pedagogical and technical competencies. The training of teachers at SENAI is a state matter, i.e., is offered and carried out by the various regional locations. In addition, there is a budget for special further training at the national umbrella organization where further training is provided on a topic-by-topic basis as needed. The training offers for industry mostly cover technical subjects, e.g. new technologies. They do not address didactic or methodological skills of in-company trainers who are hardly ever trained or certified. The organization has not established any standards for in-company trainers and the related training programs.

1.4.5 INSTITUTIONALISED RESEARCH AND ADVICE

Institutional research at national level is another quality feature of the cooperative TVET systems in the DACH region, as it combines educational and labor market research. In Germany, this task is predominantly performed by the BIBB. Labor market research analyzes the developments in the various economic sectors and their impact on the respective occupations. Medium and long-term forecasts for labor market developments are drawn up and the effects of labor market and social policy instruments are examined, considering the experience of other countries, e.g., international comparison. Vocational research aims at identifying the changing qualification requirements of occupations in industry as well as the emergence of completely new occupational profiles at an early stage. It investigates educational processes and new learning concepts and analyzes the economics of education, i.e. the costs and benefits of the social partners involved. The results of TVET research thus form the basis for planning and decision making in TVET as well as for the development of TVET and labor market policies.

\ SITUATION IN LAC

Labor market research is more or less established in the LAC countries, however not systematized. In general, labor market monitoring is practiced and labor market studies are often conducted by labor ministries or industry associations for their sector. Vocational research, however, is almost non-existent. There is rudimentary research in Colombia at universities and research institutes, where SENA also publishes the scientific journal "*Rutas de Formación*" (Training Pathways). The National Institute for Educational Studies and Research (INEP, Portuguese acronym) is subordinated to the Brazilian Ministry of Education and in charge of evaluating educational systems and the quality of education in Brazil.

1.5 FOCUS TOPICS

In this section, three focus topics, (gender equality, green TVET and digitalization), will be examined, as they are high on the agenda of BMZ/GIZ and IDB and are reflected in the form of respective policy guidelines and other policy documents.[15] In the context of this study, however, we do not claim to examine these three topics in depth but limit ourselves to their significance in the thematic field of cooperative TVET.

[15] For the coming years, the BMZ has identified four priority areas for the cooperation with its partner countries, two of these provide the framework for green TVET and gender equality (priority area 3: 'Just transition', including climate-friendly employment, and priority area 4, 'Feminist development policy', including the equal political, social and economic participation of all persons: www.bmz.de/resource/blob/121224/schwerpunkte-unserer-entwicklungspolitik-de.pdf . Digitalization is a 'perspective topic' of BMZ and shall serve to achieve a wide range of goals, e.g., the creation of new learning opportunities and jobs, achievement of equal opportunities, etc.: https://www.bmz.de/de/themen/digitalisierung/ziele-und-schwerpunkte

1.5.1 GENDER EQUALITY

Gender equality is fundamental for the fulfilment of human rights and a top priority of the G7 countries. With regard to the 2030 Agenda for Sustainable Development, G7 has committed to an ambitious gender transformative agenda. G7[16]is deeply concerned about the current underachievement of Sustainable Development Goal (SDG) number 5. SDG 5 aims at achieving gender equality and empowerment for all women and girls by:

- Undertaking reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws
- Adopting and strengthening sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels

The G7 recognize that "being equipped with relevant skills for decent work (…) is key to the economic empowerment of women and girls (…) and to improving their employment and entrepreneurship opportunities. G7 commit to increasing the number of women and girls technically and vocationally educated and trained in developing countries through G7 measures by one third (compared to "business as usual") by 2030" and that they "will make girls and women aware of the possibility of becoming entrepreneurs".[17]

In order to achieve gender equality not only in but also through cooperative TVET, it must be recognized and adopted as a cross-cutting and guiding principle for all policy objectives. For the planning and implementation of cooperative TVET projects, it is useful to use the following gender typology.

"WOMEN ECONOMIC EMPOWERMENT" (WEE) GENDER TYPOLOGY - GLOBAL DONOR PLATFORM 2017	EXAMPLES FOR THE USAGE OF THE GENDER CRITERIA IN TVET PROJECTS
Gender neutral (do nothing): measures that do not include specific interventions for the advancement of women	-
Gender equity (do a little): measures that improve women's productivity and efficiency	Define a percentage for women to participate in workshops, seminars, project activities
Gender equality (do a lot): measures specifically designed to improve women's inclusion (but without trying to change structural barriers)	Develop gender-sensitive curricula, train women as teachers and in-company trainers
Transformative gender (do it differently): measures specifically designed to transform power dynamics by addressing social norms and structural barriers to the inclusion of women	Tackle socio-cultural norms and stereotypes, applying the principles of change management to the structures and contents of cooperative TVET at macro, meso and micro level

Table 1: Gender criteria

\ SITUATION IN LAC

In LAC countries, violence against women and girls is widespread. Gender-based violence takes many forms, including threats, physical or psychological aggression, rape, disappearances and murder. It takes place at home, in public spaces, or even in state institutions. For example, in Mexico, a woman becomes a victim of femicide about every 10 hours. According to German Wikipedia, the term "machismo" denotes a pattern of behavior that glorifies male dominance and female subordination. The word is of Spanish origin and the behavior is still firmly rooted in LAC societies. Religion also plays a role. "Gender disparity, … is deeply rooted in the Judeo-Christian tradition and remains the basis for feminine and masculine gender stereotypes in Spanish speaking Latin America" (Heep 2014). Social gender patterns are taken from the Bible and applied narrowly. As outlined in the description of the Cuban project Program for Strengthening Technical and Vocational Education in Cuba (PROFET), it is striking that the majority of Cuban girls and boys surveyed believe that women should not engage in jobs that are considered "hard" trades. Gender stereotypes are widespread in LAC countries. Women are underrepresented in TVET, and when they enroll in vocational training, it tends to be in commerce and services.

1.5.2 GREEN TVET

The green economy is a labor market with great potential. Green skills are needed for the transition to a green economy. The energy turnaround, with its goal of carbon neutrality in 2045, is an engine for green jobs. As defined by the EU, green jobs are about producing products, technologies and services that prevent environmental damage and conserve natural resources. New jobs emerge in the areas of renewable energy, sustainable construction and renovation, water and wastewater management, waste management, air pollution control or the analysis of Big Data. According to the Annual Review of the International Renewable Energy Agency (IRENA) in 2019, the

16G7, Berlin 2022, JOINT STATEMENT OF THE G7 GENDER EQUALITY MINISTERS: www.gender.go.jp/international/int_kaigi/int_g7g8/pdf/g7_202210_01.pdf

17 G7 Elmau Communiqué 2015

renewable energy sector employed at least 11.5 million people, directly and indirectly. The solar photovoltaics (PV), bioenergy, hydropower and wind power industries were the biggest employers. According to the report published by the Organic Farming Research Institute (FiBL) in 2022, sales of organic food and beverages increased by 15% globally (Willer et al. 2022). ILO estimates that 24 million jobs worldwide could be created by the green economy by 2030.

\ SITUATION IN LAC

LAC is home to an enormous wealth of species. The continent is characterized by diverse natural areas, ranging from forests, tree-steppes, high plateaus, deserts, coastal deserts and coastal areas to subarctic zones. About 60 percent of all species living on land are found in LAC. Of the 17 countries that formed the group of "megadiverse countries" in 2002, eight are located in Latin America. Following Brazil, the country with the world's greatest biodiversity, are Bolivia, Costa Rica, Ecuador, Colombia, Mexico, Peru and Venezuela (Lambert 2018). The continent also plays an important role in the field of agrobiodiversity, i.e. biological diversity in agriculture. These ecosystems with rare animal and plant species are of global importance for climate protection and biodiversity, but also offer a huge potential for economic development. The promotion of green jobs in LAC was initiated in Brazil. In recent years, many other countries in the region have followed this example with successful green jobs experiences documented, which include but are not limited to Chile, Costa Rica, Dominican Republic, Guyana, Mexico, Peru and Trinidad and Tobago[18]. A 2020 report by the ILO and IDB highlights the potential to create new jobs in sectors such as sustainable agriculture, forestry, solar and wind power, manufacturing, and construction in the transition towards net-zero emissions in LAC. By 2030, structural changes in production and consumption patterns can create 15 million additional jobs in LAC compared to a business-as-usual scenario. Moving to a net-zero carbon economy, 7.5 million jobs are destroyed in fossil fuel electricity, fossil fuel extraction, and animal-based food production. However, these lost jobs are more than compensated by new employment opportunities. 22.5 million jobs can be created in agriculture and plant-based food production, renewable electricity, forestry, construction, and manufacturing. More than half of the 22.5 million jobs created belong to the medium-skill category (13.5 million), one-third in the low skill category (8 million), and 1 million in the high-skill category. These new low- and medium-skill jobs will benefit 9 million unemployed youth (Saget et al. 2020), representing a high potential for cooperative TVET approaches.

1.5.3 DIGITALIZATION

The COVID-19 pandemic has caused a boost in digital offerings. As a stopgap measure, many TVET institutions and companies have put classroom materials online. However, in order to reach the target groups effectively, analysis is needed to identify which technical tools they possess and master. For online-learning the content, the form of delivery, and the teaching methods must be adapted accordingly.

An important cornerstone of most DC projects is capacity building. In the case of TVET projects, the further training of teachers, instructors and in-company trainers is especially important. COVID-19 and the restricted possibilities to travel have led to an increase in online training and workshops that replace the traditional face-to-face training. Although travel is now possible again, most training continues to be delivered online or as blended learning. The involuntary necessity of online learning has implied that all participants have now gained experience with the medium and DC projects have made the experience that digital learning can be more time efficient and less expensive in many cases.

The ongoing digitalization of the working world requires teaching staff to develop digital competences, to incorporate digital resources and methods in their teaching and assessment processes, and to develop learners' digital literacy. However, the new methods also go hand in hand with a new role as a teacher and even challenge the traditional image of the teacher. An example is the flipped classroom, in which learners first work through the theory themselves and then check their understanding and apply the content in group sessions with the trainer. The role of the teacher changes from content expert to facilitator. According to a recent study by Bitkom[19], Germany's companies currently lack 137,000 IT experts across all sectors. And the IT skills shortage is a global problem. Worldwide, there is a shortage of around 40 million IT professionals[20].

\ SITUATION IN LAC

The shortage of workers in the Information and Communication Technology (ICT) sector is a situation that no country in LAC is exempt from. In Colombia, for example, according to the Ministry of Information and Communication Technologies, there will be a deficit of 200,000 workers by 2025, being the highest number in the last ten years. At the same time 70% of Colombian companies have difficulties to fill positions in their technology departments. The economic growth related to technology industries was highest in Chile with 45%, Mexico 42%, Argentina 41%

[18] For further details see ILO website: https://www.ilo.org/global/topics/green-jobs/projects/latin-america/lang--en/index.htm

19 www.bitkom.org

20 Fitch, M. (2021). https://medium.com/tdsynnex/by-the-numbers-a-growing-demand-for-it-skills-and-occupations-e3746ff526df

and Colombia 34%. According to the International Data Corporation (IDC) the information technology market in the subcontinent will grow by 8.5% in 2021 and by 9.4% in 2022. Another study made by the Argentinian technology company, Nawaiam, points out that Latin America is the region in the world with the greatest deficit of programmers (Infobae June 2022).

During the COVID-19 pandemic, forms of digital learning and communication have become part of daily life, but one third of all children in LAC do not have access to quality distance learning. Learning methods via Internet, television or radio require technologies that are not available in all households. Those most affected are vulnerable groups. The poorest 20% in Latin America have to spend an average of around 13% of their income on Internet costs. According to the Heinrich-Böll Foundation, 2% is considered socially acceptable. In Colombia, 78% of the poorest households have no Internet connection. In most countries, the rule is the higher the income, the higher the connectivity. In the cities, an average of 68% use the Internet, in rural areas, on the other hand, only 43% (Heinrich-Böll Foundation 2021).

CHAPTER 2 CASE STUDIES

The following case studies were selected for an in-depth analysis based upon the eight criteria summarized in the box opposite. As several projects were ranked with 32 points, it was decided to increase the original number of 10 case studies to 13. The final selection comprises:

- Nine projects commissioned by GIZ, three by SDC and one by ADA
- Geographic distribution:
  - Four in Africa
  - Four in Asia
  - One in Europe
  - Four in Latin America and the Caribbean

In the table below, the 13 projects are listed regarding their relevance to the five key features and the three focus topics.

Each case study is introduced with a short overview of the key data, then the context, objective and approach of the project are described. The second section highlights the key levers of change, followed by the main findings related to the key features and focus topics. The projects are not presented in detail with all their project activities, but aspects are emphasized that are important for the topics of this study.

\ Selection criteria for TVET projects

Projects were evaluated using the following questions and points system with high (6 points), medium (4 points), low (2 points), not applicable (0 points).

1. Did the project intervene on a political level?
2. Has the industry been involved in the development of TVET (e.g., occupational standards, curricula)?
3. Has the industry been involved in the provision of TVET (e.g., workplace training, assessment)?
4. Did the project promote gender equality?
5. Did the project foster TVET for digital or green jobs?
6. Has the project contributed to the generation of new jobs and employment or increase of productivity?
7. Does the project have potential for horizontal and/or vertical scaling-up?

In case of "yes", additional 4 points for the regional context.

8. Is the project located in a LAC country?

KEY FEATURES	COOP. OF STATE + INDUSTRY	WORKPLACE LEARNING	NATIONAL STANDARDS	TVET STAFF	INSTIT. RESEARCH	GENDER EQUALITY	GREEN TVET	DIGITALIZATION
Africa reg. ATVET4W		●				●		
Africa reg. E4D	●	●				○	○	○
Egypt	●		○	●				
Nigeria	●	●	●	○		●		
ASEAN	●			●	●			●
Cambodia	●	●	●	●			○	
India	●	●	○	○				
Pakistan	●	●						
Kosovo	●		●	○	●			●
Bolivia	●	●		○		●		○
Brazil	●	●		●		●	●	○
Cuba	●	○		●		●		○
Mexico	●							

Legend: ●*–fully applies* ○ *– touches on the subject*

Table 2: Structured overview of case studies

2.1 REGIONAL AFRICA– GENDER TRANSFORMATIVE TVET IN THE AGRICULTURAL SECTOR

2.1.1 PROJECT DESCRIPTION[21]

TITLE	AGRICULTURAL TECHNICAL VOCATIONAL EDUCATION AND TRAINING FOR WOMEN (AT-VET4W)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by the Royal Norwegian Embassy in Malawi
Implementing organization	African Union Development Agency (AUDA-NEPAD) and GIZ
Leading executing agency	African Union Commission (AUC)
Project area	Benin, Burkina Faso, Ghana, Kenya, Malawi, Togo (based in South Africa)
Overall term	01/2017 – 10/2022
Financial volume	21.762.400US $[22] (22,000,000 EUR)

\ CONTEXT

The agricultural sector, with an average of 25% of the gross domestic product (GDP) and nearly two-thirds of the labor force employees, is central to the economies of Sub-Saharan African countries. 50% of the agricultural work-force is female producing 80% of food, but the formal education sector in agriculture does neither meet the needs of the labor market nor the needs of the women. In many African countries, women still lack access to essential knowledge and training opportunities due to existing socio-cultural barriers. The low degree of the private sector organization in some countries, the provision of internship places for the practical learning of the students as well as the systematic cooperation between the state and the industry are challenges for the implementation of co-operative TVET.

ATVET4W aims to increase women's access to formal and non-formal training in agriculture by ensuring that that training delivery is inclusive, labor market-oriented and income-enhancing. Building on the experience from six ATVET partner countries (see table above), ATVET4W cooperates closely with the industry to make the agricultural TVET system gender transformative. This means that training delivery is competency-based, demand-driven and at the same time responsive to women's needs and geared towards transforming persisting gender inequalities.[23]

According to the African Union Development Agency (AUDA-NEPAD), the African agricultural sector's potential for food security, poverty eradication and job creation cannot be realized without a focus on women. ATVET4W has been the gender-transformative component of the Comprehensive Africa Agriculture Development Program (CAADP) from 2019 until 2022. Starting from 2019 it has been part of the Skills Initiative for Africa (SIFA) program. ATVET4W has been launched in six countries: Benin, Burkina Faso, Ghana, Kenya, Malawi and Togo. Even though ATVET4W ended in October 2022, the products and approaches will continue to be further developed and disseminated by the SIFA program.

\ OBJECTIVE

The objective of ATVET4W is to improve employment prospects in agriculture and food security in selected countries in Africa.

\ APPROACH AND AREAS OF INTERVENTION

In principle, ATVET4W uses and further develops the approaches to successful cooperation between industry and TVET of CAADP and reworks them in a gender sensitive/gender transformative way. The biggest achievement of ATVET4W is their contribution to the further development of the gender transformative approach. The vision of ATVET4W is to challenge structural inequalities and gender norms through cooperative TVET in order to transform the lives of women and men. Working in a gender transformative way means analyzing the work and life situation of both – men and women, to understand the different needs of both to adjust TVET offers accordingly. An example in the context of ATVET4W in Africa could mean carrying out training in the vicinity of the women and at times of the day and periods of the year when their workload is less. In order to assure this, the project works with TVET institutions as well as the industry to develop the "training in the vicinity" approach. Concerning short-

[21] All photos and graphics used in this text and in the following case studies are courtesy of implementing organizations and their counterparts.

[22] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

[23] https://www.nepad.org/good-practice/atvet-women

term training, 80% is practical work for which the training takes place in companies or on community land, etc., which allows for a short and safe way from home to training and back. Some issues to be aware of are, for example, toilets for women, the prevention of sexual harassment and the provision of day care possibilities. ATVET4W goes a step further than gender mainstreaming by dealing with topics affecting access and quality of cooperative TVET. Soft skills like decision making, building self-esteem and dealing with gender stereotypes and norms are included in the curricula.

The approach has been developed in close cooperation with the industry. Male and female representatives from agricultural companies have been included in identifying the skills needed in the labor market. They contributed to the definition of occupational and training standards and the development of curricula, TVET programs and training materials. In order to strengthen the engagement of the private sector, joint steering processes and financing are explored. Success factors are the recognition of prior learning by public TVET institutions through the development of NQFs and public-private dialogs for TVET governance.

ATVET4W commits itself to making gender transformative change a key approach of GIZ – not only in women's projects and not limited to the agricultural sector. The most important contribution of the ATVET4W project is defining gender in the cooperation between TVET and industry in Africa.

2.1.2 KEY LEVERS OF CHANGE

THE APPROACH "REACH-BENEFIT-EMPOWER"

If attention to gender equality is missing, there is a risk that TVET reproduces gender inequalities. In practice, gender transformative change means that both TVET institutes and the industry adjust their TVET offers to reach out to both men and women. In order to do so, the representatives of TVET institutes as well as from industry need an understanding of how to operate and how the cooperation of industry and TVET institutes is working. Gender transformative approaches are a new way of thinking and therefore require a lot of preparatory work. To convince employers of the benefits for their company, the benefits of the cooperation for the community and society must to be communicated. To this end, ATVET4W uses the "Reach-Benefit-Empower" approach. Capacity building for all stakeholders was carried out in order to have a good base for planning, developing and implementing gender transformative TVET measures in a cooperative way.

\ REACH-BENEFIT-EMPOWER[24]

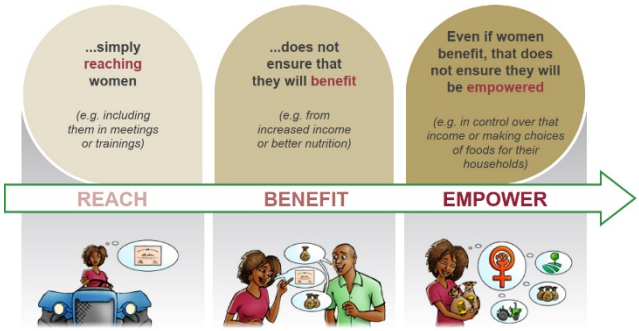

Figure 3: UN Woman, IFAD, FAO, WFP, IFPRI (2017), "Do agricultural development projects reach, benefit, or empower women?"

Based on the analysis of the life and work situation of women, measures are developed and implemented that not only reach women, e.g. as participants in training, but also benefit and empower them by increasing income and expanding their decision-making power. ATVET4W strives to do things differently. It enables women to access training but also to make use of their capabilities and opportunities. Empowerment means enabling women, not only to have equal capabilities, but also to have equal access to resources and opportunities (such as land and employment), and to have the power to use them and to make strategic choices and decisions.

Empowerment is complex. ATVET4W uses the following four quadrants of change[25] to examine the different levels of empowerment. These quadrants are the basis for analysis and the subsequent development and implementation of the gender transformative change process tailor-made to the specific situation at hand.

[24] ATVET4Women, Gender Transformative Change in Practice, 2020:2

25 ATVET4Women, Gender Transformative Change in Practice, 2020:3

\ QUADRANTS OF CHANGE

- The individual quadrant
  concerns personal empowerment, incl. self-belief and capacity to act
- The relational quadrant
  concerns interpersonal relations, often connected to the household level, incl. power dynamics and decision-making power
- The socio-cultural quadrant
  concerns overcoming harmful gender norms and stereotypes
- The systemic or structural quadrant
  concerns an enabling environment for empowerment, incl. policy and institutional change that strengthen women's rights.

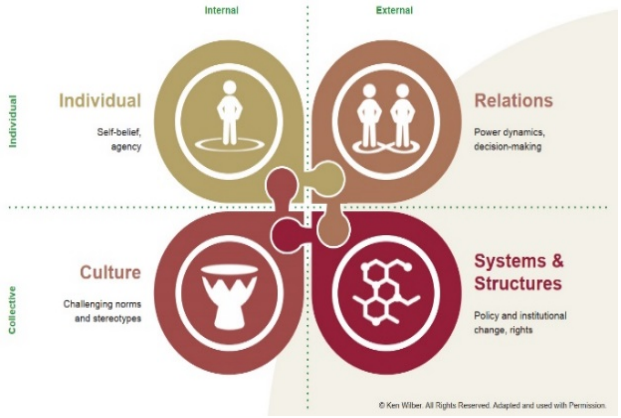

Figure 4: Quadrants of change

DESIGNING GENDER TRANSFORMATIVE ACTIVITIES

ATVET4W uses a participatory approach in designing gender transformative activities.

\ DESIGN WITH HER AND HIM

"Design with her and him" means co-creative development programming in which men are the allies for achieving gender equality and women's empowerment. Transforming unequal gender relations cannot be done without men. Working with men as allies means that men, especially male leaders, are involved in the change process as allies. At the same time men can also be the beneficiaries in gender transformative change as inequalities can affect both men and women.

ATVET4W works on all levels – micro, meso and macro – involving both male and female entrepreneurs, business representatives, cooperative associations and business associations to create gender transformative TVET offers. On the micro level, entrepreneurs were specifically included to assure a high quality, and at the same time, gender transformative training. One of the main issues at the micro level was to win over companies to cooperate with TVET institutes for internships. On the meso level, the private sector was involved in expressing the needs of women as entrepreneurs but also as employees, in participating in policy dialog, networking and bridging of all levels. On the macro level, industry participated through the development of gender sensitive curricula, the recognition of prior learning and policy development.

The experience and the local expertise of the industry is the basis of the cooperation with the industry. This human-centered project design approach allowed taking into consideration the different contexts of women in the six countries with the regional, cultural and social differences.

2.1.3 MAIN FINDINGS

- The development and implementation of gender sensitive cooperative TVET in the six project countries and continent-wide, profits from the cooperation with an organization operating at the continental level. It gives access to top-level management of TVET in the participating countries (governments, ministries of education, ministries of labor, ministries of agriculture). The transnational approach speeds up the process as it enables the exchange between the countries who learn from each other's experience, exchange best practices and knowledge products and agree upon common agendas as examples for the national qualification frameworks.
- The development of the national qualification systems in the six countries has been supported by the program. The key aspects for the cooperation between state and industry have been agreed upon by all participating countries. This facilitates the development of the recognition of prior learning.
- The systematic cooperation between TVET and the industry is organized through public dialogs on TVET governance. All participating countries identify stakeholders from the public and private sectors and involve them in the dialog on a country level. Care is taken to include female and male representatives from the industry and the state to cover both gender perspectives.
- The transferability of gender transformative TVET and the approach to the inclusion of women in the development of cooperative TVET mechanisms is now discussed in other sectors and in more countries, as the materials and best practices continue to be used and further developed by the SIFA program.
- Awareness raising is achieved though the high visibility of the public dialogs and documented case studies on examples of successful gender transformative TVET.

2.2 REGIONAL AFRICA – SKILLS DEVELOPMENT ALONG VALUE CHAINS

2.2.1 PROJECT DESCRIPTION

TITLE	EMPLOYMENT AND SKILLS FOR DEVELOPMENT IN AFRICA (E4D)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ) Co-funded by EU, NORAD, KOICA, SASOL, Quoniam
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Leading executing agency	Various: national ministries and local authorities, local and international companies, financial institutions, vocational training institutions, local business associations
Project area	Ghana, Kenya, Mozambique, Nigeria, South Africa, Tanzania, Uganda
Overall term	01/2015 – 12/2023
Financial volume	USD 162,857,79726 (BMZ ca. 40%, ca. 60% co-funding)

\ CONTEXT

In Sub-Saharan Africa there is a mismatch between the skills of job seekers and the skills in demand by employers. Labor markets are characterized by low productivity and precarious employment, and the COVID-19 pandemic has stalled investment in Sub-Saharan Africa. New innovative solutions are needed to boost local economies, ensure long-term job demand, and sustain existing jobs. Industry is the driving force in this process. Involving industry actors in development projects that qualify job seekers, develop businesses and help people integrate into the labor market is the main features of the Employment and Skills for Development in Africa (E4D) program.[27]

\ Objective

- Overall objective: Increase employment and improve work conditions.
- Specific objective: Promote local employment and address skills gaps in seven countries (see table above), by building the capacities of job seekers, employees, enterprises and training institutions.

\ APPROACH AND AREAS OF INTERVENTION

The overall approach of E4D is to promote public-private development initiatives in seven countries to meet local labor market needs, focusing on women, youth and green jobs. Each project in the E4D portfolio is based on partnerships with local or international companies, some projects involve other stakeholders, such as government agencies, NGOs, TVET schools, universities, labor unions and business associations. E4D applies an integrated approach to employment promotion with three main areas of engagement (see Figure 5), combining measures aimed at increasing the demand for labor and the supply of qualified workforce, while achieving a balance between the two. This means in detail, the design and implementation of projects boosting the demand for labor in employment-relevant and promising sectors, (such as energy, tourism, agriculture, food processing, transportation and construction), and skills development projects in these sectors to strengthen the supply side. To achieve a better match between demand and supply, E4D supports with targeted measures including linking jobseekers with employers, organizing job fairs, initiating internships and developing the capacities of local training institutions to provide employment services. E4D's thematic priorities for 2020-2023 are the transition to a green economy and green jobs, digitalization, women's economic empowerment and entrepreneurship promotion. The green sector is only starting to develop in Sub-Saharan Africa, but clearly shows the potential to create opportunities. The priority areas also

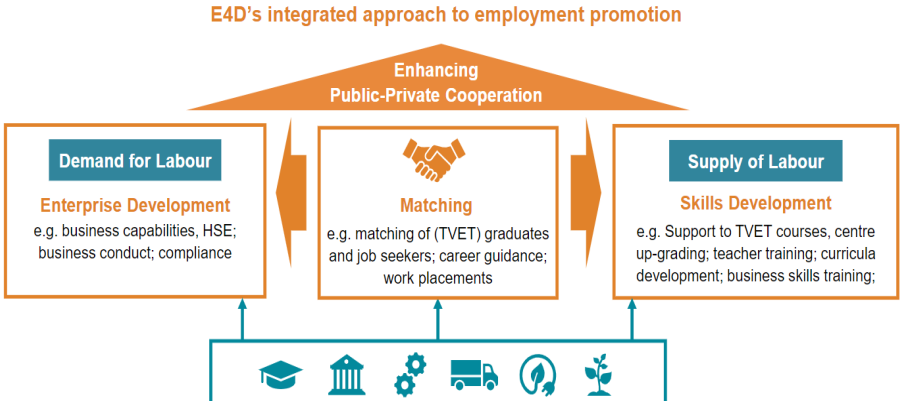

Figure 5: E4D's integrated approach to employment promotion

[26] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

27 See also GIZ E4D brochure July 2022, giz2022-en-e4d-development-africa.pdf, and E4D Newsletter July 2022, giz2022-en-newsletter-july-E4D.pdf

need to be considered in the context of harnessing the local benefits of European investments in Sub-Saharan Africa, a specific aspect of the VET Toolbox (see Annex 1, Knowledge Products), starting with evaluating the opportunities, identifying sectors with investment potential, assessing the industry actors, and the skills needs triggered by European investments. While the focus of E4D is on individual project measures, E4D increasingly promotes public-private dialog to scale- up successful interventions and anchor cooperation with the private sector in the structure of the partner countries.

2.2.2 KEY LEVERS OF CHANGE

In all seven countries E4D works through country teams that draw on contacts and networks established in the public and private sectors through which project ideas are brought to the E4D teams. As E4D works on an opportunity-driven basis with clearly defined individual projects and does not have a mandate to work on structural long-term TVET approaches in the public system, it is difficult to identify universally valid levers of change. Some success factors that are relevant to the E4D program as a whole, and can have a leverage effect, are presented below, followed by specific country examples (e.g., Kenya and Uganda) which are used to highlight successful individual approaches that have potential in terms of their transferability to other contexts.

The following six guiding principles apply to the entire E4D program, which can be regarded as key success factors:

- Public Private Partnership (PPP): Governments, local authorities and industry actors are involved in project implementation to ensure that beneficiaries are best prepared for existing and future job opportunities. Activities are only implemented in sectors and locations that have a high potential for creating better jobs.
- Regional cooperation: Cross-border collaborations are set up to foster regional learning and exchange mechanisms. This allows E4D to up-scale successful approaches and transfer valuable expertise and experience, which opens up flexible and innovative development paths and facilitates regional economic growth.
- Gender mainstreaming: Promoting equality between women and men is a core component of all activities, with emphasis on addressing physical and cultural barriers to the training and employment of women, and on increasing young women's access to the technical vocations that are in demand in local labor markets.
- Green jobs: The transition to environmentally friendly industries in energy, agriculture, transport, construction, tourism, recycling and the blue economy is a priority.
- Flexibility and innovation: Testing new approaches and continuously reviewing the effectiveness of interventions based on a comprehensive monitoring and evaluation (M&E) system that provides information on the impact of individual projects, tests assumptions and contributes to the design of future interventions.
- Sustainability: Piloting interventions that can be replicated and up-scaled, to support long-term success in employment generation, beyond the program's duration.

Even though E4D activities have a pilot character, the learning experiences are documented and passed on in order to provide impulses for reform. In terms of demand-driven skills development and job placement, E4D applies the same principles as the levers of change in all opportunity-based projects across all contexts. Wherever there are established industry structures, they are involved in assessing skills needs, defining training standards, developing and implementing training courses, etc. E4D projects that prove successful can be replicated in other sectors, regions or contexts and scaled up by involving additional actors from the private and public sectors.

KENYA

Currently, E4D implements 21 projects in Kenya, focusing on promoting green jobs, strengthening women entrepreneurs, and supporting pandemic recovery efforts of MSMEs. Since 2015 Kenya has been experiencing a paradigm shift where the government had introduced CBET. CBET requires the strong participation of industry in designing curricula and practical training, but there is not yet a structured way to engage the industry, aside from requiring an industry attachment of the trainees prior to graduation. E4D supports the formation of sector skills advisory committees to involve the industry in the development of CBET curricula, however, it is an ongoing task to motivate and promote dialog between companies and training institutions to keep the momentum.

Key levers of change: E4D in Kenya is opportunity-driven in the sense that action is taken once an assessment of company needs has been undertaken, and project interventions are designed to address the identified gaps, thereby increasing demand for project interventions and making the company more competitive. Only after identifying needs in a specific sector (demand side) does E4D help to close the gap in cooperation with the schools (supply side). Cooperation with umbrella associations has proven to be a good solution in this context. For example, collaboration with the Kenya Association of Manufacturers (KAM), a strong organization representing more than 2,000 companies, creates the following synergies: KAM lobbies its members to find out their skills needs; and supports the dissemination of identified skill needs to training institutions through regular dialogs. In addition, KAM advocates for the admission of trainees or offers the possibility of company internships.

Success story 1: The involvement of the industry in basic skills training, serves the purpose of bridging the gap between training provided by VET schools and the needs of industry. Basic skills training is a unique training model as it involves industry at several stages of the training – from curriculum development to trainee induction, to

lectures by industry experts and visits to industry. Following a needs assessment and analysis, and the establishment of a partnership with a suitable VET institution, E4D invites companies to the VET institutions every fortnight so that the companies can inform the schools about their expectations in terms of skills needed by the industry. This short-term training (3 months in school, 3 months in industry) has successfully been practiced and is applicable in different sectors. To complete the basic training, KAM offers job matching and career guidance services.

Success story 2: In cooperation with the NGO Nightsavers and a local telecom provider, E4D is implementing a digital skills development project for people with different types of disabilities. The project takes an interesting approach to IT training for people with disabilities, based on a specific curriculum developed by the international ICT company CISCO. Partnership with the local industry training authority may open the door for later integration of the curriculum into the formal TVET system. Training lasts one year, and although it is quite expensive, it has a great impact. The trainees are trained in IT security and all 40 participants in the first cohort found paid internships with the local telecom company Safaricom, and most of the trainees get paid jobs afterwards. This pilot project is a success story that shows how people with disabilities can be successfully placed in employment after training, an approach that can be transferred to the financial sector, for example.

Success story 3: E4D supports several partnerships that promote skills development along value chains. The qualification measures target suppliers of intermediate services and promote their integration into the business model of the companies. This inclusive business model approach is usually based on PPPs. For example, an electronic waste management training was developed on the request of the informal sector together with a local partner, providing skills on how to deal with e-waste and how to extract valuable components and prepare them for recycling. As part of the VET toolbox initiative, a PPP project is currently being implemented between E4D and the Waste Electrical and Equipment Centre in Kenya. The project aims to improve the employment situation of beneficiaries by increasing the provision of needs-based skills in the field of e-waste and recycling. E-waste processing technician occupational standards, including curriculum, have been developed and pilot training starts in January 2023. Trainers from selected VET institutions have been trained in e-waste management and recycling to ensure the long-term impact of the project. MSMEs and organizations working as e-waste collectors will be trained in best practices and occupational health and safety. A renewable energy curriculum is being developed in collaboration with the global company WTS Energy as a pilot project for skills development in the green economy. The renewable energy and electronic waste management curriculum and training will be prepared for integration into the formal system through partnerships with formal TVET institutions that will validate the curriculum.

Success story 4: In partnership with the social enterprise BuildHer, a skills development program specifically for women in the construction sector was designed. This is a pilot program and includes sensitization activities for companies. It integrates training on solar installation, which is of particular relevance for increasing green skills. Another example of non-formal TVET specifically for women is the on-the-job training in plastic waste recycling which helps female graduates find good jobs in the circular economy. The job aspect is at the forefront of this E4D initiative, and although it has less systemic impact, it is transferable to other sectors and regions.

Success story 5: E4D introduced the practice of providing trainees with a trade-specific toolkit (funded by E4D) after graduation, (e.g., in the construction sector), allowing the graduates to either take up short-term jobs (contracted work) or to go into self-employment. This practice is now being up-scaled to Tanzania and Uganda.

UGANDA

Twenty-four E4D projects are or have been implemented in Uganda in construction, transport, manufacturing, hospitality and agriculture in partnership with companies of all sizes. An important step towards increasing industry participation in TVET was taken in 2008 with the introduction of the Ugandan Vocational Qualifications Framework (UVQF) which is accompanied by the introduction of the CBET concept. Together, they provide flexible learning modules in the form of Assessment and Training Packages (ATP). This new TVET framework provides for, among others, a strong role of the industry in TVET and the establishment of Sector Skills Councils (SSC). Nevertheless, confidence in the formal TVET system is rather low so that the industry itself takes the initiative to meet its specific skills needs.

Key levers of change: E4D activities in Uganda are also opportunity-driven. As the demands of companies differ greatly, a thorough analysis of the companies' requests is taking place first, followed by an assessment of their strengths and weaknesses, and the framework conditions of the respective sector in the respective region, in order to identify opportunities (employment impact) for cooperation. Making the industry part of the steering structure of skills development activities has proven to be a successful initiative in Uganda. For specific measures, ad hoc working groups are formed with representatives from industry who are involved in both the development of a project concept and its implementation, and in the quality assurance of the training measures.

Success story 1: The project Professional Driver Training Uganda (PDT-U) is a success story from Uganda. Recognizing the transport sector's key role for Uganda's economic development, E4D created this project to address the urgent need to improve the quality of training for drivers and driving instructors. To cater for this demand, industry players founded a road safety NGO, Safe Way Right Way (SWRW), which E4D later collaborated with, and used

it as a platform to offer training. The SWRW Driver Training Center (managed by SWRW) has been operating successfully for five years and E4D is reducing its contribution as it will be financially viable in the spring of 2023. One important element of SWRW's income generating activities is selling products (e.g. new licenses for busses and heavy good vehicles, refresher training, etc.) to other companies. The driver training is just one example of the potential that large infrastructure projects hold for skills development along value chains. Other examples are road construction, welding, etc.

Success story 2: Based on a quantified need for several thousand welders, three different types of welding courses were developed and delivered through cooperative efforts between industry and private TVET providers. This includes capacity building components of the institutions involved, industry deploys trainers and participates in the evaluation of the training. The approach to skills development in welding has been adopted and institutionalized by industry, so that the costs are now fully borne by industry and is now being adopted by other sectors (oil, gas, and energy). Most of the training courses have been certified by international certification bodies, and many aspects and standards of the training, such as safety, have been institutionalized in the national training system.

Success story 3: The matching component of E4D Uganda is carried out in close collaboration with mainly SMEs and promotes the opening of opportunities for the newly skilled persons, (i.e. contacting companies) to offer internships or facilitate other types of industry attachment. Through constant dialog with E4D and the program's monitoring of the quality of internships, (as well as the provision of incentives, e.g., placement of the highest quality interns; support with stipends for enterprises that cannot afford it; insurance, etc.), companies are increasingly recognizing the value of interns and thus the benefits of investing in improving workers' skills.

2.2.3 MAIN FINDINGS

- Favorable economic framework conditions such as strong business association (e.g. KAM) can be an enabler in the following ways: lobbying for internships and offering industrial placements; partnerships with TVET schools; conducting skills needs assessments among member companies and articulating these needs; and for working with TVET schools to make TVET more industry-focused. In addition, strong associations have the potential to encourage their members to engage in new areas, such as green manufacturing, or to focus more strongly on the inclusion of women in TVET and employment. Associations can contribute to systemic changes in terms of opening up the industry to TVET. In Uganda, associations such as the Ugandan Manufacturer's Association recognize joint projects with E4D as an opportunity to strengthen their service orientation and offerings to their members, and thus act as enablers.
- With an opportunity-driven approach that starts from individual needs analyses and develops customized training offers for individual companies/sectors, it is difficult to derive general recommendations. The success of the demand-driven approach, which develops its own dynamics in each individual case, depends on a number of different variables. Factors that help to create enabling framework conditions are: explicit industry demand; the presence of strong partners that are well resourced; a booming industrial sector with high employment potential; strong national public partner involvement in the topic; and the appropriate policy frameworks.
- In E4D countries like South Africa, Kenya where classic TVET projects are implemented in parallel with E4D, (i.e. where other key features of cooperative TVET are promoted), E4D is the "fast boat" that can pilot qualification measures quickly. This shows that it is possible to develop and implement training measures with the participation of industry alone, but that functioning TVET systems and parallel activities to strengthen TVET help to accelerate their development, implementation, and integration into the TVET system.
- It has proven effective to take a multi-stakeholder approach in designing sector-oriented training. In the tourism sector in Uganda, five companies had expressed the need for targeted training and development of their staff. One of the partner companies acted as the spokesperson who led the consultations among the tourism companies and prepared the common ground for the development partnership with E4D, which significantly reduced the resources that E4D had to allocate to the establishment and functioning of the partnership.
- Awareness raising and sensitization needs to take place on various fronts, e.g. with regards to the ongoing involvement of industry in TVET, the practices and removal of traditional barriers to the enrolment of women in TVET, etc. In Kenya, for example, E4D organizes industry sensitization forums in collaboration with business associations to inform about the role of industry in TVET, and promote exchanges with TVET schools.
- In cooperation with the industry in the development of needs-based training, it is essential to take the industry's perspective, i.e. to identify the industry's vested interests. This is the only way to reconcile expectations and find common ground in order to contribute to the core tasks of the companies through targeted activities. In this way, industry is in the driver's seat, a prerequisite for achieving sustainability of TVET.
- For qualification projects to be successful, they require the full commitment of the companies. This means not just paying lip service to the need for investments into skills development, but making concrete contributions (in-kind or financial). For example, in Uganda and Kenya, a project provides for a cost sharing of at least 50%-50% in the initial phase, from which E4D can then gradually withdraw until the industry partner assumes full responsibility.

2.3 EGYPT – PUTTING INDUSTRY ENGAGEMENT ON A SUSTAINABLE BASIS

2.3.1 PROJECT DESCRIPTION

TITLE	ENHANCEMENT OF THE EGYPTIAN DUAL SYSTEM (EEDS)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Leading executing agency	Ministry of Education and Technical Education (MoETE)
Project area	9 governorates (Cairo, Giza, Menoufiya, Sharkiya, Alexandria, Beni Suef, Fayyoum, Assiut and Aswan)
Overall term	12/2015 – 06/2020
Financial volume	USD 14,751,25328

\ CONTEXT

Egypt has a large youth population, more than 25% of the population is between 15 and 24 years old, and youth unemployment is more than 25%. This poses a number of challenges for Egypt's economy and society in terms of providing an adequate supply of training, creating a sufficient number of jobs, reducing unemployment and improving the living standards. Promoting and further developing cooperative TVET is one way of addressing these challenges, however the attractiveness of TVET in Egypt is low. TVET in Egypt has many manifestations at the different levels of education and is very complex and highly fragmented. The governance and provision of TVET is a shared responsibility between the Ministry of Education and Technical Education (MoETE) and the Ministry of Higher Education, with more than 30 other ministries and entities also involved. In line with *Egypt Vision 2030*, Egypt's unified long-term political, economic, and social vision, the government has embarked on a comprehensive TVET reform program. A number of TVET approaches that actively engage the industry in training, and try to encourage public-private partnerships models, are being introduced and further developed. These include the Industrial Apprenticeship Scheme (IAS), the Applied Technology Schools (ATS), and the Egyptian Dual System (EDS), formerly referred to as the Mubarak-Kohl Initiative (MKI) for Dual System (DS).

The EDS was introduced by GIZ in the course of the MKI in the 1990s. It is important to note that Egypt has two types of organized economy that are not compatible with each other. First, chambers and federations that are established by law and whose companies automatically become members of the respective chamber or federation. Second, investors' associations that came into being with the establishment of the industrial zones. They have no official mandate to represent the companies in the industrial zones but have a proven service mentality. MKI mandated the investors' associations as a partner for the development of the EDS, together they established regional units for the dual system (RUDS). The Enhancement of the Egyptian Dual System (EEDS) project was designed in 2015, constituting one component of the comprehensive Sustainable Economic Development for Employment program. EEDS was complemented by the Employment Promotion Project (EEP), and both program components were closely interlinked focusing on increasing the supply of and demand for skilled labor in parallel.

\ OBJECTIVE

The EEDS project had a two-fold objective, aimed at:

- Increasing the number of apprentices in appropriate quality dual education and training; and
- Expanding the structures for dual TVET, thus improving access to labor market-oriented training.

\ APPROACH

EEDS supported public and private sector partners in preparing young Egyptians to meet the requirements of the job market, thus promoting sustainable employment. The central feature of EEDS's approach was to develop participatory mechanisms for decision-making at all levels. EEDS encompassed four areas of intervention:

1. Policy advice: At national and regional level, EEDS supported public and private sector actors in jointly developing the strategic and conceptual framework for the EDS, including legal and regulatory provisions.
2. Enhancing quality and quantity of DS: At regional level EEDS promoted efforts to improve both in-company and school-based training and the provision of more dual training centers. A participatory approach was applied to develop standards for in-company training.

[28] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

3. Upskilling TVET staff: At a school and company level, EEDS strengthened the partners' capacities through tailored training measures targeting teaching/training and management staff, and by assisting in the application of the jointly developed standards.
4. Inter-company training: EEDS guided the partners in introducing and testing inter-company training as an innovative element in the Egyptian dual system.

2.3.2 KEY LEVERS OF CHANGE

SPECIFIC LEVERAGE FACTOR 1 – MULTI-STAKEHOLDER DIALOG AND STEERING PLATFORM

The establishment of a multi-stakeholder dialog and a steering platform has proven to be the primary specific leverage factor for promoting the introduction and furthering the development of cooperative TVET (DS) in Egypt. What started through the combined efforts of EEDS as a regional and central dialog platform between the industry, TVET schools, and the government, has since developed into a steering mechanism. Although Egypt's industry is quite well organized in terms of associations and chambers, the industry was not adequately represented in the design and implementation of the dual system. The dialog platform developed into an official channel through which the industry can express its demand, e.g. in terms of skills needs, and can contribute to making the TVET system demand-oriented. The fact that findings and results at a regional level are being fed to the dialog platform at national level makes the platform a success in the sense that it provides inputs from the basis that serve to facilitate decision making at central level. At the time of this report, the platform is run by MoETE in cooperation with the business associations without support from GIZ or any other donor organization[29]. Since 2017, EEDS has supported the establishment of a structured dialog between dual TVET partners in Egypt. They have promoted the flow of information, the exchange of good practices, and the development of solutions for demand-oriented TVET from a regional to central level and vice versa, and across industrial sectors. A key feature of the steering platform, which consists of the following actors on three levels, is the clear allocation of roles and responsibilities per level. At the governorate level, cross-sector TVET committees (called governorate technical *amanas* in Egypt) were established. These promote cooperation at governorate level and are autonomous in developing TVET solutions that do not require intervention from the central level. They act at two levels: (i) they implement quality improvement (QI) measures, (including the planning and implementation of the different dual system processes), ensuring the adherence to DS rules and regulations, monitoring the quality of training within the companies, etc.; and (ii) on the basis of good practices, lessons learnt and success stories at governorate level, they develop recommendations and proposals for decision making to the central level. The central technical *amana* then analyzes and reviews the governorate level proposals and drafts legal ordinances that are required for decision making at the next level–the executive council of the dual system. In addition, the central technical *amana* prepares the meetings of the executive council and acts as a link between the governorate and the executive level. The executive council of the dual system, which consists of representatives of all relevant national-level private and public DS stakeholders, has an advisory role to the MoETE. Once approved by the MoETE Minister, he decisions of the council have a nationally binding character. Another factor that strengthens the demand-orientation of the multi-stakeholder platform is its direct connection with the companies and the regional labor market observatories that collect and analyze labor market data and identify skills needs.

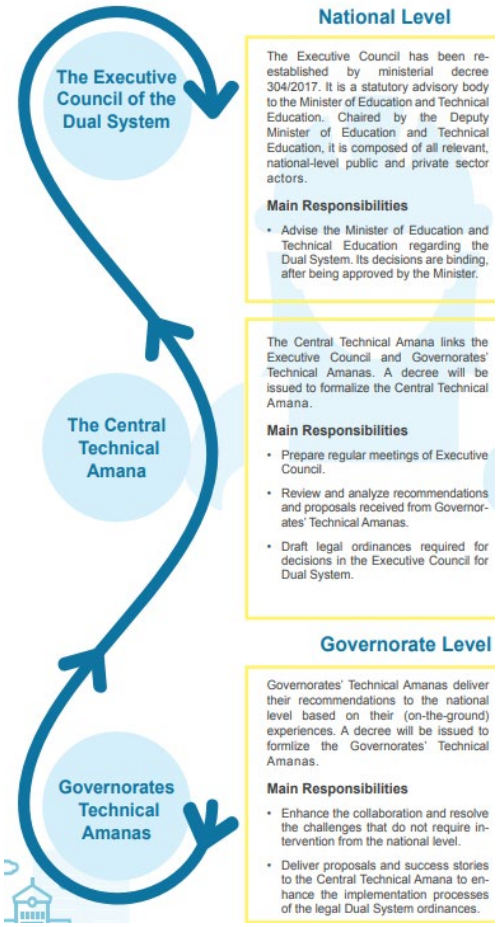

Figure 6: Three level multi-stakeholder platform

A major challenge encountered in the process, which was observed in all sectors and regions, was to bring together the different stakeholder around one table. The idea of continuous dialog, the joint definition of roles, and taking responsibilities remains a demanding concept for the system's stakeholders due to varying commitment and maturity levels which are dependent mainly on the individual persons involved. EEDS tackled this challenge with the support of the Collective Leadership Institute (CLI)[30] which assisted in setting up the first dialog platforms

[29] A manual on the functioning of the multi-stakeholder platform at the different levels is available in Arabic.

[30] https://www.collectiveleadership.de/

and supported the capacity development of learning to draft meeting agendas, conduct meetings, apply dialog practices, etc.

SPECIFIC LEVERAGE FACTOR 2 – QUALITY PIONEERS INITIATIVE (QPI)

EEDS supported the launching of the Quality Pioneers Initiative (QPI) in early 2018 with the objective of providing instruments and criteria to enhance the quality and outcomes of training within companies participating in the Egyptian Dual System, and to expand the DS as such. A supporting function of the QPI was the establishment of Quality Pioneers Clubs, acting as a community of practice focusing on improving the quality of in-company training, and addressing the following three different target groups among the Egyptian industry:

- Companies that already successfully implemented the quality criteria as defined by the QPI
- Companies in the same location and/or sector that do not yet have a clear idea of quality criteria and tools and rather work intuitively
- Companies outside the dual system that hear about good practices and want to become engaged

GENERAL LEVERAGE FACTORS

A general main leverage factor in all areas and phases of EEDS has been to answer the companies' most pressing questions in a sincere and transparent manner. Some example of questions asked could be: *What is in for me? How can I benefit from involving in TVET?* Closely related, it is important to capitalize on the positive attitude of companies already actively engaging in the DS and use this to convince other companies to participate in cooperative TVET as well. It has been proven to be crucial to have champions who speak to hesitant companies, sharing their good experiences and how their engagement in the EDS positively impacted their business. In this regard, Egypt's business associations have an important role to play as they act as both the voice of the industry and as intermediaries.

2.3.3 MAIN FINDINGS

- The example of Egypt shows that functioning economic, financial and organizational framework conditions are an important prerequisite for dual TVET. Business associations and chambers play an important role as intermediate bodies in scaling up the dual system in Egypt in general, particularly in the apprenticeship system. A requirement for this is the existence of appropriate TVET governance structures that need to be agreed upon by all parties, including the financing responsibilities.
- Successfully established structures at different levels–such as the multi-stakeholder dialog and steering platform–should be used to further develop and expand the EDS. For example, the platform can and should provide the framework for involving the private sector in strengthening other quality elements of the EDS. This can include the development of training standards and curricula, and the design and implementation of examinations, as well as making these tasks mandatory in future. This shows that the successful establishment of Key Feature 1 above, can promote the (further) development of other key features of cooperative TVET. At the same time, this is the best concept to enhance the labor market relevance in the system and eventually increase employability of the EDS graduates.
- Champion advocacy is crucial. This means, above all, involving enterprises that have become active partners in the cooperative TVET system and that are convinced of the benefits of engaging in the DS. Giving them the opportunity to share and disseminate their good experiences and practices with other companies, can be focused on key messages such as: (i) raising awareness of the benefits of cooperative TVET, and (ii) increasing the number of active industry partners. Even if not necessarily a prerequisite, the constitution of the economy in the form of chambers and associations is an essential promoting element in this respect, but also the multi-stakeholder platform created by the project.
- Strengthening the quality of cooperative TVET by engaging the industry in its design and implementation is not sufficient to promote the expansion of the EDS. The graduates of the EDS are much more appreciated by companies than graduates of any other TVET programs since they are familiar with working environments and possess proven, practical skills. However, the number of apprentices in the EDS is still low (only 60.000 apprentices out of 2 million in apprenticeship age). Several reasons account for this: the social perception of DS is still low; the industry is afraid of engaging teenage apprentices for fear of causing turbulence in the work environment; and the potential for damage to equipment and materials, etc. Therefore, efforts to promote the quality and reach of cooperative TVET should be accompanied by awareness raising and advocacy.
- When setting up a project that intends to involve the industry in collaborative TVET, the first step is to examine potential conflicts of interest in involving the different types of formal business institutions and moderate the process. This is especially true in cases where competing structures exist, as in the case of the chambers and associations versus the Investors' Association and Regional Unit for the Dual System (RUDS) in Egypt.

2.4 NIGERIA – INTEGRATED APPROACH TO EMPLOYMENT PROMOTION

2.4.1 PROJECT DESCRIPTION[31]

TITLE	SKILLS DEVELOPMENT FOR YOUTH EMPLOYMENT (SKYE)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Co-financed by	Swiss Agency for Development and Cooperation (SDC)
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Lead executing agency	Federal Ministry of Finance Budget and National Planning (FMFBP)
Project area	Nigeria - Abuja, Adamawa, Edo, Enugu, Lagos, Ogun, and Plateau
Overall term	05/2018 – 04/2023
Financial volume	50.5 million USD32 (47.9 million USD BMZ, 2.6 million USD SDC)

\ CONTEXT

Nigeria's population of more than 200 million is severely affected by extreme poverty. Over 43% of the working age population is either unemployed or underemployed. Nineteen million young Nigerians entered the labor market over the past five years, however, only 3.5 million new jobs were created in the same period. Nigeria is among the top three countries with the highest unemployment rates in the world, after South Africa and Namibia. The lack of employment and income-generating prospects leads to internal migration from rural areas to economically prosperous urban centers, and drives migration to other countries, mostly the European Union. TVET is not highly regarded in Nigeria, particularly in the technical field, where it is also seen as socially inappropriate for young women. Contributing factors are the poor quality of curricula, teaching and learning materials, lack of teacher training and equipment in the TVET system. During the COVID-19 pandemic, many Nigerians lost their job. The increased unemployment rate has further increased the drawbacks in education, employment, and economy for both women and disadvantaged groups.

\ OBJECTIVE

The Skills Development for Youth Employment (SKYE) project tackles unemployment and underemployment in Nigeria by addressing the supply and demand sides in an integrated employment approach. On the one hand, the project focuses on improving the quality of vocational training in the labor-intensive sectors of construction and agriculture as well as in the occupational field of industrial mechanics; on the other hand, it promotes dialog between public and private actors on vocational training and supports MSMEs. The overall objective of the SKYE project is to increase the prospects of income-generating employment for Nigerian youth between the ages of 15 and 35 and returned migrants in the selected sectors of agriculture, construction, and the occupational field of industrial mechanics.

\ APPROACH

Taking a strong sectoral approach, the project focuses primarily on national and sub-national ministries and private business associations, and provides targeted support for networking activities, including those between private and public actors. To achieve its objectives, SKYE concentrates on five priority intervention areas[33]:

1. Policy and public-private dialog
2. Capacity building for intermediary organizations
3. Improvement in the quality of TVET in selected economic sectors
4. Promotion of innovative pilot models
5. Support for active labor market measures

[31] Information extracted from documents and press releases of the SKYE project.

32 Exchange rate of October 14, 2022, 1 EUR = USD 0.97316

33 Information extracted from project sheet and SKYE website.

2.4.2 KEY LEVERS OF CHANGE

INTEGRATED APPROACH TO EMPLOYMENT PROMOTION

A strength of SKYE lies in the fact that it is embedded in a system of GIZ projects that together unfold synergies for the labor market and employment. Thus, SKYE cooperates closely with the GIZ project Pro-Poor Growth and Promotion of Employment in Nigeria (SEDIN). SEDIN aims at enhancing Nigeria's business environment and increasing the capacity of MSMEs to raise income and employment. Most GIZ projects operate in the same building in Abuja which enhances the information flow and communication among them.

The shift in perspective from a single DC project to a portfolio management that not only focuses on the qualification of individuals but also on the development of the labor market as a whole, requires a longer planning and preparation period. The approach is based on the assumption that employment problems are not only caused by deficits in the labor market itself, (e.g., poor matching due to lack of information), but that labor supply and demand conditions also affect employment creation. On the labor demand side, for example, an unfavorable business environment or a poorly developed private sector may hinder business expansion and thus limit the demand for labor. This is where SEDIN steps in by enhancing entrepreneurial framework conditions, access to financial and business services as well as entrepreneurial and management skills of business owners and potential entrepreneurs. By promoting public and private stakeholder dialogs about TVET and by focusing on improving the quality of TVET in the labor-intensive sectors of construction and agricultural and in the field of industrial mechanics, SKYE addresses the supply and demand sides of the integrated employment approach. It enhances the capacities of intermediary institutions in TVET and Active Labor Market Measures (ALMM) to enable them to achieve their objective of delivering improved services.

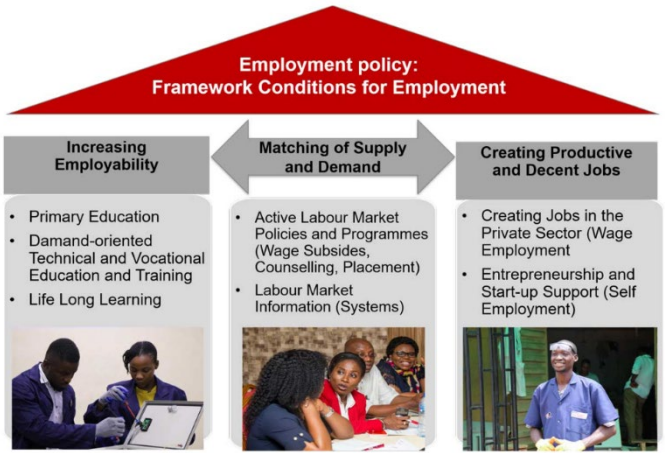

Figure 7: Integrated approach to employment promotion

PRIVATE SECTOR DRIVEN DUAL VOCATIONAL TRAINING (DVT)

These activities of the SKYE project promote a cooperative approach to vocational training. They are implemented by the German development organization sequa in the states of Abuja, Anambra, Lagos, and Ogun. The DVT complements industry-driven, non-formal, work-based learning with school-based learning. Since Nigeria opted for a competency-based training system in collaboration with the National Board for Technical Education (NBTE), the project has introduced competency-based standards. They are based on the Nigerian Skills Qualification Framework (NSQF) and thus enable graduates of DVT to obtain an acknowledged qualification. The distribution between school-based and work-based learning is 50:50. Apart from ensuring the sustainability of established DVT offerings in industrial electronics, industrial mechanics, technical facility management and office administration, new DVT courses are being developed primarily for the construction sector.

The DVT approach relies on collaboration with strong business membership organizations who act as drivers for cooperative vocational education. The project succeeded to establish a community of trust among six participating chambers and associations. The ownership of the Federation of Construction Industry (FOCI) is particularly strong. Since the infrastructure of many vocational colleges is inadequate, an interim facility for the FOCI Skills Academy was established in Abuja that serves as an inter-company training center for the member companies.

PARTICIPATORY SPECIFICATION OF NEW OCCUPATIONAL STANDARDS

Similar to many countries, the occupational standards in Nigeria only partly reflect the labor market needs. Linkages between the educational sector and industry are tenuous. Although employers are critical of the quality of TVET graduates, in general they play little or no role in shaping or improving the TVET system. The introduction of NSQF in 2013 and the subsequent formation of Sector Skills Councils have been a big step forward. Together with the NBTE as a policy partner, SKYE has developed 10 new National Occupational Standards (NOS) (7 for the construction sector and 3 for the agriculture sector), that establish the standard of performance that an individual must achieve in performing a job function and the knowledge and skills needed to consistently meet the standard. A process was piloted in which the question of what skills are needed was answered by the industry – not by officials but by people who do the work every day, e.g., foremen, team leaders, or workers who are familiar with the daily practice. They define the duties and tasks of the occupations. Through this process, the NBTE has experienced that a collaboration with the private sector generates added value and has adopted a new role.

GENDER EQUALITY – A TRANSVERSAL EFFORT

In Nigeria, females are disadvantaged in terms of, e.g., access to education, employment, and wages. Due to gender stereotypes and societal perceptions, some vocational and technical skills are perceived by the Nigerian society to be solely reserved for men and are therefore male dominated. The construction sector has long been among the industries with the lowest percentage of gender diversity in the workforce, with a strong male domination. Therefore, SKYE has empowered young women by executing a comprehensive range of actions. School career counsellors have been trained to increase awareness of varied construction trades, through career education and sensitization campaigns in schools and communities aimed at mainstreaming gender in the construction sector. Women construction professionals have been engaged for mentoring and leadership sessions with trainees and out-of-school young females. Marketing material like construction trade pamphlets in the three major Nigerian languages and English have been produced and employers are sensitized through the construction professional bodies FOCI and the Nigerian Institute of Building (NIOB). Women in Infrastructure Community Africa (WICA) addresses government and corporate organizations to narrow the unemployment gender gap in construction and other priority sectors such as ICT and the transportation sector. The overall goal for gender promotion is that women and girls make up at least 30% of all the graduates of SKYE in the aforementioned sectors.

PRIVATE-PUBLIC DIALOG PLATFORMS

In three states (Lagos, Edo, Ogun), private-public dialog platforms (PPDP) are already introduced. They serve political partners, representatives of the private sector and civil society as a common space of information and communication to identify policy recommendations. This has made a qualitative impact on building relationships between public and private sector stakeholders. The structure and roles are defined in each PPDP (to eventually be renamed Employment Council). Each PPDP is comprised predominantly of two Technical Working Groups (TWG); one called "TVET and Employment" and the other called "Business Enabling Environment". Sub-units are established for different activities. The secretariat is composed of representatives of GIZ and the Lagos State Employment Trust Fund (LSETF), as well as the government. Support of the government is given to forward the results of the TWG deliberations (e.g., reform proposals or policy recommendations), for possible adoption by the states through the executive cabinet briefing. An example of one activity executed already is the conduction of a sensitization campaign on the International Youth Day event in August 2022, aimed at attracting young people to TVET.

2.4.3 MAIN FINDINGS

The SKYE project works with a multi-level approach and operates on the micro, meso and macro level. Substantial progress has been made in promoting reform processes in the TVET sector, initiating systemic collaboration between different public, private, and non-profit organizations at state level. The project takes on a moderating role and succeeds in strengthening institutions and establishing dialog structures by empowering the political and private partners.

Since the quality of public sector schools is rather poor, industry tends to train its own workforce. The project supports the industry-driven learning by complementing formal vocational training in vocational training centers. Ideally, this raises the level of training: trainees not only acquire the relevant company-specific skills in a field of activity, but also theoretical understanding and foundations related to it. This enrichment of qualifications can in turn have a positive impact on the company, as the apprentices also apply their expanded skills within the company and transfer them to other employees[34]. The formalization and validation of job roles based on NOS, strengthens the recognition and the image of TVET. Showcasing best practices on state level has proven to be a promising step forward to address the lack of a skilled workforce and to improve and reform the TVET system in Nigeria as a whole.

The identification of strong change agents that are motivated to change the situation on a state level, (for instance the NBTE), and on a private level (construction sector organizations), are vital for promoting transformation. Working with business organizations has proven to be an especially strong lever. They learn and adopt new practices, and they can use their knowledge and contacts to detect and diffuse political issues that might otherwise threaten to derail transformation efforts. The identification of change agents in TVET projects is possibly one of the decisive levers for impact and success; an approach that can be emphasized and transferred to many contexts.

The project successfully empowers women in male-dominated skills sectors like construction and agriculture, addressing the challenges of youth unemployment and poverty in the state. Showcasing construction skills by female workers has been a thriving way of increasing the interest of adolescent girls and women in the sector.

[34] See Euler, D. (2017). Beteiligung der Wirtschaft in der Berufsbildung. Arbeitsinstrument für den Politikdialog und die Projektgestaltung in der Entwicklungszusammenarbeit. Teil 1: Studie. Zurich: Donor Committee for Dual Vocational Education and Training (DC dVET).

2.5 ASEAN – SUPPORT FOR PEER LEARNING, COOPERATION AND NETWORKING

2.5.1 PROJECT DESCRIPTION

TITLE	REGIONAL COOPERATION FOR THE DEVELOPMENT OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (RECOTVET)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Leading executing agencies	ASEAN, SEAMEO, VOCTECH
Project area	ASEAN Member States, in particular Cambodia, Indonesia, Lao PDR, Philippines, Thailand and Vietnam
Overall term	Active since 2014, actual 3rd phase 07/2020 – 06/2023
Financial volume	21.762.400 US $35 (22,000,000 EUR)

\ CONTEXT

The Regional Cooperation for the Development of Technical and Vocational Education and Training program (RECOTVET) cooperates with the Association of Southeast Asian Nations (ASEAN)[36] since 2014, with a focus on Indonesia, Vietnam, Cambodia, Thailand, Laos and the Philippines. ASEAN aims to accelerate the economic growth, social progress and cultural development in the region through joint endeavors. ASEAN Member States recognize TVET as an important element in the approach to provide workers with the right skills matching industry needs. The main challenge in the region is that TVET does not keep up with labor market requirements. In ASEAN, regional capacity and coordination need further improvement and more reliable data for evidence-based policy making. Many countries of the region lack adequately qualified TVET personnel and are faced with the fact that TVET is not demand-driven. The automatization of manufacturing and other sectors as well as the huge progress in digitalization have largely changed the demands of the labor market. What is needed is a TVET system capable of dealing with complex tasks and situations and a well a skilled work force with the necessary technical and soft skills. RECOTVET strengthens the capacities of the ASEAN member states to improve their TVET systems through participatory learning in a cooperative way.

\ OBJECTIVE

RECOTVET aims at improving TVET systems in the ASEAN region, preparing them to the requirements of digitalization and future labor markets.

\ APPROACH AND AREAS OF INTERVENTION

RECOTVET primarily takes a regional approach involving the South East Asian countries. It supports policy dialog in cooperation with relevant regional organizations such as ASEAN and the Southeast Asian Ministers of Education Organization (SEAMEO). The multi-country approach is combined with pilot implementations in ASEAN countries supporting the cooperation of states and industry. RECOTVET engages itself in the following areas of intervention: policy advice and capacity development of the regional organizations of sectoral bodies; providing labor market information; supporting new competences for digitalization and vocational education and training; (re-) qualification offers for women; and involvement of industry in the further development of TVET through strengthening of Business Membership Organizations (BMOs).

2.5.2 KEY LEVERS OF CHANGE

KEY LEVER 1 – DIALOG IN TVET

RECOTVET supported regional policy dialogs which have become an important forum for exchanging pressing topics of TVET reforms for decision makers from the ASEAN region. Participants, including senior education and labor officials from relevant ministries of ASEAN member states, and representatives from the state and the industry,

[35] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

[36] http://asean.org/asean/about-asean//

have been provided with state-of-the-art research and practical examples from the region and beyond. Key outcomes of the policy dialogs are strongly affirmed by the ASEAN members and increase the willingness from both the governments and industry representatives to institutionalize what is recommended. Results achieved by the policy dialogs supported by RECOTVET include: the development of the ASEAN work plan on education (2021-2025)[37]; the establishment of SEA-VET.net; a regional TVET knowledge platform; the documents "*Future ASEAN Agenda for TVET"* and "*Yangon Recommendations for Improving TVET Quality for better Employability"*; and the organizational development of the new ASEAN TVET Council.

KEY LEVER 2 – THE NEW ASEAN TVET COUNCIL

The RECOTVET program has carried out organizational development and capacity building for the new ASEAN TVET Council (ATC), established in 2020. The ATC is a regional, inter-sectoral TVET body with members from the state and the industry. It coordinates the relevant ASEAN bodies' strategies and work-plans and improves the ASEAN TVET governance. The vision of ATC is to:

- Advance TVET towards competitive human resources
- Support market-responsive workforce skills
- Create more employment opportunities
- Foster higher productivity and human-centered future of work

It is a cross-pillar/cross-sectoral coordination mechanism of TVET providing policy recommendations pertaining to the quality of TVET and its relevance to current and future industry requirements. It contributes to facilitating mutual learning and innovations through the sharing of good practices on cooperative TVET. Moreover, the ATC develops an inclusive regional plan on TVET and supports regional knowledge management on TVET.

KEY LEVER 3 – QUALIFYING IN-COMPANY TRAINERS

In-company training is a key instrument in improving the practical competencies of employees who are already in the workplace. RECOTVET developed the "Standard for In-Company Trainers in ASEAN Countries" in a participatory process with 60 experts from government institutions, chambers of commerce, private enterprises, universities and other educational and training institutions from six ASEAN Member States. The Standard for In-Company Trainers in ASEAN Countries serves as a regional benchmark applicable in all member states in the ASEAN region. The ASEAN standard for in-company training has been inspired by the German standard (Ausbildereignungsverordnung (AEVO)). It was developed in a short, simple and not too detailed way to ensure acceptance by the industry and to be adaptable to the TVET systems in the region and the different economic, social and educational environments of the ASEAN countries. Subsequently, the standard has been endorsed by the ASEAN Senior Officials Meeting on Education (SOM-ED) and the ASEAN Senior Labor Officials Meeting's Working Group on Progressive Labor Practices to Enhance the Competitiveness of ASEAN (SLOM-WG). To date, the in-company training standard has been adopted in four countries (Laos, Thailand, Malaysia, Brunei), as a basis to regulate in-company training at the national level. This standard of in-company training ensures that trainers have the necessary skills, knowledge and competencies to conduct in-company training effectively. RECOTVET trained 200 master trainers and more than 2.600 in-company trainers using the in-company training standards. The manual on in-company trainers in ASEAN countries can be downloaded from the GIZ RECOTVET website.[38]

KEY LEVER 4 – KNOWLEDGE SHARING PLATFORM

The aim of SEA-VET.net – the TVET knowledge hub for Industry 4.0 & Digitalization in Southeast Asia – is to provide information for TVET governance in a comprehensive way; a one-stop-shop for the ASEAN TVET community. Decision-makers and practitioners can access the relevant information with just one click. The knowledge platform provides opportunities for networking, promotion of activities, peer-learning, and a pool of resources for streamlined TVET engagement. SEA-VET.net keeps policymakers and TVET stakeholders informed to avoid duplication and enable evidence-based planning and implementation of TVET interventions.

The knowledge platform is managed by the SEAMEO Regional Centre for Vocational and Technical Education and Training (SEAMEO VOCTECH), with financial and technical support from RECOTVET. To ensure the sustainability of the knowledge platform, combined financing is envisaged through income generation of the training platform, financial contributions by ASEAN partners and support from other development partners.

Moreover, SEA-VET.net introduced a private sector knowledge hub that provides TVET information, catering specifically to the demands of the private sector. The platform offers TVET practice cases, country specific rules and regulations, and an overview of relevant TVET stakeholders, all while promoting public-private cooperation.

[37] Public-Release-ASEAN-Work-Plan-on-Education-2021-2025.pdf

[38] https://sea-vet.net/initiatives/180-in-company-training-standard-in-asean-countries

KEY LEVER 5 – INFOGRAPHICS

For regional cooperation it is important that messages reach the target audience. Not all stakeholders from the industry speak fluent English or are familiar with TVET. In order to reach a broader audience, key messages have been conveyed through infographics. SEA-VET.net has been using target-specific language to allow for better understanding. Infographics make the collected knowledge accessible for all types of stakeholders through processing knowledge, extracting key messages, compiling and analyzing the outcomes, and visualizing the learnings. Thus, infographics illustrate the most important bits of information from the latest TVET publications.[39]

KEY LEVER 6 – STRENGTHENING BUSINESS MEMBERSHIP ORGANIZATIONS

Supporting Business Membership Organizations (BMO) in four ASEAN countries (Cambodia, Laos, Indonesia, Vietnam) means the development of services for modernizing and digitalizing TVET. RECOTVET took a participatory approach using the methodology of Design Thinking, which aims at problem solving and identifying new ideas based on an inter-disciplinary and user-centric approach. The stages of Design Thinking are (1) empathize with the target group; (2) define the needs and challenges; (3) challenge assumptions and ideas, (4) create ideas and approaches; and (5) test possible solutions. The Design Thinking process helped the BMOs gain a deeper understanding of their members' needs and challenges concerning the training and recruitment of qualified staff. The service ideas developed are very diverse and range from: an innovative soft skills program integrated in the daily work routine of employees and supported by a learning guide via a messenger service in Cambodia; to an online talent development hub for the renewable energy sector in Indonesia that aims to provide clear career pathways, relevant upskilling resources and network support. RECOTVET further supported the sharing of ideas and experiences among the participating BMOs to enable peer-learning and potential implementation beyond borders.

2.5.3 MAIN FINDINGS

- The cross-country and cross-sectoral cooperation approach of RECOTVET consists of working with ASEAN member states, with representatives of the state and with different sectors of industry. It enhances the recognition of the joint vision and agreed activities, thus placing emphasis on the importance of cooperative TVET. The commitment of the ASEAN members fosters the streamlining of results, for example the occupational standards developed. Care is taken to give enough flexibility for individual adaptation within the context of the different member states and sectors.
- The systematic involvement of the industry in TVET contributes not only to the development of demand-driven TVET but also to mutual trust between the public and the private sector.
- The approach of targeted communication to reach out to different stakeholders is of great value and highly recommendable for replication. RECOTVET uses technical jargon when communicating with experts and easy-to-understand language when communicating with other target groups. Moreover, key aspects of cooperative TVET are presented briefly and concisely in infographics with a high degree of visualization.
- The sustainability of the SEA-VET.net knowledge platform is still not resolved even though the added value of the knowledge hub is recognized by the partners. A possible solution could be to finance the platform through income generation by an e-learning platform plus additional financial contributions of the ASEAN partners states. The approach is very transferrable to other parts of the world. However, a mitigation strategy should be developed for meeting the financial costs, the organizational demands and the capacities needed to create sustainable results.
- A truly innovative approach is the usage of design thinking as a methodology in the capacity building of the partners. It allows a participatory way of bringing together representatives from the state and the private sector but also of business associations and their members. In the process, challenges and problems are discussed and solutions developed together. For example, the demand-oriented service development of BMOs is a direct result of the usage of this methodology. The BMOs started to communicate directly with their members to ask for their needs and adapt their services accordingly.

[39] https://sea-vet.net/resources/infographics

2.6 CAMBODIA – BETTER SKILLS FOR BETTER LIVES

2.6.1 PROJECT DESCRIPTION

TITLE	SKILLS DEVELOPMENT PROGRAM (SDP)
Commissioned by	Swiss Agency for Development and Cooperation (SDC)
Implementing organization	SDC / Swisscontact / INBAS
Leading executing agency	Ministry of Labor and Vocational Training (MoLVT), Ministry of Tourism (MoT), National Employment Agency (NEA), Ministry of Economic and Finance, Skills Development Fund (SDF)
Project area	10 target provinces in North of Cambodia: Kratie, Stung Treng, Preah Vihear, Mondul Kiri, Rattanak Kiri, Pursat, Battambang, Banteay Meanchey, Pailin, Oddor Meanchey
Overall term	07/2020 – 06/2024 (2nd phase)
Financial volume	USD 9,207,15840

\ CONTEXT

Cambodia's TVET sector suffers from weak links between schools and businesses, too many players at national and provincial level, and a lack of communication and cooperation. This results in vocational qualifications that are not labor market oriented. This is the starting point of the Skills Development Program (SDP), bringing together national and provincial government stakeholders, public and private training providers as well as SMEs in the tourism and other sectors, supporting in harmonizing the understanding of, and improving the quality of the TVET system. SDP's second phase builds on the achievements of phase 1 (2016-2020), and has expanded its activities from 3 to 10 provinces. The selection of 10 target provinces follows the rationale that they face similar challenges including: remoteness; jobs and infrastructure with low levels of economic activity; the highest poverty rates in Cambodia; and with low levels of basic educational and occupational skills.

\ OBJECTIVE

- Support the Cambodian TVET system to become more effective in the target provinces.
- Improve employability and access to decent employment for disadvantaged groups through: technical, soft, and entrepreneurship skills; by providing training opportunities for educational dropouts; and supporting low skilled workers in formalizing and achieving recognition of their skills via endorsed qualification certificates.

\ APPROACH AND AREAS OF INTERVENTION

With regard to private sector engagement in TVET, SDP applies a two-pronged approach:

1. At national level, SDP contributes to raising the stakeholders' awareness of TVET and promoting the idea of involving the industry in higher level consultations, e.g., regarding TVET policy development.
2. At provincial level, SDP collaborates with Provincial Training Centers (PTC), the Provincial Department of Tourism (PDoT), the Provincial Training Board (PTB) as well as individual companies and business associations. This is aimed at strengthening their capacities to provide demand-oriented training programs. Cooperation with the PTBs is key as they act as intermediaries between industry and PTCs.

Cross-cutting topics, such as gender equality and social inclusion, conflict-sensitive project management, environmental protection, and good governance, are mainstreamed into all SDP interventions. Compliance with the Leave No One Behind (LNOB) principle is a declared goal through the definition of the target group. While in its first phase SDP applied a "hands on" approach in three target provinces, the second phase was adjusted to create stronger synergies and make contributions to TVET system development and systemic change processes at national level. SDP is structured around four areas of intervention, each following a specific, tailor-made approach:

- TVET school development focuses on the quality improvement of the PTCs through a holistic and collaborative school development process. SDP plays a role as a facilitator to support the TVET school development processes by offering technical assistance and the (co) financing of equipment and tools. Lessons learnt are fed into the national system through continuous policy dialog with the lead executing agencies.
- The TVET innovation lab offers a platform for TVET stakeholders (including government, PTCs and businesses), to first analyze labor market needs and constraints, and then promote the development of innovative and

[40] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

tailored approaches for skills development, aiming at enhancing training and employment opportunities for unemployed and underemployed youth.
- Training for disadvantaged youth provides labor market relevant technical, soft and entrepreneurship skills training for poor and disadvantaged youth who are awarded a certificate upon successful completion, helping them to get decent employment. The training is organized in collaboration with public and private training service providers and includes pre and post training.
- Hospitality Kampuchea (HoKa) is a demand-led and industry-based training model addressing: (i) low-skilled workers working in the participating hospitality businesses: and (ii) providing capacity building for local hospitality business managers as well as trainers from the PDoT and the industry. Tourism has been identified as a sector with the potential to create jobs for disadvantaged young women and men in the target provinces.

2.6.2 KEY LEVERS OF CHANGE

HOSPITALITY KAMPUCHEA (HOKA)

HoKa, the demand-led and industry-based training model, provides low-skilled workers with theoretical background, practical and professional up/reskilling, and a nationally recognized certification. Owners and managers of hospitality companies–as well as supervisory staff in need of upgrading their in-house training processes–provide input to the contents of the curricula. Short courses cover technical skills, training didactics and methodology, and hospitality management. HoKa is a classic win-win situation for the managers of hospitality businesses: upskilling their staff and getting better service in return. The involvement in HoKa has thus contributed to changing the mindset of the business owners. During the COVID-19 pandemic, the HoKa team developed an electronic training needs analysis, a web-based system that can be adapted to ASEAN competence standards and is aligned with the Ministry of Tourism's certification requirements. Several leverage factors can be attributed to HoKa. The holistic in-company training approach for the industry is characterized by its integrative features as follows:

- Aimed at developing high quality, in-company training, HoKa incorporates different processes within the (hospitality sector) company. It integrates different functions that are necessary for the development, implementation and monitoring of in-company training, including the company management.
- It establishes linkages between the different hospitality sector companies in a certain region, providing the opportunity to exchange experiences and examples of good practice.
- HoKa also links companies with PDoTs, creating possibilities for mutually beneficial exchange and further professional development, e.g., placing PDoT teachers in industry programs to acquire more practical skills (Professional Industry Placement [PIP]), and equip in-company trainers with more didactic and pedagogical skills.
- HoKa provides training to ministry staff on how to steer and monitor the implementation of TVET approaches involving the industry and PDoTs.
- A key leverage factor is the institutionalization of HoKa. The HoKa model has potential for national upscaling and will be integrated into the national TVET system, making it an important sustainability element. HoKa has become a brand in Cambodia which is associated with the MoT, yet with a broad ownership beyond MoT. For example, the United Nations Industrial Development Organization (UNIDO) and ILO are using the brand and are integrating the HoKa concept in their TVET activities.

SYSTEMIC APPROACH TO TVET DEVELOPMENT

SDP follows an integrated and holistic approach in all its interventions, linking micro level interventions with the meso and macro level, and vice versa. This provides the basis for evidence-based policy development that contributes to the systemic development of TVET. SDP provides adequate staff resources for its interventions at all three levels, facilitating mentoring, dialog, cooperation and steering processes at and between the levels. SDP operations are framed via an MoU and partnership agreements with all program stakeholders, defining roles and responsibilities to strengthen the system's framework. The systemic approach includes the following elements:

- SDP combines micro level activities with meso and macro level interventions, introducing lessons learned in the field into national policy consultations. SDP has shifted its approach from phase 1 where the focus was on how to reach the poor and engage them in a weak system, to improving the system before the situation of the vulnerable can be improved. SDP pursues both strands in conjunction, leading to a mutual positive influence.
- Building a trustful relationship with the government is key, at both a national level (direct collaboration between SDP and MoLVT and MoT), but also at a provincial level (the secondment of ministry officers to SDP offices), which contribute to paving the way for better understanding and evidence-based policy development.
- SDP facilitates cooperation with the private sector in the target provinces through Provincial Training Boards (PTB) to reinforce TVET policy implementation, and to ensure feedback loops on a national level. Reflection on findings and lessons learnt take place at micro, meso and macro level.
- Cooperation between businesses and TVET schools is put on sustainable footing through partnership agreements that define the tasks and responsibilities of each partner, applying quality criteria such as making the availability of a dedicated in-company trainer a prerequisite for on-boarding interns or apprentices.

INTEGRATIVE CASE-BY-CASE APPROACHES – THE TVET INNOVATION LAB

The TVET innovation lab provides opportunities to: tackle underlying labor market challenges; test individual approaches and modalities of cooperation between companies and TVET schools; and combine them with other support mechanisms. Contrary to strengthening TVET providers and TVET provision by integrating the business community, the industry is encouraged to be in the driver's seat. Industry is supported in expressing their needs in terms of skills development and governance of TVET, and then training providers are integrated into the TVET development process. No 'one-size-fits-all' concept is applied, but SDP encourages the development of individual, pragmatic solutions. SDP promotes the collaboration between businesses and TVET schools, and supports them in preparing proposals to apply for Skills Development Fund (SDF) funding or in establishing PPPs with larger TVET schools or companies in other regions of Cambodia. Simultaneously, SDP is feeding experiences and good practices from the grass root level back to the national level, and is strengthening the functioning of macro level structures. For example, SDP provides organizational development to the SDF to become more inclusive and also target disadvantaged groups, while the National Employment Agency (NEA) is strengthened in its ability to produce and provide qualitative labor market information, and in connecting with TVET schools and businesses.

GREENING TVET

Cambodia's Directorate General of Technical and Vocational Education and Training (DGTVET) and SDP launched the "Green TVET Initiative" at PTCs in five provinces pursuing a two-fold objective: (i) to increase the awareness of learners, trainers and school management of the importance of environmental protection, and (ii) to support TVET schools and businesses engaging in TVET to become eco-friendlier and environmentally sustainable. Green TVET has a leverage effect as it not only generates a skilled labor force that can deal with current ecological topics, but also generates knowledge and skills that will be necessary to master future ecological challenges. To put the green efforts on a sustainable basis, a green national TVET working group is developing a national guideline and implementation manual for green TVET. The manual provides guidance on eco-friendly school operation, including green practices in training curricula, and green activities in the communities and workshops, such as energy saving, waste management, etc. Although the initiative is still in early stages, the objective is to develop the green pilot PTCs into green institutions making them role models for other training institutions.

2.6.3 MAIN FINDINGS

- The following steps are required to achieve leverage: First, create an understanding about the TVET system: second, undertake strategic development planning and implementation together with the key stakeholders, so that leverage can be achieved as the third step. This simple lesson was learnt in phase 1 and then used in the planning of the current phase of SDP.
- Flexibility is essential: A complex program like the SDP must be approached with a high degree of flexibility as it is operating in a dynamic environment like Cambodia with a cooperation structure between companies and TVET schools that is not yet very developed and a skills development system that is still in its infancy.
- To get the process started, it has proven useful to first focus on key companies that are: willing to cooperate and invest in the learning process; that see a benefit for themselves in the investment; and that are willing to cooperate with MoLVT and SSCs at higher level. Together with these 'champions', skills development models can be further developed and up-scaled to other companies, multiplying a certain TVET approach in cooperation with the chambers, which ultimately leads to standardization at best.
- In order to prevent reinventing the wheel, coordination in various respects is required. With regard to skills development, SDC coordinates with other active SDC programs in Cambodia, (e.g. its migration activities), and is integrating migrant aspects in the guidelines of SDP. Close coordination with other development partners active in the same sector is also crucial to avoid duplication and achieve synergies, which takes place in the form a joint technical working group led by the Minister of Labor and co-chaired by SDC.
- The lack of visibility of TVET in Cambodia is a major challenge, therefore increasing visibility and awareness of TVET is thus a constant task. This includes raising awareness that: (i) TVET provides opportunities to create development processes in the industry; and (ii) of the importance of TVET with regard to bringing young (disadvantaged) people into jobs and reducing the stigmatization of TVET. Moreover, the view that is often still prevalent in the sector must be corrected, namely, that it is not the sole task of the state to produce a qualified workforce, but that the industry must actively contribute to this. SDP strengthens TVET promotion structures in the target provinces by conducting a range of activities such as dissemination workshops, fostering the use of social and other media by the PTCs, building NEA's capacities to implement effective career counselling, etc.
- In principle, TVET processes and skills development models elaborated by SDP, such as HoKa, are considered transferable to other sectors and regions, however, it is important to first analyze the capacities of the companies. One concrete example is the engagement of the industrial RMA Group in the market-oriented skills training through the Dual Apprenticeship program carried out jointly with the National Polytechnic Institute of Angkor. The assessment of RMA was done through a consultative dialog following nine pre-defined steps.

2.7 INDIA – INDUSTRY CLUSTER BASED APPROACH AS BASIS FOR COOPERATIVE TVET

2.7.1 PROJECT DESCRIPTION

TITLE	INDO-GERMAN PROGRAM FOR VOCATIONAL EDUCATION AND TRAINING (IGVET) – PHASE II
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Leading executing agency	Ministry of Skill Development and Entrepreneurship (MSDE)
Project area	India-wide
Overall term	09/2020 – 12/2023 (2nd phase)
Financial volume	USD 5,395,59341

\ CONTEXT

India has one of the youngest populations in the world and has the largest working-age population world-wide. At the same time, India's economy and industry face a serious shortage of skilled labor. There is a growing mismatch between the skills available in the labor market and those in demand. To address these challenges, the Indian Government has made it a priority to expand skills development programs across the country, and actively involve industry in their design and implementation. In a country as large and diverse as India, this requires concerted efforts and close coordination among a wide range of stakeholders. This is the starting point for the Indo-German Program for Vocational Education and Training (IGVET). In India, skills development is a decentralized task and the core curriculum and the National Skills Qualification Framework (NSQF) are set at national level, while TVET implementation is the responsibility of the states. Apprenticeship is optional and therefore not streamlined into the curriculum and skills development system, which is a core problem.

The Indian Government offers financial support for a number of different cooperative skills development models listed below, however, companies are often not aware of the subsidiary mechanisms or do not know how to apply for them:

- Dual System of Training (DST) scheme[42]: Since 2016 the scheme promotes the cooperation of enterprises with Industrial Training Institutes (ITI) aiming at aligning their training content with the skills needs of the industry.
- National Apprenticeship Promotion Scheme (NAPS)[43]: Also launched in 2016, NAPS offer financial incentives as well as technological and advocacy support to companies that take on apprentices.

\ OBJECTIVE

The aim of IGVET is to increase the number of young adults who benefit from the improved quality of cooperative vocational education and training in selected sectors and regions.

\ APPROACH AND AREAS OF INTERVENTION

IGVET's areas of intervention are inspired by the German dual system of training which combines school-based learning with workplace training. IGVET provides guidance to public and private sector actors who want to actively engage in the establishment and continuous improvement of a cooperative skill development system. To align TVET with the current needs of the labor market, industry plays a central role in all areas and stages of cooperative skills development. To reflect this significant role of the industry, IGVET developed the cluster-based approach as a basis of all interventions. A cluster is a group of companies in a specific sector in a specific region represented by a chamber or industry association. IGVET covers a wide range of industry sectors, including automotive, electronics, manufacturing, energy-efficient construction, retail and e-commerce, green energy, etc.

The guiding principles of IGVET are as follows:

- Involvement of the industry: The cluster approach enables companies of all sizes to actively shape TVET provision in their respective region and sector, and fosters dialog between public and private sector actors.

[41] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

[42] See also DUAL SYSTEM OF TRAINING | Directorate General of Training (dgt.gov.in)

[43] See also National Apprenticeship Promotion Scheme (NAPS) | Ministry of Skill Development and Entrepreneurship | Goverment Of India (msde.gov.in)

- Improvement of cooperative TVET: IGVET empowers teachers and headmasters of vocational schools, as well as in-company trainers, to coordinate school and workplace-based training modules. In addition, the project ensures that all cooperative TVET models are aligned with the standards set in India's NSQF.
- Replication and systemic change: Lessons learnt are documented and form the basis for recommendations to the federal governments and the Ministry of Skill Development and Entrepreneurship (MSDE). These reform proposals provide evidence of: successful implementation in other sectors and regions; policy dialog with other line ministries; and strategy adjustments in cooperative TVET.
- Gender equality in TVET: IGVET systematically involves female trainers, school headmasters, entrepreneurs and employers in the design and implementation of cooperative TVET models. Recommendations on gender equality are also integrated into TVET reform proposals. In addition, IGVET considers the inclusion of industry sectors that are culturally acceptable to women, and encourages women to enroll in training in non-traditional occupations through career guidance and counselling.

2.7.2 KEY LEVERS OF CHANGE

The cluster-based approach encourages MSMEs, but also large enterprises, to jointly define structures and processes so that their needs for qualified labor can be met. The cluster-based approach addresses businesses in the same sector and region, usually represented by a relevant sector association. As the Indian economy is rather diverse, IGVET supports the industry clusters in developing unique models of cooperative skills development that takes into consideration the specific needs of a specific sector in a certain region, combining elements of school-based learning with practical in-company workplace training. These tailored skills development programs are aligned with the respective regional skill development system and the national training standards as defined by the MSDE. The fact that any new skills development program is approved and certified by the National Skill Development Corporation (NSDC), the respective Sector Skills Council (SSC) or Directorate General of Training (DGT), not only provides the graduates with official certification –which allows them to take up formal employment throughout Indi– but also enables the replication and up-scaling of the programs, thus contributing to systemic change. To date, IGVET has established 74 clusters which proves the industry's interest in cooperative TVET. Self-interest of the companies is in fact the main leveraging factor –needed to realize that contributing time and resources to cooperative TVET is beneficial for companies. The self-interest of companies is encouraged by the fact that: (i) there is a large number of companies represented in the various industry associations; and (ii) by the appreciation of German technology and the German dual vocational training system among Indian businesses. Since most TVET is state funded, companies are not expected to make large financial contributions, so the financial barrier to participating in cooperative VET is low.

The cluster-based approach[44] is characterized by the following success factors:

- Strong local focus, i.e. orientation towards the local skills needs of the enterprises
- Close proximity to the local actors at grass-root level, i.e. a joint development of locally adapted solutions
- Interlocking of bottom-up and top-down approaches, i.e. on the basis of good practices at grassroot-level, policy recommendations are formulated and passed on to the central level to achieve greater impact

The following highlighted selected scenarios provide ideas for transfer to other contexts.

SCENARIO 0 – BUILDING BRIDGES BETWEEN BUSINESSES AND SCHOOLS

Scenario 0 is the basis for all industrial clusters and skills development models and outlines the steps that are taken at the beginning of any cooperation. The starting point is often when an industry association or chamber expresses interest in supporting its member companies in the design and implementation of vocational training programs. The sector and region for project activity is then selected according to the demand for skilled labor of the member companies. Once the industrial sector to engage with is determined, an analysis of the companies in the sector and the existing business association structures is undertaken. This includes an examination of the specific challenges the sector is facing in the region. Subsequently, IGVET supports the private sector companies in conducting a training needs analysis (soft and hard skills). IGVET searches for a suitable training program out of the 148 designated trades that are set by the government and that are trained at the ITIs. When a match if found between the identified skills needs and an existing training program, IGVET establishes a link between schools and businesses, and provides support in enriching the (rather theoretical) training of the ITIs with practical training elements. Often, additional sponsorship can be obtained through the DST or NAPS schemes. In these cases, IGVET assists companies in applying for these schemes and in the initiation of MoUs between companies and schools. If the need for practical training cannot be met by existing training programs, IGVET supports the development of new training courses, modules or other skills development models, as illustrated in the following scenarios.

[44] GIZ Cluster-Based Approach Brochure, A Working Book on Capacity Building Approaches in India (giz.de)

SCENARIO 1 – CREATING A NEW TRAINING PROGRAM

The "uPVC Window and Door Manufacturers' Association" (UWDMA) in Bhiwadi needs specially trained professionals for the production of uPVC windows and doors–skills that are not taught via the normal curriculum. UWDMA signed a MoU with the Rajasthan state government and established a basic training center at an ITI in Bhiwadi. UWDMA then addressed the shortage of skilled workers in the uPVC industry by developing and launching a tailor-made, two-year apprenticeship course with the input of its members. A key milestone in this initiative was the training of in-company trainers (see Annex 1: Knowledge Products). The strong participation of the industry in the development and implementation process is an innovative mechanism. IGVET promotes this innovation by appropriately documenting and shaping the new training program and submitting it to the national level. It is now recognized as an optional trade and integrated into the national skills development system, providing the graduates with a certificate that is equivalent to those of the designated trades.

SCENARIO 2 – DEVELOPMENT OF FURTHER TRAINING PROGRAM IN GREEN SKILLS

In Pune, IGVET cooperates with the Maharashtra Solar Manufacturers Association (MASMA). MASMA represents more than 300 SMEs in the region and helps its members keep up with the latest technological developments and innovations, and to update their employees' knowledge and practical skills accordingly. MASMA partnered with a certified training provider, the Gujarat Energy Research and Management Institute, to develop a further training program on safety and quality aspects in the installation and maintenance of rooftop solar photovoltaic systems. Upon completion of the course, the trainees undergo an assessment under the RPL modality and successful participants receive an official certificate from the Sector Skill Council for Green Jobs. This skill development model is particularly interesting for any new emerging technologies and innovations.

2.7.3 MAIN FINDINGS

- Five key outcomes contribute to the success of the innovative cluster approach model:
  - New partnerships are established between industry clusters, ITIs and other training partners
  - Businesses actively contribute to the design and implementation of skills development programs
  - Both ITI instructors and in-company trainers receive further training and up-skilling
  - Youth participate in career guidance and counselling sessions
  - Youth gain access to improved skill development programs
- All newly developed cooperative training programs receive official certification. The application of the cluster model thus promotes the development of several key features of cooperative TVET at the same time. Essential prerequisites for the cluster approach to work are the interest of companies in meeting their skilled labor needs and the spatial proximity between training companies, ITIs and the trainees' hometowns.
- Favorable economic framework conditions are important. IGVET, therefore, works with the organized economy as only formal businesses can avail the support mechanisms and benefits of the skill development schemes to be integrated into the formal skill development system. This also applies to MSMEs as members of an association, as this reduces the financial and administrative burden and ensures long-term commitment.
- MSMEs in particular have limited resources for cooperative TVET. Working with TVET schools to design cooperative curricula, mobilizing and placing apprentices, formally registering trainees and concluding contracts etc. requires time and human resources. IGVET, therefore, works primarily with chambers and business associations. Appointing designated training/apprenticeship advisors at chambers or associations has proven to be a useful approach to assist MSMEs in meeting the organizational requirements of cooperative TVET.
- There is no 'one size fits all' approach. Skills development models are tailored to the regional context; however, the approach of how to involve the industry in cooperative TVET can be taken as a starting point for scaling up in other contexts, (provided that first the necessary analysis steps are made as described in scenario 0).
- Aiming at achieving gender equality in cooperative TVET is an ambitious goal and therefore it is a necessity to consider the socio-cultural context. With the cultural norms being very rigid in India, the introduction of gender-transformative approaches requires a longer-term commitment to bring about a change of mindset, if this is at all possible (and desired) in the particular cultural context.
- IGVET not only produces success stories at micro and meso level, but also has an impact at macro level. The recommendations developed from best practices of the industry clusters are taken up at national level and are integrated into the national skills development system.
- Awareness raising on cooperative TVET. The reputation of cooperative TVET in India is not a big challenge, it is more about reaching a common understanding on how practical training should be done, e.g. that the trainees themselves carry out practical steps on machines and not just watch the instructor.
- The proven bottom-up approach follows the following steps: analyze the skills gaps and challenges in the respective sector and region; derive the training needs and most appropriate form of cooperation between the relevant actors; raise awareness about the available support mechanisms; build on existing skills programs or create new ones according to the needs; and build the capacity of the actors to implement these programs.

2.8 PAKISTAN – BIG SCALE TVET SYSTEM REFORM

2.8.1 PROJECT DESCRIPTION

TITLE	SUPPORTING THE TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SECTOR IN PAKISTAN
Commissioned by	European Union in Pakistan, German Federal Ministry for Economic Cooperation and Development (BMZ), Royal Norwegian Embassy in Pakistan
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Leading executing agency	National Vocational & Technical Training Commission (NAVTTC), Pakistan
Project area	Punjab, Sindh, Khyber Pakhtunkhwa, Balochistan, Federally Administered Tribal Area, Azad Jammu & Kashmir, Gilgit Baltistan, Islamabad Capital Territory (ICT)
Overall term	01/2017 – 12/2022 (2nd. Phase, (2011 – 2016 1. phase, 2023 – 2025 3. phase)
Financial volume	USD 66,771,000[45] (67,5 million Euro as budget for the 2nd phase)

\ CONTEXT

The Supporting the Technical and Vocational Education and Training Sector in Pakistan (TVETSSP) program in Pakistan started in 2011. In Pakistan, skills gaps in energy, agriculture, human capital and other sectors persist as the formal TVET system is not yet able to produce the number of skilled people needed. To date, many young people still use the traditional *ustad-shagrid* (master-apprentice) system, which is an informal vocational training. *Ustad-shagrid* is still the most important pillar of vocational training in Pakistan in quantitative terms and completely unregulated, i.e., there are no entry requirements, no regulations on the duration of training and no specifications on course content. All training-related decisions are made by the company owner. The mismatch between demand and supply persists. Supported by TVETSSP, the Government of Pakistan embarked upon a comprehensive reform to improve the access, quality, equity and relevance of TVET. Building upon the achievements of the first phase (e.g., national skills strategy, national TVET policy, national vocational qualifications framework, introduction of Competency Based Training & Assessment), TVETSSP continues to cooperate with its main partner, the National Vocational & Technical Training Commission (NAVTTC). During both phases of the program, the TVET Sector Support Program is implemented in seven geographical areas in Pakistan: Punjab, Sindh, Khyber Pakhtunkhwa (KP), Balochistan, Azad Jammu & Kashmir (AJK) and Gilgit Baltistan (GB) and Islamabad Capital Territory (ICT).

\ OBJECTIVE

The TVET Sector Support Program (TVETSSP) aims at improving the governance and industry participation in TVET, while increasing access to demand-driven quality skills development.[46]

\ APPROACH AND AREAS OF INTERVENTION

The private sector engagement strategy developed by TVETSSP concentrates on increasing the participation of private sector bodies in TVET decision-making by involving Business and Industry Associations (BIAs) and chambers. The structure for the increased involvement of the industry are newly established national and provincial skills forums. Representatives from public and private sectors are members of the skills forums. Joint ventures between TVET providers and engaged BIAs are facilitated by the program. Some of the main achievements are: the introduction of competency-based curricula to allow for flexible, demand-driven and high quality TVET offers; the development of a legislation allowing the systematic integration of the industry in TVET; and the creation of structures on the national, regional and district level for involving the industry in a systematic way.

[45] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

[46] TVETSSP webpage, https://tvetreform.org.pk

\ INDUSTRY ENGAGEMENT

The involvement of the industry in Pakistan's TVET system takes place on the macro, meso and micro level:

- National level: National Skills Forum, policy dialogue, standardization
- Regional level: Regional Coordination with TVET service providers, Business & Industrial Associations and Sector Skills Councils
- Local level: Implementation of workplace-based training, representation of employers in the Institute Management Committees and the District Boards of Management

At the national level, the National Skills Forum serves as a platform for the formal dialog and the cooperation between public TVET and the industry, represented by the Federation of Pakistan Chambers of Commerce and the Industry. It is an institutionalized way for organizing systematic and consistent cooperation between the public and the private sector. The National Skills Forum sets priorities and an agenda for TVET based on best practice examples and the data received from the National Skills Information System. Its main function is the coordination of TVET on the national level. The National Skills Forum is responsible for long-term planning, funds management and quality assurance on the national level. The National Skills Forum facilitates the industry-led Sector Skill Councils which are defining occupational and competency standards, and guiding curricula development and assessment.

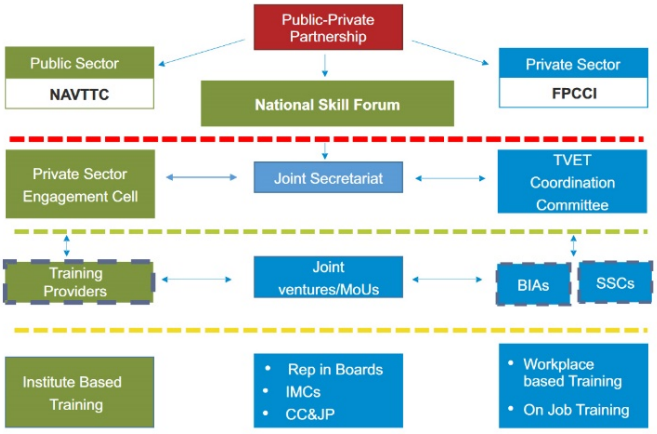

Figure 8: Cooperation of public and private sector

At the regional level, the cooperation between Sector Skill Councils, BIAs and TVET service providers is the key process put into practice through the organization of regular provincial forums. In the forums, the industry can express its interests and best practices are discussed, and formal agreements between TVET and the industry are prepared. Implementation is facilitated by the joint secretariat of the provincial forum.

At the local level, the adaptation of the guidelines and frameworks for local skills demand is being addressed. TVET institutes and local businesses cooperate in Institute Management Committees (IMC) or District Boards of Management (D-BoM) to use the available resources. The main task at the local level is the planning and implementation of workplace-based training courses as well as career guidance and job placements.

2.8.2 KEY LEVERS OF CHANGE

KEY LEVER 1 – COOPERATING WITH BUSINESS AND INDUSTRY ASSOCIATIONS

The Business and Industry Associations (BIAs) in Pakistan are defined by TVETSSP as key actors for the involvement of the industry in TVET. The BIAs are strengthened through capacity building to support different types of industry engagement by their members. They play an active role in involving their members in TVET-industry decision making processes and act as partners in long-term mutual endeavors. The BIAs act as mediators: on the one hand expressing the needs of the labor market towards policy makers, and on the other hand informing the industry about recent policy issues and interpreting for them the implications on the sector. Moreover, they serve as a focal point for employers searching for advice or information on matters relating to skills development. The BIAs involve the industry in the development of demand-driven TVET offers. They contribute to the contents but also to the size, the duration, the professional presentation and the price of the offers, to create attractive offers meeting the needs of the industry as well as the trainees. The" *Handbook for Business and Industry Associations to Promote TVET"* gives further information.[47]

Such successful examples have an impact. When representatives of companies explain to other companies how the cooperation with TVET has helped them to upskill employees, to improve the quality of products through training and to boost productivity and profitability, it is more convincing than hearing about it from projects. In this way, the communication between peers is a key element in creating awareness for the potential of the cooperation between TVET and industry.

[47] https://tvetreform.org.pk/wp-content/uploads/downloads/Reports%20and%20Publications/Handbook%20for%20Business%20and%20Industry%20Associations%20to%20promote%20TVET.pdf

KEY LEVER 2 – COORDINATING ON THE JOB TRAINING

The reform of TVET in Pakistan aims at creating a linkage between the training in public TVET institutions and companies by increasing and improving work-based training. The main objective is to actively involve trainees in the working process, give them insight in the organization and operation of the industry and to equip the trainees with soft skills and knowledge about occupational health and safety standards.

The TVET reform process supported by TVETSSP foresees work-based training as vocational training, conducted in the workplace as part of the productive work of a trainee, to assure the practical learning and experience of a real working environment in TVET.

The National TVET Policy and the National Vocational Qualification Framework are the base for the TVET sector reform in Pakistan. They define Competency-Based Training and Assessment (CBT&A) as key element to be delivered either in the TVET institutes or through work-based training. CBT&A has been introduced in the first phase of TVETSSP. It promotes flexibility allowing for individualization and diversification of learning pathways. CBT&A is the frame for strengthening and integrating on the-job training in formal TVET. The coordination of work-based-training is the responsibility of training institutes in cooperation with companies. The TVET institutes have the responsibility to identify opportunities in the companies. The trainees can also search for a place in a company. The companies have no obligation to participate or to employ the trainees afterwards and participation is voluntary. The TVET institutes check if the company has the necessary range of work, equipment, and facilities. The core of the cooperation between the TVET institutes and the companies is the training needs assessment. Based on the needs the TVET institute and the company either a full or a part qualification from the National Vocational Qualification Framework can be selected or alternatively a proposal can be submitted to the relevant business and industry association, Sector Skill Council or NAVTTC for a new qualification. The provincial Technical Education and Vocational Training Authorities needs to be advised on any matter affecting the successful completion of training once the trainees have met all assessment requirements and are eligible for receiving a qualification. The advantage of on-the-job training is that there is a direct relationship between the company and the trainee. It is an opportunity for the trainees to acquire practice-oriented skills and work attitudes increasing their employability and it helps the companies as they get to know potential future employees. The handbook "Linking Training in Institutes with the Workplace" is available for download and provides details on the elaboration of the training plan, the sequences of training, roles and responsibilities, assessment, and the management and financing of work-based training.[48],[49]

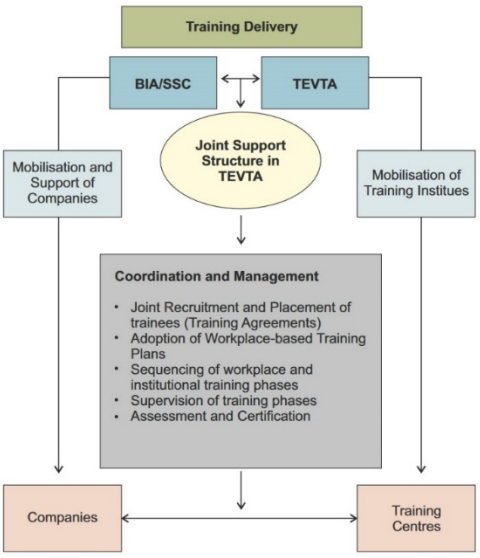

Figure 9: Joint training delivery

2.8.3 MAIN FINDINGS

- The TVETSSP program is highly regarded by Pakistani partners and has had a significant impact on TVET reform in the country. The reasons for this are among others the long duration and the high budget of the program.
- Working in seven regions/provinces with close contact to regional partners enables a fast reaction and adaptation of the TVET offer to the demand of the industry.
- Awareness raising is enhanced through the usage of a communication and visibility guideline for corporate design, increasing the recognition and value of TVETSSP. In addition to the regular information of the press and an updated webpage, it is advisable to use also case studies of successful participants. The case studies in written and video format are used during events to inspire, inform and motivate other potential participants and partners, and to encourage them to engage in cooperative TVET.
- Materials, manuals and documents have been developed in close cooperation with the partners both from TVET and the industry offering pragmatic, step-by-step guides for implementation.
- Sustainability is reached by introducing a systemic approach. A reformed TVET system is being built, with regular industry involvement, which is based on legal regulations and clearly defined roles and responsibilities.
- The reform of TVET is based on a change of the mindset as all partners need to understand and support the involvement of the private sector in TVET. Trust on both sides is required and is a process that has not been easy and is ongoing. In this process, visionary role models help through peer-to-peer learning.

[48] https://tvetreform.org.pk/wp-content/uploads/downloads/Reports%20and%20Publications/Linking%20Training%20in%20Institutes%20with%20the%20Workplace.pdf

[49] https://tvetreform.org.pk/workplace-based-training-documents/

2.9 KOSOVO – TRIPARTITE PARTNERSHIP TO INCREASE RELEVANCE OF TVET

2.9.1 PROJECT DESCRIPTION

TITLE	ALIGNING EDUCATION AND TRAINING WITH MARKET NEEDS – ALLED2
Commissioned by	EU / co-funded by Austrian Development Agency (ADA)
Implementing organization	ADA
Leading executing agency	Ministry of Education, Science, Technology and Innovation (MESTI); Employment Agency of the Republic of Kosovo (EARK)
Project area	Country-wide
Overall term	03/2019 – 08/2023
Financial volume	EU: USD 3,762,06550 ADA: USD 693,012

\ CONTEXT

Kosovo is facing a huge gap between labor market needs and the knowledge and skills imparted at the higher and vocational levels of education and training. 25% of Kosovo's enterprises complain that 25% of the workforce do not have the competences that the particular industry requires.

The history of TVET in Kosovo is relatively short and its structured development only started after the country gained independence in 2008. The Government of Kosovo has declared TVET as a high-level priority, and several TVET approaches and concepts including dual TVET are being developed and tested with the support of development partners. As part of these reform efforts to make TVET more demand-oriented, the government has launched an initiative to develop financial and non-financial incentives for MSMEs to cooperate with TVET schools. Due to the structure of the economy–consisting primarily of SMEs, which is associated with a low absorption capacity of businesses–the dual TVET concept cannot be simply adopted but needs to be modified to allow companies to take over more responsibilities in TVET, despite their small size.

The second phase of the program called Aligning Education and Training with Market Needs (ALLED2) has been set up to support the Ministry of Education, Science, Technology and Innovation (MESTI) in reforming the education and training system by connecting it with labor market needs reflecting the European Framework of Key Competences.

\ OBJECTIVE

- Overall objective: Reduce poverty through increased labor market participation and improved employability.
- Specific objective: Strengthen the quality and relevance of training programs for the labor market and: support the adaptation of the legislative framework and mechanisms as a precondition for increased employability.

Four specific purposes of ALLED2 have been formulated to (i) strengthen the link between higher education (HE) and labor market needs; (ii) improve teacher training program;, (iii) enhance the quality of practical and applied teaching and learning in TVET schools and vocational training centers (VTCs) in core occupational sectors, including career guidance and counselling; and (iv) enable a better understanding of international qualifications and further develop and modernize Kosovo's framework for professional qualifications.

\ APPROACH AND AREAS OF INTERVENTION

Building on the results and lessons learnt of ALLED1, the approach of ALLED2 is to move from a project-driven approach to supporting process-embedded developments in TVET, and linking these with the policy level. In terms of economic sectors, ALLED2 focuses on the upgrading of TVET programs in agriculture, food processing, manufacturing, and energy and electricity supply. Protecting the environment, gender mainstreaming and social inclusion are principles applied across all project activities.

ALLED2 aims to achieve its results through activities in four areas of intervention:

- Education: Strengthen the linkage and adaptation of higher education and TVET to the needs of the labor market by creating a structure for cooperation and providing support to its practical implementation.
- Quality assurance: Improve quality assurance mechanisms in the education and training system as a prerequisite for increasing the relevance of education and training programs and thus improved employability.

[50] Exchange rate of November 2, 2022, 1 EUR = USD 0.9892

- Smart governance: Support structured collaboration between MESTI and the Ministry of Labor and Social Welfare (MLSW) by facilitating the development of a Labor Market Information System (LMIS) that integrates data from education and employment information systems.
- World of business: Develop and implement concrete cooperation models and measures between education, training, and private sector actors with systemic effects. This includes the capacity development of human resources in the education and employment services, as well as in the private sector of Kosovo.

2.9.2 KEY LEVERS OF CHANGE

TRIPLE HELIX CLUSTER HUB – COOPERATION BETWEEN PUBLIC SECTOR, ACADEMIA AND INDUSTRY

ALLED2 follows a new structured approach to creating an education system that responds to labor market needs by bringing together the education sector and the industry, and by developing specific cooperation models, highlighting innovation as a driving force in aligning education with labor market needs. Specifically, ALLED2 is supporting an innovative approach which is based on the so-called "triple helix principle" – a structured dialog and cooperation between the public sector, academia and industry.

The Kosovo of Chamber of Commerce (KCC), the University of Pristina (UP) and the City of Pristina have jointly founded a new institution aiming at improving the quality of TVET. Each of the three entities is pursuing individual goals: the university's mission statement includes contributing to TVET quality; the chamber's goals are to increase the relevancy of qualifications and to advocate for an entrepreneurial mind-set; and the City of Pristina is interested in smart governance reality and approaches. This triple institution – the UP Cluster Hub (UPCO) - is now registered as a non-for-profit organization in the Kosovo administration and is eligible to apply for EU programs and funds such as Horizon, European Council, etc. UPCO is an innovation in the Kosovan administration and is supposed to create capacity for strategic thinking. The first UPCO board meeting took place in June 2022, implementation of joint activities is about to start.

It was a long process that led to the establishment of this new type of legal authority which was reinforced by the ALLED2-supported study *Towards Industry 4.0 Kosovo* (March 2022). The study is the result of a comprehensive consultation process where the development of the UPCO is presented through all phases, from concept-design to its institutionalization. An applicable cluster/hub model was developed based on the enabling legislative and strategic framework and on the existing capacities of the UP. The model was broadly discussed and a consensus was reached, with two implementation scenarios proposed. The chosen model is in line with international good practices for clusters/hubs with defined roles, responsibilities and operational procedures. This structured collaboration in the form of UPCO is a step towards smart specialization as it recognizes the crucial role of cities working hand in hand with universities and the private sector to develop smart cities and societies. UPCO is also a strong element supporting Kosovo's EU integration agenda.

From the beginning of UPCO's establishment process, all three partners have shown a commitment to collaboration and the positive effects of the strategic tripartite partnership have already been felt throughout the process of its creation. All partners from the academic world, the public sector and the industry consider their merger as a prerequisite for the successful provision of both quality education and TVET, and the promotion of an entrepreneurial eco-system in Kosovo, thus contributing to economic growth and the sustainable development of society as a whole. It is evident that the partnership has great potential in terms of: (i) improving the quality of TVET, including through the transfer of knowledge on the latest technological developments from higher education to TVET: (ii) helping to change the mindset of universities towards a stronger focus on business and entrepreneurship: and (iii) improving the reputation and recognition of TVET overall.

DEVELOPMENT OF TVET CURRICULA WITHIN AN EU ACCEPTED FRAMEWORK

For Kosovo–a relatively small country in the process of preparing for EU accession– the alignment of policies and activities with relevant EU-wide frameworks constitutes a driving force for development. Currently, various efforts are being made to make TVET curricula more demand-oriented. For example, GIZ is promoting the national TVET curriculum development framework and ALLED2 is providing inputs to these efforts. It is important to have an umbrella for curriculum development that defines the core. ALLED2's contribution to national TVET curriculum development is through the inclusion of European key competences as specified in the EU Entrepreneurship Competence Framework (EntreComp)[51] and GreenComp, EU's reference framework for sustainability competences. To support a wider understanding of entrepreneurship as a key competence, the EntreComp Framework has been launched in Kosovo by translating it into the Albanian and Serbian languages, making it accessible to the wider

[51] http://alled.eu/wp-content/uploads/2021/07/lfna27939enn-3.pdf; Serbian and Albanian version of EntreComp: http://alled.eu/wp-content/uploads/2021/06/EntreComp-SRB_Final.pdf; JRC Publications Repository - EntreComp: The Entrepreneurship Competence Framework. (europa.eu)

public. EntreComp is driving change as it informs the curriculum review process, and the new TVET curriculum will include entrepreneurship as a mandatory module[52].

INTEREST AND WIDESPREAD INVOLVEMENT OF THE PRIVATE SECTOR

A key driving force for ALLED2 is the comprehensive inclusion of the industry in all spheres of the project. Businesses are represented in every result area and all 160 activities of the project, independent of the respective intervention area. In principle, businesses in Kosovo are willing to cooperate, especially with regard to the latest trends in migration (including legal labor migration), which means that businesses understand that they need to think more about how to retain their workforce. Through ALLED2, businesses receive support and guidance how they can better contribute to tailoring TVET provision to their needs, how to formulate their needs, and how to apply for government support. Another recent achievement supported by ALLED2 is the development and launching (26 September 2022) of the Medium-Term Strategic Document and Action Plan which puts the cooperation of businesses and the education sector on a more structured and solid footing. KCC acts as the key facilitator to establish this strategic collaboration, which focuses on strengthening TVET as one of the most important contributors to Kosovo's economy.

ALLED2 PROMOTING DIGITALIZATION AND SMART GOVERNANCE

ALLED2 is encouraging the development and application of smart intelligence systems to promote evidence-based policy making–an important pre-condition for an effective and future-oriented TVET system. A good example is the set of three statistical barometers that strengthen the skills agenda and establish a Kosovo framework approach to skills intelligence. (The two barometers are presented as Knowledge Products in the report annex).

Another digital tool is using the proposed funding formula to improve financial planning for the TVET system.[53] The formula is customized to the specific needs of the TVET system in Kosovo and addresses main challenges faced by TVET schools in terms of funding. The formula considers all TVET school profiles, recognizes their differences in terms of the required teaching and learning resources and materials, and can generate the training cost, per profile or trainee. Moreover, the financial planning application can easily be modified and applied to other levels of education and training. The financial formula concept it is now with the government for debate and approval and will be institutionalized through the Ministry of Education. The study underpinning the development of the financing formula takes into account the new conditions caused by COVID-19, (requiring increasingly digital activities at TVET schools and enterprises), and the Industry 4.0 technological trends, (promoting augmented reality). The digital tools developed by ALLED2 contribute to the rollout of digital (government) services.

2.9.3 MAIN FINDINGS

- Considering the economic framework conditions for designing skills development models, not all TVET modalities based on dual TVET approaches from Germany or Austria will function in countries like Kosovo. Kosovo has a small geographic size and small population (1.8 million), only 76 TVET schools, and an economy composed of 99% SMEs, (of which 35% are micro and small enterprises with up to 10 employees).
- Even if the industry has a strong interest in making TVET more relevant to labor market needs and is relatively well structured in the form of chambers and associations, it needs ongoing support to overcome barriers to participation. Creating an enabling environment for companies to engage in TVET is therefore key, especially in countries like Kosovo with a predominantly SME-driven economy. Strengthening the role of chambers to represent SMEs is one aspect, establishing a mentoring scheme for the companies another. Bridging the gap between the worlds of education and business by means of "ambassadors" is another good example, e.g. senior entrepreneurs acting as mentors for start-ups.
- Embarking on digital developments in TVET in particular (and in smart governance in general), depends on the readiness of the population. In Kosovo, the inhibition threshold for digitization is low, which can be attributed to its young population and the recent history of the country. During the war, people were forced to use digital tools to socialize and communicate, e.g., Facebook is the most-used digital tool across all age groups.
- Preparations for EU accession cover all areas of Kosovo's economy, society and public administration, including the improvement of TVET provision to better match labor market needs and promote employment. Operating within an overarching, generally accepted and standardized framework that goes beyond that of the country, contributes significantly to a clearer formulation of specific goals and design of corresponding activities, as well as to an increase in the general acceptance of the desired goals and activities. Specific reference is made to the alignment of the Kosovo TVET Curriculum Framework with the EU EntreComp Framework.

[52] This achievement has been highlighted in the recently published OECD/EC SME Policy Index Assessment for Western Balkans and Turkey 2022, https://www.oecd.org/publications/sme-policy-index-western-balkans-and-turkey-2019-g2g9fa9a-en.htm

[53] See Financial Planning for VET System in Kosovo – Proposal for Improvement (2020), Financial-Planning-Final-3.pdf (alled.eu), and PlanVET – Financial planning application, http://planifikovet.alled.eu/

2.10 BOLIVIA – BRINGING TVET CLOSER TO THE PRODUCTIVE SECTOR

2.10.1 PROJECT DESCRIPTION

TITLE	TECHNICAL VOCATIONAL TRAINING (FORMACIÓN TÉCNICA PROFESIONAL – FTP)
Commissioned by	Swiss Agency for Development and Cooperation (SDC)
Implementing organization	Consortium Swisscontact - FAUTAPO
Political partner	Ministry of Education
Lead executing agency	Consortium CEMSE (Educational Multiservice Center) – CEE (Episcopal Commission for Education) FAUTAPO
Project area	Bolivia
Overall term	05/2018 – 11/2023
Financial volume	18 million USD

\ CONTEXT

Though the Human Development Index (HDI) of the Plurinational State of Bolivia has constantly improved in recent years, in 2019 it is only ranked 107 out of 191 nations. Despite its rich natural gas reserves, according to World Bank data, Bolivia remains the poorest state in South America with a GDP per capita of USD 3,414.9 in 2021, that is significantly below that of the neighboring countries.

The country is characterized by a high proportion of informal labor and a low level of entrepreneurship. There are scarce linkages between the world of education and the world of work. The COVID-19 pandemic revealed not only the country's limited capacity to deal with the health crisis, but also its inability to address the effects of the crisis in various areas, including the functioning of the economy. This is reflected by: the contraction of the economy of over 8% in 2020[54]; the increase in unemployment (from 5% in 2015 to 8% in 2020); the rise of jobs in the informal sector (from 72% in 2016 to 75% in 2020); and the reduction in working hours per week (from more than 45 in 2015 to less than 40 in 2020). While the declines affected all groups, the gaps faced by youth and women across all labor indicators make them particularly vulnerable populations. In the period of April to June 2020, the labor participation rate for women reached 53.3% compared to 69.4% for men. 48% of individuals aged 25 and above have not completed upper secondary education. This leads to low productivity levels and low wages. Promoting the development of skills among youth and adults is therefore a lever to reduce poverty by thus improving their employment or self-employment opportunities and, consequently, increase their economic income.

\ OBJECTIVE

The aim of the SDC project is to contribute to greater economic and social justice and improve access to employment for the population vulnerable to poverty by promoting sectors with productive potential through technical vocational training. The project targets the labor market integration of young people between the ages of 15 and 24. A special focus is the development of employability through vocational training programs at technical vocational schools and other training centers within the framework of the public education policy.

\ APPROACH

The SDC project works with 40 Technological Technical Institutes (ITT, Spanish acronym), 29 Alternative Education Centers (CEA, Spanish acronym) and 3 Special Education Centers (CEE, Spanish acronym), located in 43 municipalities. The ITT address young people who are over 18 years old and have a high school diploma. Graduates of the ITT obtain a title as "higher technician". CEAs target young people older than 15 years and offer training courses that end with the graduation as “basic, assistant”, or “medium technician”. Additionally, the CEAs offer courses for adults who want to upgrade and formalize their knowledge and skills. The CEEs serve young people from 15 years of age and adults with disabilities. The SDC project supports a total of 72 training centers in the following four dimensions:

- Technical-pedagogical capacities
- Linkage to the productive, labor and self-employment sectors

[54] National Institute for Statistics - INE, 2021

- Institutional management
- Infrastructure and equipment

The project promotes effective mechanisms for internships and enhances job placement. Training centers received new equipment for digital learning and the update of technical workshops with machines and systems relevant to industry. Young people and adults are guided with information on the educational offers available in the country and other associated services such as financing, job placement and encouraging entrepreneurship.

The exchange of lessons learnt is nurtured to improve processes and quality of technical vocational training. In the three CEEs, models for the labor market integration of people with disabilities are being developed for evaluation. The results are presented to the Ministry of Education for scaling up. In Bolivia, the labor insertion of people with disabilities is particularly difficult since there are no statutory incentives such as tax discounts.

2.10.1 KEY LEVERS OF CHANGE

The following key levers of change are important to reach the project objectives and to create impact.

SECTORAL ROUNDTABLES

To link the training centers with private and public actors of the productive sector, multi-stakeholder roundtables for different business sectors are introduced. Their main objective is to align the curricula of technical vocational training with the demands of the labor market. In joint workshops, shortcomings of the vocational training offers are identified to strengthen the country's vocational and technological training. The workshops also aim to identify educational processes relevant to the reality of the business community and the national productive context. The information and expectations regarding the competences of future professionals are gathered from technical and managerial staff of the business sector and taken as input to update and modernize the corresponding curricula. Once the curricular adjustments are formulated, the capacity of academic staff to implement these improvements are strengthened through technical and didactic training, updating their knowledge and skills and encouraging them to incorporate innovative methodological strategies in their work with trainees.

EMPLOYMENT AND ENTREPRENEURSHIP SERVICE

Surveys in the field of vocational education in Bolivia show that there is a bottleneck in the integration of vocational training graduates into the labor market. Consequently, it is not only necessary to align training programs with the labor market demand, but also to work on creating opportunities for graduates to attend internships and gain professional experience that will guide the development of their skills and life plans. In one regional component of the project, offices for Employment and Entrepreneurship Service (SILE, Spanish acronym) were established as a pilot project in 23 training centers. The SILE offices link the technical training of trainees with internships, follow-up on work experience and guidance on possible self-employment initiatives. They form part of the administrative structures of the vocational training centers and are staffed by administrative or academic personnel who assume this task in addition to their main duties. Since they do not receive any extra payment or extra hours for their work, the project – in dialog with the education authorities on regional and national level – is looking for solutions to operate the SILE offices in a sustainable way. In some centers, trainees who are in their final year of school volunteer and support the work in the SILE office. The main tasks of a SILE office are:

1. Keep the school management information system updated with the trainees' data.
2. Sign agreements with companies for internships during the last year of technical vocational training. On average, the practical experience comprises 380 hours.
3. Register the demand of the labor market.
4. Guide the trainees in possible self-employment initiatives.

It is the first time that vocational training centers assume the responsibility to place their trainees in a job or to enable entrepreneurship. To this end, the training of soft skills, e.g., job interview training, has been added to the curricula of TVET programs. The SILE offices function especially well in small villages in rural areas. There, a trustful cooperation with local producer associations and cooperatives is more likely. In the bigger cities the distance to industry is greater and collaboration more difficult.

DIALOG FORUMS

Dialog forums promote the insertion of the training centers in the community. They are spaces of networking between different actors from the educational, social, productive, and business sectors, and also NGOs, e.g., against violence, cooperatives, and companies. The objective is to better understand the social and economic environment and work with the community, raise awareness, open doors, generate transparency on offers and demands of the community, insert technical vocational training in this system, create information flows and synergies, and last but not least to improve the image of vocational technical training.

GENDER EQUALITY STRATEGY

The project focuses on gender equality as a cross-cutting topic in all areas of work and intervention strategies, considering it both a prerequisite for development and a fundamental issue of human rights and social justice. The gender equality strategy not only addresses the evident factors that generate exclusion and inequality but also seeks to identify and act on the inequalities that are rooted in symbolic and institutional processes and practices that systematically put women at a disadvantage compared to others.

Figure 10: Producing cheese in Viacha

The gender equality strategy is a reference for the definition of actions agreed with the co-executing entities contributing to:

- The promotion of women's economic autonomy
- Specific interventions aimed at guaranteeing access, permanence, completion of studies for women in technical training
- Measures to protect women's autonomous decision to be trained in technical careers
- Measures to promote the participation of women in so-called "male" careers

The gender equality strategy has proven to work successfully. By June 2022, 34% of women involved in the project managed to increase their employment income after the training they have received, 61% of women who were not employed/self-employed before the training obtained paid (self-) employment. The participation of women in the total number of trainees and in the total number of graduates exceeded the target set at the beginning of the project (50%), reaching 57% and 56%, respectively. There was also an increase of 24% in the number of women participating in traditionally “male” careers, an increase that exceeds the original target of 10%.

2.10.2 MAIN FINDINGS

As Bolivia is characterized by strong social and economic inequalities, the primary strategic goal of the project is to contribute to greater economic and social justice. Starting from a TVET system that is school-based and not guided by demand, the project pursues a careful and participatory approach to building bridges between the worlds of work and education. Applying a systemic approach, the project addresses the micro, macro and meso level. Models like the SILE office work on the micro level, sectoral roundtables and dialog forums focus the meso level. The sectoral roundtables promote the continuous dialog between vocational training centers, companies, and the national and local economic context. By aligning the vocational training with the demands of industry, the multi-actor roundtables contribute to productivity and employability. The dialog forums help to generate awareness of the technical vocational training offer and to improve the image of TVET. On the macro level, the project advises the Ministry of Education.

To update the technical standard of the training centers, the project financed equipment for digital learning and the modernization of workshops. This explains the relatively high financial volume of the project. In a one-year project prolongation, the project will contribute to renewing the ministry's legislation to ensure sustainability. This mainly concerns the regular updating of curricula, the regulation of workplace learning and the work of the SILE offices.

The demand for TVET in Bolivia is weak in comparison to general school and higher education. One major challenge is to increase the attractiveness of vocational education. Through the dialog forums and the innovation catalog the project has found new ways to market TVET and enhance its image (see Annex, Knowledge Products).

Regarding gender equality, the project successfully fostered a transformative strategy addressing social norms and structural barriers. The strategy of the project can be applied to countries or regions that are primarily dominated by rural structures with a low grade of industrialization, however it must be taken into account that a high financial engagement is needed as the partner structures are relatively weak and not very powerful.

Since the project does not have strong partners who could act as agents of change and guarantors of sustainability, the project acting as a driver for many initiatives needs to pay special attention to promote the sustainability of instruments and processes installed. In many situations and contexts, the Ministry of Education is not a reliable partner as political changes often lead to disruptions in education policy and, in addition, the budget for education is frequently the first casualty of budgetary stringency.

2.11 BRAZIL – FUTURE PROFESSIONALS

2.11.1 PROJECT DESCRIPTION

TITLE	PROMOTING TVET FOR GREEN ECONOMIC DEVELOPMENT
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Implementing organization	GIZ
Implementing partners	Ministry of Education (MEC, Spanish acronym), Ministry of Labor and Welfare (MTP, Spanish acronym), National Service of Industrial Training (SENAI), Federal Institutes (IF), Universities, Business associations and companies
Project area	Brazil
Overall term	01/2022 – 12/2024
Financial volume	5.8 million USD55

\ CONTEXT

Brazil is the largest economy in Latin America and hosts 20% of the planet's biodiversity, contributing to the enormous potential to create new products and production methods, e.g. in the pharmaceutical, chemical, cosmetic, fabric, fiberglass sectors. This makes Brazil one of the leading players in the bio-economy. Focusing on renewable energies will create a local demand for green jobs and expertise. Research estimates that tens of thousands of new jobs can be created in these sectors in the coming years.

The number of Brazilians enrolled in TVET represents only 8% of the students today, a rate that is 46% in the European Union and 40% in the countries that make up the Organization for Economic Cooperation and Development (OECD) (Barbosa 2022). TVET has the potential to increase enrollment in professional and technological sectors by up to 80%, from the current 1.9 million to 3.4 million. With this, it will be possible to address vulnerable groups and to bring a portion of the so-called "nem-nem" (Not in Education, Employment or Training, [NEET]) into formal education and into the labor market.

Significant parts of the Brazilian professional and vocational education system are not sufficiently prepared to develop the skills needed for the country's economic, social, and environmental progress and to improve the employment prospects of large groups of society. National initiatives of the Ministries of Education and Labor seek to increase the number of places in TVET and make qualitative improvements, among other things, by orienting TVET more strongly towards the needs of industry, with a focus on future green sectors.

\ OBJECTIVE

In this context, the project's objectives are: to improve the employment prospects of TVET, as well as higher education graduates, in strategic sectors for the green economic development of the country: and meet skilled labor shortages in the green sectors of the future, e.g., energy (renewable and efficiency), bio-economy, circular economy, and digitalization. Digitalization is an important transversal issue. The aim is to build digital expertise in the three focus sectors as well as digital pedagogical competencies of teachers. The design of digital or blended training contributes to making participation more flexible in terms of space and time. This is particularly beneficial for women – who are better able to fulfill family obligations – but also for participants from rural areas and/or vulnerable groups, who thus have to spend less time and money on transportation. The aim is to train up to 14,000 people in educational partner institutions in various regions of Brazil, with 70% of these being employed after completing the course. The target group are women (20%), young people and people in vulnerable situations.

\ APPROACH

The project "Future Professionals" builds upon the results of the project, Energy Systems of the Future, and its approach to vocational education and training[56] that is defined by detecting growth sectors for green jobs in the labor market and to develop the needed expertise and skills to deliver high quality TVET in these sectors. In the

[55] Exchange rate of October 17, 2022, 1 EUR = USD 0,97206

56 Between 2016 and 2021, approximately 800 teachers and more than 7,800 technicians were trained to support the dissemination of solar and wind energy as well as to disseminate energy efficiency in the construction sector and manufacturing industry.

current project, this approach will be expanded by promoting “future professionals” in the fields of bio-economy, circular economy, and aspects of energy transition (like electro-mobility, energy storage, smart grids, etc.).

The project follows a multilevel approach broadening, at the micro level, the supply of vocational courses in subjects related to sustainability (such as new courses in bio-economy and energy transition and installation of PV systems) and introducing the subject of renewable energy in existing courses.

At the meso level, collaboration with the Federal Network of Vocational, Scientific and Technological Education Institutes (Rede IF) and the National Service for Industrial Training (SENAI) and their network of training institutions, facilitate the rollout and scaling up. With these implementing partners, the project is able to reach more than 1,000 TVET schools.

At the national level, the project addresses the ministries MEC and MTP, fostering the integration of sectoral and international approaches in the policy discussion about technological innovation and modernization in TVET in Brazil. Thus, the project triggered investments of 25 million USD in vocational schools in PV, energy efficiency and training laboratories by the Ministry of Education.

Close cooperation with German and Brazilian companies, chambers of commerce, and associations contributes to the expansion and improvement of further education and training programs in line with existing demands.

2.11.2 KEY LEVERS OF CHANGE

EFFICIENT METHODOLOGY FOR THE IMPLEMENTATION OF NEW TRAINING OFFERS

The development of new educational offers in the green sector follows the methodology shown in Figure 11. The design of new training offers is only initiated if the demand is proven by data collection and studies. Systematic sector analyses are carried out by GIZ. “Understanding the demand” also implies a strong involvement of the private sector.

Curricula and training standards are developed in workshops and skills committees by representatives of the educational sector and the respective industry. Industry is involved either via sector associations or directly through companies. Industry also participates in labor market studies, teacher training and dissemination of new courses.

Multipliers are qualified in Training of Trainers (ToT) courses in the delivery of the new subjects. In addition, they are qualified to adapt the TVET offer to the needs of the productive sector, thus contributing to the employability of the graduated professionals. The specifications for the technical equipment of training centers are formulated. The implementation is monitored and evaluated to enable improvements and transfer of best practices.

Figure 11: Design of new educational offers

COLLABORATIVE ACTION FOR WOMEN IN THE RENEWABLE ENERGY SECTOR

As seen in other technical careers, the participation of men and women in the renewable energy (RE) sector is still unequal. Only 7% of the total number of graduates in TVET courses in renewable energy at SENAI and the Federal Institutes (IF) are women. Preconceptions based on stereotypes say that women do not like the energy sector or are not sufficiently prepared for it. Sexual harassment, violence, lack of self-confidence, and difficulties to combine family life and work contribute to the low representation of women in the RE sector. The project aims to raise female participation in RE training courses by a minimum of 20%. The goal of almost tripling the number of female trainees cannot be achieved through individual measures, but only through collaborative action. To this end, Interligadas (Interconnected) was launched. It is an initiative of the Network of Women in Solar Energy (ME-Sol, Spanish acronym) and GIZ’s Project Professionals of the Future.

With women, schools, companies, and civil society organizations working in an interconnected way, regional events, conferences, and campaigns are organized to advertise career pathways for women in the field of RE. The process of change relies on actions to raise awareness, encourage, multiply, professionalize, and engage. Interligadas is, above all, a call for action of companies, schools, institutions, and professionals to make voluntary commitments for gender equality in the area of RE and to raise the participation of women in training courses and in the job market. Individuals, organizations or companies who commit themselves receive a quality seal (see Annex 1, Knowledge Product). The overall aim is to make the market for jobs in renewable energy more inclusive.

NETWORKING FOR KNOWLEDGE TRANSFER

As mentioned, the project acts as an enabler, providing international expertise and initiatives for innovation. This is accomplished via study tours and international exchange, fostering the interconnection and collaboration of universities, enterprises, and the educational sector. In addition, the project supports dialog formats and specialized technical analysis in order to incorporate international experience. Professional networks foster synergies in the exchange of experience, the multiple use of curricula, teaching materials, the scaling up of best practices, etc.

Circular economy is a topic with a high potential of demand. In Brazil, the waste sector shows low technological and systemic development. 90% of waste separation is done by 800.000 waste collectors under precarious and informal work conditions (1 million people live from recycling). Hence, Brazilian industry has shown a strong interest to learn and adapt international practices and standards in the field of circular economy. The project aims at strengthening systemic approaches (life cycle, material flows, eco-design).

For the development of the bio-economy, the focus lies on the rural areas (primarily in the Amazonas region). 77% of the farms are family businesses with high informality. The aim is to establish sustainable value chains (e.g. cocoa, açaí, Brazil nuts, fish, oils) and to promote cooperation along these value chains.

Networking with the German-Brazilian Chamber of Commerce (AHK, German acronym) in São Paulo and German member companies allows the transfer of functional experience and show cases good practices that can serve as an orientation and outline for Brazilian companies. Conversely, German companies might profit from graduates in biotechnology, recycling, renewable energies, quality, etc., but also qualified staff for value chains in medicine, cosmetics, food industry, etc.

Networking, the transfer and exchange of experiences and good practices is fostered by the use of social media.

LEVERAGING OTHER INITIATIVES

Additionally, the project can align with initiatives of the Brazilian government, adding value to the project activities. For example, an effective lever has been the program EnergIF[57] for the sector of renewable energy funded by the MEC. At the end of 2020, the MEC formalized the national EnergIF program for vocational training and applied research. The objective of EnergIF is to encourage energy efficiency actions and the generation of energy through renewable sources not only in its institutions, but also through research. Among its support aspects are the acquisition of infrastructure equipment to generate electricity from renewable sources and the implementation of courses to train professionals in the area. The MEC has already invested around 11.7 million USD in new photovoltaic systems at vocational schools and universities of applied sciences and some 486.000 USD in training workshops. In 2022, more than 9,000 training seats were offered free of charge in 85 locations.

2.11.3 MAIN FINDINGS

Brazil has a differentiated infrastructure of TVET delivery, research, and entrepreneurial activities. The MEC recognizes the importance of TVET for the country and invests in the modernization of TVET institutes. Therefore, the role of the project is primarily enabling others to perform and leverage potentials. Consequently, the project focuses its activities on studies, the transfer of international experience and knowledge as well as qualifying, multipliers and promoting networks.

Partners are involved in a participatory and coordinated manner in all steps of course development and innovation to simultaneously promote ownership and learning transfer. Cross-institutional collaboration ensures multiple use of modules and materials. Since the private sector benefits directly from the qualified personnel and new technologies, they are open for cooperation. The Brazilian TVET system is not a cooperative vocational training system in the strict sense of the term, but it does involve industry. By default, SENAI develops all TVET courses in close collaboration with the employment sector and provides internships for the trainees. Involvement of sector associations and companies is key for the demand-orientation and quality of the courses.

Online education is becoming an increasingly important tool for the expansion and democratization of professional and technical education in Brazil. Digitalization is not only a question of designing online material and online courses, but the digital competences of academic staff have to be further developed. Furthermore, digitalization is a transversal topic to many industrial occupations in the context of Industry 4.0. Here, “future professionals” provides an international transfer of experience.

The project taps the potential of new jobs in the green economy and at the same time contributes to improving the image of TVET, since the green sector can provide decent sustainable jobs. To increase the participation of women, the project follows a strategy of networking and gender-sensitive marketing.

[57] Program for Development in Renewable Energies and Energy Efficiency in the Federal Network of TVET institutes of the MEC

2.12 CUBA – TVET CENTERS DRIVING TECHNOLOGY AND GENDER EQUALITY

2.12.1 PROJECT DESCRIPTION

TITLE	PROFET - PROGRAM FOR STRENGTHENING TECHNICAL AND VOCATIONAL EDUCATION IN CUBA
Commissioned by	Swiss Agency for Development and Cooperation (SDC)
Implementing organizations	Ministry of Education (MINED) and Ministry of Foreign Trade and Investment (MINCEX)
Leading executing agency	United Nations Development Program (UNDP)
Project area	Cuba
Overall term	06/2017 – 12/2022
Financial volume	6.17 million USD

\ CONTEXT

After more than 50 years with the state being practically the only employer in the country, Cuba is undergoing a decentralization reform process that offers a gradual opening of the labor market to private actors, such as joint ventures set up with public and foreign capital, non-agricultural cooperatives, and micro, small and medium-sized enterprises (MSMEs). The public TVET system takes 50 % of the students who finish 9th grade and trains them as skilled workers (2 years) or as intermediate-level technicians (3 years). However, the TVET system suffers from low quality and low retention rates of teachers, outdated and deteriorated teaching and learning materials, and insufficient practical training at companies or other productive entities. The low quality of educational work is compounded by the social and economic under-recognition of trades, insufficient information for young people on training options and access to employment at the local level. After two years, only 30% of TVET graduates are still in their jobs[58]. Women only account for 30% of graduated technicians and for 25% of skilled workers. To address this situation, Cuba is implementing a change in its educational policy seeking to raise TVET quality and adjust educational opportunities to the needs of the production sector.

\ OBJECTIVE

The Program for Strengthening Technical and Vocational Education in Cuba (PROFET, Spanish acronym) promotes improved access to employment by young people, with emphasis on women and disadvantaged groups.

Specific program outcomes are:

- Improved quality of TVET delivery in selected sectors, with a focus on gender, disability, and social equity
- Strengthened TVET alignment to meet the needs of local development and the demands of the labor market
- Good practices generated by the program, which raise the quality of training of young people and their access to employment, are incorporated into public policies.

\ APPROACH

The Ministry of Education (MINED) is the committed key actor for the project. In order to enhance the implementation capacity of the ministry, UNDP has been incorporated as a partner for coordination, backstopping and follow-up. Another important partner is Humanity and Inclusion (H&I), an American NGO that is experienced in training of people with disabilities. To foster the change of the educational systems, PROFET focuses on the following five key interventions:

Transformation of educational institutions: Reviewing and improving curricula and updating practical training methodologies; implementing training for instructors in the productive sector; supporting teacher's training; and providing access to advanced international experiences, such as the Swiss Dual System.

Strengthening links between TVET, local government and productive sector: Improving diagnostics tools for the labor market; establishing local coordination mechanisms between state and industry; expanding training opportunities at companies, cooperatives and MSMEs; and promoting local guidance and advisory services.

[58] Under the social-work law, graduates are assigned a job related to their specialty and must stay there for two years. These jobs are often low-income and fail to meet the aspirations of both the graduate and the employer.

Promotion of social and gender inclusion*:* By (i) supporting polytechnic centers that incorporate young people from disadvantaged families, groups and communities; (ii) assisting municipalities with lower economic development, and (iii) in selected municipalities, preparing a social inclusion program in TVET.

Citizen communication: Strengthening transparency and information on results, options, and prospects for TVET at the local level, and supporting vocational guidance.

Dialog with authorities: Empowering MINED and sectoral ministries to incorporate good practices into public policies and supporting the transition towards educational system governance, with greater weight on local decision-making and the involvement of companies, MSMEs and cooperatives.

The project work was strongly impacted by the COVID-19 pandemic. To cushion these effects, distance learning formats were implemented making use of the newly installed Information and communication technologies (ICT).

Some results

An average of 14,391 students (4,625 women) and 2,464 teachers (1,357 women) benefit from the project annually.

The project covers 15 provinces and operates in 46 polytechnic colleges in 30 municipalities. The linkage of educational institutions with territorial governments and labor entities has increased. Several project initiatives have been recognized as local development projects and received additional funding from the government.

As a result of the gender and inclusion strategy of PROFET, new methodologies have been introduced to promote training processes that foster approaches of gender equality and social inclusion in TVET. Moreover, 350 people with disabilities received special support for training and access to employment.

The Social and Labor Observatory of Cuba (OSL) of the Ministry of Labor and Social Security (MTSS) was incorporated as actors in the project, to generate strategic alliances.

2.12.2 KEY LEVERS OF CHANGE

The following key levers of change have been identified.

COOPERATION ALONG THE THREE STAGES OF IMPLEMENTING A COOPERATIVE TVET PROJECT

Stage I: System analysis and cooperation

The project placed great emphasis on the careful analysis of national spheres of influence and local conditions. Establishing confidence was an important success factor for the performance of the project. Through constant dialog, the main national and provincial public counterparts were involved, with the aim of creating ownership and a trustful communication and cooperation.

Stage 2 II: Arrangements of cooperation, establishment of structures and definition of quality standards

National and local decision-makers and teachers involved in the project were prepared, through a system of training activities, workshops, and targeted visits to educational institutions. Partnerships were established with the main national, provincial, and regional organizations in agriculture, construction, and tourism as well as in the labor and social security sector. These partnerships promote young people's access to vocational training, their technical preparation in polytechnic centers and labor entities and the subsequent job placement.

Stage III: Implementation of cooperation and sustainability

This stage concentrates on strengthening the actors of the polytechnic colleges and other entities linked to the project. This stage relates to the update of equipment for the workshops, technical laboratories, and special classrooms. Progress is made in preparing trainees and workers for employment. At the same time, the technical-methodological competence of teachers is enhanced, favoring an improvement in the vocational training processes, positively influencing the quality of learning of trainees and workers enrolled in the polytechnic centers. PROFET continues developing working relations with companies, polytechnic centers, and local governments, ensuring the development of training curricula which is relevant to the labor market. Several demonstration areas are promoted, as well as the identification of innovative ideas, alliances and joint ventures.

WORK-BASED CLASSROOMS

An important success factor of PROFET is the use of innovative technology to foster the link between the educational and the production sector. SDC provided 40 polytechnic centers with ICT equipment to develop digital professional competencies, but also to enable access to virtual learning, digital platforms, and online communication. At the same time, 36 polytechnic centers were furnished with equipment for practical training, allowing for the simulation of work processes e.g., in the hotel, catering and tourism industry as well as in the construction and agriculture sectors. Due to the transfer of technological knowhow, some of the polytechnic centers act as technology drivers in the region. In alliance with economic actors, “cooperative productions” for the local market are initiated generating income for the centers. It is planned to form a network of production training centers

which seek to scale up productive practices and results by integrating several polytechnic centers as well as public and private actors in a region. For a first pilot phase, nine polytechnic centers were selected.

GENDER AND INCLUSION STRATEGY

Norms, regulations, and national action plans demonstrate MINED's interest and commitment to addressing diversity and non-discrimination in TVET. Based on the data and information recorded in the National Survey on Gender Equality (ENIG-2016)[59], the Center for Studies of the Federation of Cuban Women quantified the data related to the 15-29 age group[60] in 2019, measuring and evaluating the conceptions of youth. The study found out that, although there has been progress in gender conceptions in young people, there are still a number of myths rooted in their subjectivity that show the persistence of sexist prejudices, both in girls and boys, that hamper women from engaging in better paid and more auspicious jobs.

Since the Cuban Revolution produced one of the most egalitarian societies in the world, it is striking that the majority of both girls and boys surveyed believe that women should not engage in activities that require physical effort and should not choose jobs that are considered "hard" trades. From the “macho” culture conception, they do not correspond to the characteristics assigned to a woman's duty and these thought patterns are linked to one of the cores of machismo: the quintessential loving and caring woman at the service of others; strong and decisive man. This is why, PROFET decided to launch a Gender and Inclusion Strategy (EGI, Spanish acronym) with the aim of strengthening gender equality and inclusion in polytechnic centers, in the professional of teachers, in management personnel and in technical experts as well as in the families of the trainees. Although the implementation of the EGI is in its early stages and will be consolidated in phase two, preliminary results can already be seen.

2.12.3 MAIN FINDINGS

Due to the political and economic system in Cuba, PROFET is not a traditional cooperative TVET project, however it shows how TVET can become a driver of regional development thus contributing to the SDG Goals 4 and 8. The introduction of new or updated technologies in the polytechnic centers provides the basis for technology transfer and impetus for local industry. Bases are laid for further cooperation and a stronger involvement of the production sector. Since the project is the driver of change, there is no guarantee that the partner institutions will take ownership. Sustainability depends on political will, but also on financial resources. Especially in economically difficult times, investments in the education sector are often sacrificed in the interests of cost saving. According to the Bertelsmann Foundation’s Transformation Index *(*BTI), the Cuban economy shrank by 11% in 2020 and foreign exchange revenues fell by half[61]. At this time, the country faces a difficult socioeconomic situation and the continuity of some of the project’s activities may be in endangered by lack of financial resources.

Figure 12: Trainee in the catering service

A positive perspective is that according to the new regulations for TVET in 2020, industry is to get involved at various levels of TVET. The nature of the involvement is clarified in corresponding articles and resolutions of the MINED and the MES (Ministry of Higher Education). They permit and/or obligate industry to take part in curriculum design, establish cooperation agreements with educational institutions, plan and conduct work placements, support educational institutions and participate in training of TVET staff. These stipulations underpin the possibilities opened by the project and may have a positive impact on sustainability.

To combat the gender-specific segmentation of the training market and the continuing lower opportunities for women to access well-paid jobs, the project has elaborated a successful strategy for the promotion of gender equality and social inclusion. The Multidimensional Vulnerability Index (IVM, Spanish acronym) makes it possible to provide better support to young people enrolling in TVET and to identify young people that neither work or study (NEET) (see Annex 1, Knowledge Product).

[59] Center for Women's Studies of the Federation of Cuban Women (CEM-FMC) and Center for Population and Development Studies of the National Statistics and Information Office (CEPDE-ONEI). National Survey on Gender Equality (ENIG 2016), Editorial de la Mujer. Havana, 2018.

[60] Díaz, Yenelis. National Survey on Gender Equality (ENIG-2016): La mirada de la juventud. Presentation made in the framework of the sharing for the design of the Gender and Inclusion Strategy of the PROFET Project. Havana, March 12, 2020

[61] Bertelsmann Foundation’s Transformation Index (BTI) 2022. Period from 2019/02/01 to 2021/01/31. More on the BTI at https://www.bti-project.org

2.13 MEXICO – THE DUAL SYSTEM IN THE FAST LANE

2.13.1 PROJECT DESCRIPTION

TITLE	CONSOLIDATION AND EXPANSION OF THE MEXICAN SYSTEM OF DUAL VOCATIONAL TRAINING
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Implementing organization	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Leading executing agency	Ministry of Education (SEP)
Project area	Federal States of Mexico
Overall term	01/2020 – 06/2023
Financial volume	6.5 million USD

\ CONTEXT

Dual Education (ED, Spanish acronym) was previously introduced through large German companies primarily in the automotive industry in schools of the Colegio Nacional de Educación Profesional (CONALEP) in the state of Mexico between 1993 and 1998. After some test and pilot phases in June 2015, ED ceased to be an "educational project" and was elevated to a new educational modality at the higher secondary level. In the same year, BMZ agreed to support the Mexican Model of Dual Education (MMFD) and GIZ's "Program for the Further Development of the MMFD" was launched with the main goal of matching the MMFD with labor market requirements. It was also in 2015 when the Entrepreneurial Coordinating Council (CCE) took up good practices and lessons learned from the business organizations that had participated so far, to join its 12 organizations in the implementation of this model. These organizations represent the country's main business sectors[62]. In June 2019, the bilateral German cooperation in ED was reinforced by the new Mexican government with the signing of a new MoU. In 2020, the Dual Education System (SED, Spanish initials) in higher secondary education was introduced, a relevant action to integrate all existing options offered by the regional vocational school systems, in collaboration with companies, industrial chambers and cooperation organizations, both national and foreign. At the beginning of 2022, the dynamics in the system and the demand for ED was higher than ever. The Steering Committee for Dual Education in Medium Higher Education, a technical support body of the SEP, was established with the objective of coordinating and articulating strategies and actions for the implementation, development, and consolidation of the SED. This was designed to contribute decisively to further enhancing the value of ED in the country.

\ OBJECTIVE

Through the project "Consolidation and Expansion of the Mexican System of Dual Vocational Training", GIZ aims to consolidate the quality of the SED and to achieve a regional and sectoral expansion. According to the regional project indicator, in the five states that had few or no dual trainees at all, the number of trainees shall be increased to 2,000 in each state. At a sectoral level, new careers in strategic sectors, e.g., agriculture, will be included. The focus lies on improving the quality of the approaches developed and anchoring the model institutionally. The project's target groups are adolescents and young adults from higher technical secondary schools of CONALEP and other public TVET providers. 30,000 trainees are expected to benefit from the measures nationwide by 2023.

\ APPROACH

The GIZ project pursues a multi-level approach. On the macro level, the project provides continuous policy advice to the SEP promoting the long-term constitution of a national coordination and governance framework for ED in Mexico and cooperating closely with the public vocational schools at national level. Another strategic partner on macro and meso level is the CCE. The Dual Education Commission of the CCE coordinates the expansion of ED in order to transmit the concept of ED in a homogeneous way to its companies and to unify the related processes. The CCE promotes a work strategy with five key national business organizations that manage the training processes with the companies and educational institutions and act as promoters of ED. This works well in the north of the country with a more formalized industry. In other regions that are characterized by a rural structure and informal economy, the project cooperates closely with the public vocational schools of the federal states. They

[62] Commerce, manufacturing, department stores and self-service stores, foreign trade - investment and technology, services and tourism, industry, agriculture, banking, and insurance.

transfer their longstanding practice in ED to federal states with less or no experience in ED and act as multipliers. Through the project activities of GIZ and the consulting partner GOPA, in 2021 a total of 4.589 people were trained. The project enables public partners at meso level to foster the expansion of ED (see Annex 1: Knowledge Product, 5 Steps to Multiply Dual Education at State Level). For pilot measures, e.g., developing new training courses in agriculture or renewable energy, the project works on the micro level with specialized colleges.

2.13.2 KEY LEVERS OF CHANGE

CLEARLY DEFINED ROLES OF KEY ACTORS

Cooperative TVET relies on the participation of a set of actors with clearly established responsibilities around the alternating learning in the classroom and in the workplace. With the Ministerial Agreement of February 2022, general regulations for the delivery of ED were issued. They make it possible that companies no longer needed to involve their business association but can implement dual training directly in cooperation with schools at the local level. Based on this new legal regulation, the SEP has defined the key actors for dual training. The functions and duties of all actors involved as well as the methodology and criteria of planification of ED are described in the SEP publication of 2022[63]. Three actors are especially relevant when it comes to the expansion of the Mexican SED:

The "Dual Education Coordinator" (in Spanish: *Coordinador de Educación Dual)* forms part of the regional vocational school system (CONALEP, CECyTE, DGETI and DGETAyCM) and coordinates and promotes on the federal state level the cooperation of the TVET schools with the organizations.

The "Liaison Official" (in Spanish: *Responsable de Vinculación)* located at the school level, promotes and encourages mechanisms to ensure an effective relationship between the TVET schools and the productive sector, to this end disseminating ED through various strategies to the school community and the productive sector.

The "Business ED Manager" (in Spanish: *Gestor Empresarial)* is trained and selected by the company to lead and monitor ED activities. Coordinates and manages the development and signing of collaboration and learning agreements at different levels.

THE PROSPECTOR A NEW FIGURE IN THE FIELD

A successful lever to bring more companies and trainees into dual education is introducing the figure of the "prospector". Based upon the experience of the German Foundation Bertelsmann in expanding the dual vocational education in Spain (Caballero 2018[64]), the project is promoting this role as part of its activities. Just as a prospector looking for gold fields, the prospector in dual education searches for and identifies opportunities for businesses and schools to benefit from cooperative education. The prosecutor identifies new dual education projects, accompanying companies and TVET schools who are interested in developing these programs. The prospector advises both parties so that the dual education project is of higher quality and, consequently, has more chances of success in the medium and long-term[65]. Finding well-qualified prospectors has become a bottleneck for the expansion of the SED. It is discussed that in future, prospectors may also be provided by other organizations or operate on a freelance basis. For this, a business model would have to be developed that is based, for example, on the model of auditors in quality management.

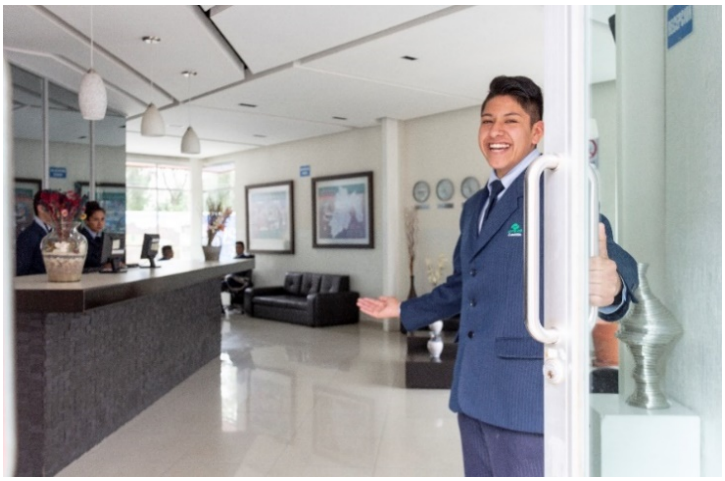

Figure 13: Trainee in the hotel business

MULTI-LEVEL NETWORKING

Another success factor is to strengthen the local partners' ownership by creating cooperation networks in the individual states. The GOPA team, supporting the implementation of the project, installs and accompanies communities of ED after trainings are imparted. The aim is to increase confidence in the implementation of ED education among the actors of the SED by providing ongoing support. This is accomplished by a tutoring team via

[63] In the webpage of SEP the mentioned publication „Metodología y criterios para la planificación de la Educación Dual en Media Superior"and other resources can be downloaded: https://educacionmediasuperior.sep.gob.mx/educaciondual

64 In this publication the figure of prospector is named "Technical Consultant".

65 See Knowledge Product: Practice Guide - 5 Steps to Multiply Dual Education at State Level

social media and online communication as well as by organizing local/regional meetings. In the spirit of Communities of Practice, particular emphasis is placed on the exchange of experiences gained and good practices between the actors. Networking is also a strong lever to incorporate new companies and trainees since the example of peers creates high credibility and sometimes has a bigger impact than advertising and marketing campaigns. Testimonials also help to enhance the image of the technician or craftspeople. Sharing experiences is also encouraged among trainees of the SED. WhatsApp groups are initiated and promoted.

PROMOTING WOMEN

Although the percentage of female trainees in the SED amounts to 38%, the figure is deceptive because the distribution of apprenticeships is still strongly influenced by gender stereotypes. The high proportion of women is owed to the fact that many women take up training courses typical for women, e.g. in the service sector such as in the hotel business, gastronomy, cosmetics, etc. In Mexico, a lot of preconceptions still hinder women from choosing jobs in male dominated sectors, like in the manufacturing industry, where they can earn more and have better job security. The Name project is working to increase the percentage of women in male-dominated professions and to raise awareness among the various stakeholders to offer more measures for young women. Events like the Girl's Day (see Annex 1: Knowledge Product) help to improve this situation.

THE USE OF COST-BENEFIT ANALYSES

The financial participation of companies is fundamental for the introduction and development of ED. Therefore, the acceptance of companies and their conviction of the positive impacts of the investments made in ED are fundamental elements for a successful implementation. For this reason, a quantitative and qualitative cost-benefit study was conducted for the Mexican private sector. The study identifies the main costs and benefits of a sample of companies from different sectors and comes up with concrete proposals for the self-financing of the Mexican SED[66]. Costs are e.g. the use of machineries, material and the time of staff dedicated to training, benefits are productive contributions of the trainees and savings in the recruiting and induction of new employees. Since Mexican companies do not pay salaries to their trainees, in most of the industries that participate in ED the return on invest is very fast, reaching the break-even between costs and benefits already during the first year of training. The analysis will be used to show case the benefits of investing in ED and to calculate the number of trainees required to reach a break-even point during the training period. It will be a key tool to approach more companies and convince them to participate in ED, and thus contribute to the scaling up of the SED in the country.

2.13.3 MAIN FINDINGS

Mexico is characterized by a growing modern industrial and service economy and a high export orientation that favors the introduction of cooperative TVET. The cooperative TVET approach is no longer a model but has been classified as a system by the Mexican government. Although a distinction must be made between more rural regions (with a more informal economy), and industrialized regions (with a more formalized economy). Tailored strategies must be developed that consider the different framework conditions in the selection of partners, focusing more on cooperation with the formalized economy in industrialized regions and on cooperation with the regional vocational school systems in the other regions.

Around the world, companies tend to be profit-driven, i.e., they think primarily in terms of costs and benefits. However, when it comes to engaging in TVET, they are inclined to see only the costs and often overlook the productive contribution of trainees – a contribution that is significant and grows with time and learning. Convincing the business sector to engage in cooperative TVET, often depends on whether companies are able to generate more benefits than costs from engaging in ED. Visualizing the costs and benefits of cooperative TVET helps companies better understand them, both short and long-term. Cost-benefit analyses show if or when (simulations) the benefits exceed the costs. This may be the case already during the training (short-term) or only afterwards (long-term). As the case in Mexican case illustrates, cost-benefit studies are a useful tool to inform about and sensitize for the benefits of cooperative TVET. They can be a stimulus to engage further companies in the ED and can be best implemented in the context of formalized economies. Another important factor for the rapid and quality assured transfer of ED is the definition and description of roles and processes that is actively promoted by the Mexican SEP. The project experience shows that for the expansion of the ED it is essential that at school level a person is 100% dedicated to ED activities. People need to have the time and resources to work on it. The training of ED prospectors/consultants has produced positive results and will be continued (see Annex 1, Knowledge Product: Practice Guide - 5 Steps to Multiply ED at State Level). They visit business organizations and companies, explain the benefits of ED, the operational processes and follow up on their engagement in ED.

[66] "Cost-benefit study and development of conceptual proposals for the self-financing of the SED in Mexico" executed on behalf of GIZ Mexico by WorkingMinds consulting.

CHAPTER 3 CONCLUSIONS AND RECOMMENDATIONS FOR TRANSFER TO LAC

The previous chapter presented the results of a detailed analysis of selected development cooperation (DC) projects in terms of their success factors and highlighting the key levers related to the participation of industry in the implementation of cooperative TVET. When formulating general conclusions, it must be noted that the projects from four different continents were examined, each with different characteristics and foci. It should be emphasized that the economies, TVET systems and societies of these country and regional projects differ significantly, meaning the starting conditions for industry involvement in TVET vary greatly. This already points to a general conclusion that there cannot be a "one size fits all" project concept.

Therefore, the main findings of the case studies, conclusions and the following recommendations address important aspects of cooperative TVET projects and the application of cooperative TVET principles and do not provide overall solutions. In section 3.1, methodological conclusions are presented that are generally relevant for the design of development projects promoting cooperative TVET, independent of the geographic location. In section 3.2, conclusions and recommendations relating to the key features of cooperative TVET are formulated, followed by focus topic specific recommendations in section 3.3.

The key feature and focus topic specific recommendations are applied to the countries in Latin America and the Caribbean (LAC) where particular historical, sociocultural, economic, and political conditions have to be considered or are helpful for the successful design and implementation of cooperative TVET projects in the region.

3.1 METHODOLOGICAL CONCLUSIONS AND RECOMMENDATIONS

3.1.1 STRATEGIC APPROACH

The overarching question of which strategic approach is best suited to actively involve the industry in cooperative TVET projects, cannot be answered unequivocally – it depends on the specific context. From this, one recommendation can already be generalized, even if it sounds self-evident: before a project can be conceptualized the first step requires a detailed analysis of the sector, its actors and the local framework conditions. This should include an assessment of possible conflicts of interest between stakeholder groups.

In most of the projects analyzed, it was discovered that both a multi-stakeholder and a multi-level approach are appropriate to bring about positive changes in terms of industry involvement. A multi-stakeholder approach was employed in two ways:

1. By bringing together the actors of an industrial sector to jointly design demand-driven TVET courses to ensure the relevance of the skills profiles and achieve a broader impact. The work with sector skills councils or sectorial round tables is widely used in many LAC countries but has also been successfully introduced in Nigeria, for example. It is a first step to enable industries to formulate their demand and contribute their expertise.
2. By engaging the various stakeholders who ideally shape cooperative TVET together, i.e. industry, state, and TVET providers. These multi-stakeholder dialogs and steering platforms become important when industry is more involved in the delivery of vocational education, (e.g., through workplace learning) and when the responsibilities of the different stakeholders are more interlinked. Roles and tasks, as well as the mandates of the respective actors at the different levels, need to be clearly defined. The interaction of actors is essential at the different levels of the TVET system, i.e., at the micro, meso and macro levels. A coordinated flow of information across the three levels in both directions has proven to be a success factor for the knowledge exchange between the different levels. Successful experiences can be identified in various projects (see Africa ATVET4W, Africa E4D, Egypt, Nigeria, ASEAN, Cuba, and Mexico case studies).

The expansion of the stakeholder group to include academia has also shown positive effects as it can help improve the quality of TVET by transferring knowledge about the latest technology developments from higher education to TVET and help universities becoming more business-oriented (see Kosovo case study).

Closely related to the multi-level approach is the question of whether a top down or a bottom-up approach is best suited to address industry involvement. The bottom-up approach has proven successful in many of the described projects. It first follows the line of identifying the skills gaps in a specific sector and region as well as the associated specific challenges. Then it derives the specific training needs and the most appropriate type of cooperation among relevant stakeholders to close the skills gaps. Best practices and lessons learnt from implementing cooperative skills development at the micro level are fed back via the meso to the macro level, for example, in the form of policy recommendations. Dovetailing bottom-up and top-down approaches is the first step towards an integrative and holistic approach to project interventions, ensuring links between micro, meso and macro level and vice versa (see case studies of Bolivia, Brazil, Cambodia, Egypt, India, Mexico). Even in a MSME environment in a rural setting it is possible to develop and implement tailored and at the same time holistic and integrative

measures that can have positive effects on the meso and macro level (e.g. Cambodia case study). A necessary condition, however, is that the project has access to stakeholders at the national or regional level and that the experience gained at the micro level can be scaled up and transferred to other regions or target groups. If this access is not given, the project will only have a limited impact.

Systemic approach: Even if a project is not designed to be "system building" per se, it can make valuable contributions to the qualitative improvement of cooperative TVET at the TVET system level by piloting and disseminating successful approaches. However, the development or reform of a TVET system is always a complex undertaking that requires the coordination of a wide range of actors from both the education and labor market systems. In most countries and cultures, this requires a cultural change; a change of mindset that needs time and resources (see Euler/Wieland 2015). Pursuing a systemic approach to cooperative TVET from the outset has a strong positive impact on the sustainability of the project or reform efforts. An important prerequisite for this is the regular involvement of the industry on the basis of clearly defined roles and responsibilities. At best, these are structure building, i.e. contribute to the definition of corresponding legal regulations, if these do not yet exist (e.g. Mexico, Pakistan). The case study examples show that well-funded projects with mid- or long-term duration that comprise several phases and good staffing (long-term personnel) achieve a greater impact. They often involve high-level partner structures and thus have greater visibility in the country. This also works particularly well when pilot measures are carried out in close cooperation with the respective partners on the ground in different regions of the project country, which are then bundled in their results and referred to the national level (e.g. Brazil, Cambodia, Egypt, India, Mexico, and Pakistan case studies).

Strong leveraging effects can be achieved by embedding a project in a broader context or framework. These can be, for example, supranational regulations or generally accepted and standardized frameworks that serve as orientation and motivation to achieve higher goals. For example, in the RECOTVET project (ASEAN case study), standards for in-company trainers were developed, which now serve as a regional benchmark for the entire ASEAN region. Another example is in Kosovo, where the orientation towards the EU Entrepreneurship Competence Framework aims to achieve EU-wide accepted standards and thus also comparability of skills between EU members. Similar effects can be obtained by aligning project activities with relevant government initiatives, e.g. EnergIF (Brazil case study) where the government has launched a national program to promote renewable energies, which has been followed up with an EnergIF program for TVET and applied research, or the Green TVET Initiative (Cambodia), where a national green TVET working group has been established to develop a national guideline for green TVET. Coordinating with other parallel activities that strengthen the TVET and employment system, e.g. complementary measures of other development partners and organizations (e.g. Cambodia, Africa E4D, and Kosovo case studies) is another amplifier.

3.1.2 ANALYSIS OF ECONOMIC STRUCTURE

A crucial first step in the project identification phase is an analysis of the economic structure and local framework conditions of the respective country. This serves to identify the nature of its national economy, whether it is predominantly: formal or informal; organized privately or publicly; whether it is resource (natural resources, labor resources) intensive; characterized by large or small enterprises, or family businesses, whether it is urban or rural, etc. It was found that all forms of enterprises – irrespective of the economic sector – can make valuable contributions to the design and implementation of demand-oriented skills development projects. What matters for the skills development projects to be successful, is that companies show full commitment. To enable companies to fully commit themselves and to not overburden them, the capacities of the companies must be analyzed in detail, in terms of their personnel, and with regard to their technical and financial situation before starting a TVET partnership.

A key finding of most of the projects analyzed is that in countries where there are forms of organized economy, such as chambers and business associations or other looser forms of collaboration such as exchange forums, these can act as drivers for greater industry involvement in the design, implementation, and monitoring of employment-oriented TVET. In countries where there are not yet any forms of organized economy, cooperative TVET in the sense defined above, is hardly possible. Here, structures must first be established, e.g., in the form of cooperatives, business organizations, associations along value chains, etc. These need to be build or strengthened to develop organizational and administrative capacities.

Organizations of the organized economy can act as enablers in many respects:

- Raising awareness, among members, of the importance of their involvement in TVET.
- Gathering the training needs of companies in a specific sector, clustering them, and clearly articulating the demand towards the state and TVET providers.
- Lobbying among members to offer industrial placements to improve the quality of practical learning.
- Scaling up successful cooperative TVET approaches (e.g. apprenticeship schemes) with members of the same association and/or in other sectors by reaching out to other industry associations and promoting the expansion and improvement of TVET corresponding to current labor market demands.

- Strong associations with high membership numbers can pave the way, opening up new areas (e.g., greening TVET, introducing green and digital elements in occupations, increasing the involvement of women or disadvantaged groups in TVET, etc.), and thus contribute to systemic change.

With a specific focus on SMEs, business associations can perform the following support functions:

- Taking on administrative tasks (e.g., formally registering trainees, concluding contracts, etc.), thus reducing the financial and administrative burden of SMEs.
- Nominating training or industrial placement advisors at the associations who can support SMEs in meeting the organizational requirements of cooperative TVET.

Good practices are found in Cambodia, India, Mexico, Nigeria, and Pakistan. However, even if associations exist, these might be weak or not fully developed in their capacity and need organizational development support themselves. For example, they may need support with the design of their organizational structure, the definition of functions, tasks and responsibilities, marketing of their services, etc. In this respect, it has proven successful to integrate accompanying support measures for the organized economy into the project design (Cambodia and India case studies, etc.).

3.1.3 EMPLOYMENT PROMOTION

In most of the projects studied, cooperative TVET is thought of in a multidimensional way. The improved relationships between TVET providers, enterprises and other (governmental) stakeholders fostered by the project activities are used to implement complementary measures such as pre-training job counseling, post-training career guidance and other labor market measures to enhance the positive effects of the cooperative TVET activities. This is due to the fact that many projects have recognized that there is a bottleneck in integrating graduates of vocational training programs into the labor market. Often, it is not enough to match the training programs to the demand of the labor market, but it is necessary to also support the graduates in job search and job placement. For example, in Bolivia the project has established Employment and Entrepreneurship Offices (SILE, Spanish acronym) on a pilot basis in 23 training centers. The SILE offices arrange internships and follow-up work experience. The SILE offices: (i) keep the school management information system updated with the trainees' data; (ii) sign agreements with companies for internships; and (iii) register the demand of the labor market and guide the trainees in possible self-employment initiatives.

Another example is the regional Africa E4D program, which follows an integrated approach that is based on three main components: activities combining enterprise and skills development which are always complemented by a matching component; career counseling; and job placements services. Some of the industrial clusters in India combine career guidance workshops with training or awareness raising activities.

The project SKYE in Nigeria advises job centers, vocational training and counseling institutions on improving their employment and job placement services. The project fosters short-term training and internships for short- and medium-term employment effects, and jointly organizes job placement events, such as physical and virtual job and career fairs. The short-term training programs consist of technical training designed to move young Nigerians into employment and self-employment, but also includes soft-skill and employability training (e.g., resume writing or interview training). The African E4D program pursues a similar path and, in partnership with the Kenya Association of Manufacturers (KAM), develops and implements work readiness training to improve access to jobs and economic opportunities for youth in Kenya. The work readiness training targets the graduates of E4D partner TVET institutions and beneficiaries and is designed to teach soft skills to the graduates to increase their employability for the manufacturing sector. Work readiness training has recognizably improved the transition from training to a job. To this end, also in Bolivia the training of soft skills (e.g., job interviews), has been added to the curricula of TVET programs thus improving employment rates and contributing to the image of cooperative TVET.

Some projects (Brazil and Mexico case studies) start earlier in orienting young people with regards to the transition from school to training or study and work, or when they are confronted with decisions that significantly determine their future opportunities to participate in the working society. They organize open days with companies and Girls' Days, enable teachers to orient and support graduates in their decision-making, and thus contribute to the reduction of dropouts.

3.1.4 CHANGE MANAGEMENT

As the analysis of the 13 projects of this study has shown, very few developing and transition countries have extensive experience in the implementation of cooperative TVET, let alone a historically developed TVET landscape with corresponding stakeholder structures. This means that the introduction of any form of cooperative TVET does not only require information and awareness raising, but also needs to go a step further and to initiate and accompany a change process. A change of the mindset as a precondition for introducing new forms of TVET requires overcoming stereotypes, breaking the patterns of thinking, and changing habits; changes that demand time and good arguments. It must be reiterated that there are often clear limits to a change in mentality within the framework of DC projects that only run for a few years.

Awareness raising and sensitization was carried out as a first step in most of the TVET projects studied. In addition to convincing companies of the benefits of cooperative TVET, there is also a need to challenge the mindset of TVET providers, government, and society, i.e., young people (possible trainees) and their families. The first step is to establish a common understanding of the purpose of cooperative TVET. The following approaches have worked well in one or more of the projects:

- Working with motivated organizations who can act as change agents is an important prerequisite. To identify them, a thorough analysis of the partner structure is important in order to determine who will benefit from the planned changes and who will not. They can also play a special role in dealing with expected resistance. For example, this can come from: ministries that fear they will have to give up power; or, at the micro level, vocational schoolteachers who are afraid of losing their jobs due to increase of in-company training.
- With regard to the involvement of industry in TVET, the use of role models who are visionary has proven to be effective. In Pakistan, role models have actively promoted peer-to-peer learning to help change minds, whereas in Cambodia the project strengthens role models at provincial level in their outreach to other stakeholders by means of dissemination workshops and the extensive use of social and other media. In Egypt, the Quality Pioneers Initiative acted as a community of practice aiming at expanding the idea of the dual system. In the expansion of the dual system in Mexico, the sharing of experiences through peers plays an important role as well.
- It is key to provide continuous support to the various stakeholders throughout the entire duration of the project. Change of mindset requires capacity building, and there must be permission to try out new concepts and to make mistakes. This process can be supported by coaching and tutoring, e.g., in the form of online support for TVET schools (Mexico) or by the capacity building of business member organizations in applying the participatory design thinking methodology (RECOTVET project in Asia).

3.1.5 ENSURING SUSTAINABILITY

The German Federal Ministry for Economic Cooperation and Development (BMZ) is committed to the SDGs of the 2030 Agenda[67]. It is common practice to evaluate the sustainability of DC projects by applying the international evaluation criteria of the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD). This study follows the definition of the Swiss Development Cooperation (SDC) from 1990, which is still valid: “A development project/program is sustainable when the (former) project partner and the target groups permanently continue the changes achieved by the project without outside help"[68]. Sustainability is also the ability of an organization to continue its mission or program into the future, detect errors and adapt to new challenges. In this sense, DC projects are sustainable if their success is sustainable in the long term, or if the positive effects continue after the end of subsidies.

Two aspects in particular were prominent in this regard (see also 3.1.1 Strategic Approach):

- Formalization and integration of successful pilot approaches and curricula into the national TVET system, including the formalization through official degrees/certificates (Brazil, Cambodia, India, Mexico, and Nigeria case studies), in the case of Kosovo integrating the digital labor market barometer into the National Employment Agency.
- Extension of successful approaches to other regions and/or sectors, for example, the Africa regional E4D, Cambodia, and India case studies as well as the Egypt case study with the multi-stakeholder platform and the Mexico case study recognizing dual education as one modality of delivery of TVET in the Mexican education system.

To be sustainable, changes have to be anchored in the respective education and/or employment system. Sometimes projects develop useful approaches that are effective during the project period but run the risk of not being systematically continued due to lack of funds or expertise. This could be the case with SILE in Bolivia or the proposed ‘prospector’ in Mexico if no solution to financing these services is found. Often project services are docked in the form of capacity building, mentoring and coaching that cannot be sustained by partner organizations after the end of the project. Here it is very important to analyze whether the partner organization has the capacity to take over and continue the activities. To be sustainable, the benefits of the measures and changes introduced must outweigh the costs.

[67] “The 2030 Agenda for Sustainable Development emphasizes the global significance of the sustainability principle. Universality, shared responsibility and accountability, synergy between social, economic and environmental development, and inclusiveness, form the principles of the modern understanding of sustainable development” Noltze et al. (2018).

68 SDC, former Directorate of Development Cooperation and Humanitarian Aid (DCA) (1990)

3.1.6 TARGET GROUP SPECIFIC COMMUNICATION AND VISIBILITY

Increasing the visibility of TVET is a key task required to bring about a change in perception. Thus, communication and visibility tools are essential for corporative TVET projects. It is a fundamental requirement for success that information is well communicated and reaches out to the target groups. Based on the case studies presented in this study, it is worth reflecting on the following points.

\ WHAT NEEDS TO BE COMMUNICATED?

A first step for establishing good communication and visibility of a TVET project is to identify with whom the communication will take place, for which purpose, and how to reach the communication partners best. Some projects, e.g., TVETSSP in Pakistan, develop communication guidelines, aiming to ensure a cohesive and unified branding approach for staff and implementing partners. Care should be taken to identify factors such as local political sensitivities and adapt the contents accordingly. The following table gives an overview of the communication interest of different target groups.

TARGET GROUP	INTEREST
Policy makers	Information needed for decision making, e.g., demand and skills needs of the labor market Information about the capacity constraints, equipment, TVET training places, etc. needed to implement TVET strategies and action plans
Industry	Information about the opportunities to cooperate with TVET, the industry's role, the tasks, processes, and the benefits as well as information about the TVET system and its reform
Potential trainees	Information about the potential of opportunities in TVET, information about occupations, careers, TVET offers
General public	Awareness raising, increasing reputation of TVET, engaging the civil sector in TVET

Table 3: Communication with the target groups

\ HOW CAN INFORMATION BE RENDERED MORE ACCESSIBLE?

All projects use diverse media and communication channels for communication. Publications such as leaflets, brochures and posters are useful for communicating the results of an action to specific audiences. A website is a standard nowadays. The website should also work on mobile phones to make it more accessible and include interactive elements. For example, the TVET reform website supported by the TVETSSP in Pakistan offers a complaint handling procedure giving complainants the opportunity to directly communicate with the organization where TVETSSP acts as facilitator acknowledging the receipt and guaranteeing an answer within approximately 30 business days.

Social media (Facebook, Instagram, Twitter, TikTok, etc.) are popular among young people. In rural environments radio proved to be a good way to reach out to people. Some TVET projects successfully use social media to report on the achievements of vocational training (life stories) and, in particular, the success stories of female trainees to recruit women for technical training (Bolivia and Brazil case studies).

Public events such as conferences, workshops, seminars, job fairs, or open days prove to be good opportunities to generate interest and increase awareness of cooperative TVET. They are used for hanging up posters, showing videos of successful participants or handing out leaflets informing about TVET activities. Good visibility which can be achieved via events and publications is also important for development partners as it provides information and accountability as to what the funds are used for.

The ASEAN RECOTVET project, for example, aligns its communication with the different interests of the target groups. The project does not only translate relevant information into the different languages spoken in the participating ASEAN countries but also adapts the kind of language used: technical jargon for experts and infographics for a broader public. In order to reach out to a wide audience, RECOTVET supported the partners to prepare infographics highlighting the key messages of a selected topic. Infographics are short (1-2 pages) and highly visualized for illustration and better understanding. Another good example is the usage of an interesting narrative, human interest stories and eye-catching imagery to maximize impact. Closely related to this, communication campaigns for the dissemination of good business practices with cooperative training should consider, not only the dialog and exchange among employers, but also to actively include the former trainees and current employees of the companies themselves (see Africa regional ATVET4W, Bolivia, Brazil, Cuba, and Pakistan case studies).

3.2 KEY FEATURE SPECIFIC CONCLUSIONS AND RECOMMENDATIONS

3.2.1 COOPERATION OF GOVERNMENT, BUSINESS COMMUNITY AND SOCIAL PARTNERS

Regardless of the level of cooperation and experience companies already have with cooperative TVET, the majority of projects agree that continuous sensitization and awareness raising are necessary to ensure permanent and sustainable industry participation in TVET. For awareness raising to work and be successful, two conditions must be met:

- Take the industry's perspective and familiarize yourself with the companies' individual interests is a prerequisite for reconciling the interests of TVET stakeholders and finding a common basis for work.
- Address the companies' questions and concerns in a transparent way – making it clear to them how they can benefit, but also what they need to contribute.

Organized economy (e.g. business associations, chambers) has been shown to be a key factor in engaging industry and disseminating the benefits of workplace learning. This is illustrated in the Mexico case study, where one of the main actions that has made it possible to attract a larger share of companies to take part in cooperative TVET, has been the initiative and support of the Mexican Employers' Association (COPARMEX) and the Business Coordinating Council (CCE). The business associations serve as a platform for 'champions' speaking to other hesitant companies. Sharing their good experiences and reporting on how their involvement in cooperative TVET has positively impacted their businesses, has proven to be important in attracting the interest of other companies also in the Egypt, Africa regional E4D, India and Bolivia case studies. In addition, business associations are an essential factor for the cooperation with schools in many respects. This includes the marketing of cooperative TVET, the qualification of in-company trainers, the standardization of cooperation agreements between schools and companies, and the training contracts with the trainees. They can take over a support function and the additional administrative work for the companies. MSMEs in particular are quickly overwhelmed by the complexity of cooperative TVET.

Project approaches that are very close to industry partners have been successful, for example by inviting and encouraging companies to jointly develop adapted solutions to meet their needs for qualified labor (sector-based approach in the Brazil case study, the cluster-based approach in the India case study, opportunity-driven approaches in the Africa regional E4D and Cambodia case studies). The provision of additional services – such as matching activities for internships and industrial placement (involving companies, schools and associations) – is another tool to convince companies of the value of trainees/graduates who have completed cooperative training, and thus of the benefits of investing in improving the skills of their workforce.

Particularly important for MSMEs is ongoing support in overcoming obstacles to participation in TVET and creating a favorable environment for them, e.g., by setting up mentoring schemes or using 'ambassadors' (at chambers or associations) who act as intermediaries between the worlds of work and education (Kosovo and Mexico case studies).

The analysis of the 13 projects has demonstrated that industry involvement can be stronger than expected. In some countries like Brazil, India, Mexico and Nigeria, companies or industry sectors show a high level of self-interest in participating in cooperative TVET from the outset and are aware of the benefits. In most cases, that is because these companies were dissatisfied with the quality of TVET provision in terms of labor market orientation, and therefore felt the

Excursus: Cost-benefit analysis

The presumed cost of investing in the skills development of their workforce, is a major reason that companies are often hesitant to engage in cooperative TVET. Companies think in terms of profit. In most countries, they traditionally do not feel responsible for employee training, so they question why they should allocate time, personnel, material, and equipment. Even if some of the industries feel responsible up to a certain extent, they are not prepared to pay a small salary, insurance fees for trainees or transport costs.

The cost-benefit ratio plays an important role for companies when deciding whether or not to train young people. If the expected costs turn out to be higher than the expected overall benefits, the company will decide against participating in training, from a purely economic perspective. One way to overcome this barrier is to conduct cost-benefit analyses to find out how the benefits relate to the costs. Since the early 1980s BIBB has been surveying training companies on their costs and benefits from engaging in TVET. The cost-benefit analyses take into account the personnel costs of the trainees, personnel costs for training staff, fixed and material costs, and other costs. However, trainees do not just generate costs. Through their labor input, they also contribute to the production of goods and services. If these productive services are deducted from the gross costs, this results in average net costs for the companies (Wenzelmann et al. 2022).

pressure to address this issue; or it was because they had already had good experience with the quality of personnel trained in a cooperative TVET system. Other factors include knowledge and appreciation of the German dual TVET system and German technology.

The active participation of employers and their representatives in social dialog at different levels and in sectorial forums with other stakeholders, has proven to be an effective way to contribute to the improvement of the key features that make up an effective cooperative TVET system. In fact, the experience reviewed in the case studies confirms that this is an effective way to ensure that the contents of the training programs have a real correspondence with the present and future needs of companies.

The presumed cost of investing in the skills development of their workforce is a major reason that companies are often hesitant to engage in cooperative TVET. Among many other international organizations, the Donor Committee for dual Vocational Education and Training (DC dVET) funded by Austria, Germany, Liechtenstein and Switzerland promotes cost-benefit analyses (see excursus on previous page) to convince employers to engage in cooperative TVET[69]. Based upon these international references the dual educational project in Mexico has successfully implemented a survey measuring costs and benefits of the in-company training of more than 400 companies involved in dual education.

\ SPECIFIC RECOMMENDATIONS FOR LAC

There are several barriers to fostering the cooperation of government, business community and social partners in the LAC region. Governments are often volatile, change is frequent, often they are more power-oriented instead of addressing the country's substantive problems, and frequently they are corrupt. All together, they do not provide companies with a secure framework for their economic activities. This is why LAC companies regularly maintain themselves at distance from the state and are very reluctant to cooperate with governmental authorities. The involvement of industry in cooperative TVET is also hampered by the economic structure, which is primarily characterized by MSMEs and a few large companies. MSMEs have a higher cost of participating in cooperative TVET since the staff and time dedicated to training and supervising a trainee represents a relative greater loss of productivity for the company, especially when they only incorporate 1–3 trainees. Smaller firms are often overwhelmed with the complex administrative procedures as they usually do not work with an HR department that is able to manage them. Moreover, due to the restricted range of tasks that may take place in an MSME, trainees may be limited in the scope of their learning programs. Sometimes they are overspecialized and do not dispose of the full range of workplace training opportunities as set by regulations (Fazio et al. 2016).

The documented positive experiences with business associations have proven to be a promising way forward. Business associations can act as a buffer and linkage between industry and state. They can negotiate regulations and incentives with the state authorities and can assume many support processes for the enterprises. As successfully practiced in the construction industry in Germany that is often very specialized, they can also host inter-company training sites providing the equipment and machines needed to cover the learning objectives of a complete workplace training (see Nigeria case study). It is considered key that counselling and support programs for MSMEs should be developed addressing clusters or groups of companies, identifying their demand and needs for training or business development. A promising approach has been to complement support programs with mentoring from large companies that already have experience in the implementation of cooperative TVET, and thus are able to share their knowledge and lessons learned (case studies Brazil and Nigeria).

In this context, the successful role of business associations in Mexico can serve as a blueprint for other DC projects. Cost-benefit analyses are a promising approach to convince industry of the benefits of cooperative TVET (case study Mexico). It might be a good strategy to start with one promising sector and to use it as a good practice for others. However, this is only worthwhile for larger industrial clusters, as cost-benefit analyses are cost-intensive to perform.

In countries with a highly informal economy or in rural areas where there is no organized economy, DC should concentrate on establishing these structures before introducing cooperative TVET. As a first step of cooperation and trust building, dialog forums and sectorial roundtables or councils are a proven measure.

In order to create win-win-situations and to make sure that industry benefits from knowhow transfer and innovative power, we recommend using the dramatic changes in the world of work as a lever. LAC countries can profit enormously from the new occupational profiles in the context of Industry 4.0, Agriculture 4.0, circular economy, bioeconomy and energy efficiency, and last but not least digitalization. In particular, it is important that the training occupation responds to the needs in the region. The request and demand for the implementation of a new training

[69] For detailed information and concrete examples see: Lerman, R. (2019): https://wol.iza.org/articles/do-firms-benefit-from-apprenticeship-investments DC dVET (2021). Cost-Benefits Studies: Overview of Types, Requirements and Suitability. Zurich. www.dcdualvet.org/en/topics-experiences/engaging-the-business-sector/cost-benefit/ and several webinars on the topic: www.dcdualvet.org/en/portfolio-items/webinars/#03
Wenzelmann, F.; Schönfeld, G. (2022. Kosten und Nutzen der dualen Ausbildung aus Sicht der Betriebe. Ergebnisse der sechsten BIBB-Kosten-Nutzen-Erhebung. Bonn.

occupation must always come from industry underlining the role of the companies and be based upon a comprehensive market study. These new jobs can contribute to improving the image of TVET linking it to future-oriented economy and ensuring that cooperative TVET enjoys acceptance and recognition in society and the economy.

In the traditional cooperative TVET model, labor organizations are important actors in the governance of the system, which considers the tripartite presence of the public sector, employers and workers' representatives. In LAC, labor organizations seldom engage in cooperative TVET, since generally they are focused on other issues that are not associated with training. Above all, they focus on remuneration and collective benefits and mostly, they are highly politicized. The case studies do not offer any good practice to be transferred to LAC. In how far the crucial role played by business associations could be complemented and encouraged by greater participation of labor organizations contributing to the increase in quantity and quality of cooperative TVET is subject to further research.

3.2.2 LEARNING WITHIN THE WORK PROCESS

In chapter 3.2.1 we have mentioned the importance of industry (companies and business associations) to be in the driver seat for the implementation of cooperative TVET. In general, initiatives for cooperative TVET that have been triggered by the industry have proved to be an effective lever. On the other hand, project experience shows that the state has an equally important role to play, especially when it comes to scaling up pilot models made in a region or sector. The state must create the legal framework for the duality of learning venues, recognize the workplace learning as part of the curriculum and position the vocational qualifications in the education system. This has worked very well in the Mexico, Nigeria and Brazil case studies. Moreover, the state is needed to establish staggered incentives for large companies and MSMEs.

As outlined in sections 3.2.3 and 3.2.4, integrating workplace learning as a second venue of learning to which the same quality requirements and learning objectives apply as for school-based learning, is an important quality feature of cooperative TVET. There is a need for a framework of legal regulations, quality standards, quality assurance mechanisms, and their monitoring and evaluation, which must be provided by the state in consultation and agreement with the industry. Our research shows that this is the weak side of many projects. In most of the projects studied, we found only one or few features of learning within the work process, such as proposals for standardised training of in-company trainers (e.g. India and Cambodia case studies) or clearly delineated curricula for learning at school and at work. Most project approaches implicitly recognise the importance of dual learning locations, especially practical learning in the workplace, but do not go the step further and explicitly promote it. Lessons learned and good practices are not always scaled up sufficiently and transferred to the national level. In order to anchor workplace learning systemically, the other dimensions, such as an appropriate legal framework, should be considered from the outset and included in the project planning.

\ SPECIFIC RECOMMENDATIONS FOR LAC

The region has been experimenting with apprenticeship programs for decades and some countries have in place legal frameworks that regulate their delivery. “Peru (Law 28.518 from May 3rd, 2005) and Colombia (Law 789 from December 27th, 2002) have legal frameworks that are relatively recent and that reflect 21st-century labor standards. Other countries such as Costa Rica (Law 4903 from November 1971) and the Bahamas (Apprenticeship Act from 1968), however, have outdated legal frameworks” (Fazio et al. 2016). Mexico has recently updated the legal framework to regulate cooperative TVET and can serve as a good practice, if not so say, blueprint for other states. It is crucial for a smooth and effective introduction of cooperative TVET in the region that the rights and responsibilities of the different parties involved are based on up-to-date legal frameworks. Moreover, appropriate legal frameworks, which are the result of dialogue and consultation with the social partners are key to creating incentives for the participation of the various parties.

3.2.3 ACCEPTANCE OF NATIONAL STANDARDS

Some of the projects presented have successfully contributed to the development of new vocational or occupational standards. In Nigeria, jointly with the National Board for Technical Education (NBTE) SKYE developed 10 new National Occupational Standards (NOS) (7 for the construction and 3 for the agriculture sector) and established a process of how to define the standards which can serve as a blueprint for the introduction of further NOS.

The development of both an occupational standard and the corresponding curriculum for e-waste processing technicians in the Africa regional E4D program is an industry-driven initiative and sustainable in two ways. Firstly, because the standard was developed in partnership with a global company and secondly, because formal TVET institutions have been involved in the process to ensure the curriculum is validated.

Generally, DC projects have a limited impact on the national level of educational systems, unless they are embedded in a landscape of projects (Nigeria case study), are engaged over longer periods of time covering several project phases (Mexico and Egypt case studies) or part of a regional outset (Africa regional E4D case study). The India case study shows that although the cluster-based approach fosters the development of unique cooperative

skills development models for a specific sector and region, it provides a solid basis for inclusion in the regional standardized skills development systems. Ultimately, it leads to acceptance of occupational standards via approval and certification by a responsible body, such as national skills authorities or the respective Sector Skills Council (SSC).

As a cross-cutting conclusion, it can be stated that projects which are to exert an influence on national standards must at least pursue a systemic multi-level approach and promote the cooperation with a wide range of TVET players. In addition, there must be a clear will to change at the political level and the power to implement structural reforms.

\ SPECIFIC RECOMMENDATIONS FOR LAC

Though the region's use of National Qualification Frameworks (NQFs) is limited, progress has been made and by 2020 nine countries already introduced national, regional or sectoral qualification frameworks (see 1.4.3). Lessons learnt evidence that in the context of a cooperative TVET system, codified standards help to create transparency about the learning contents in each learning venue, and to foster image building of the vocational occupations. Certification of labor competencies is an important tool to provide trainees with a formal recognition of the competencies attained facilitating their future labor market insertion.

A key topic for LAC countries is the importance of having clear rules for developing cooperative TVET programs with industry. As pointed out in the IDB report on "Apprenticeships for the XXI Century", lack of or limited monitoring, impact evaluations and cost-benefit analyses of apprenticeship programs, increase the hesitation of governments and companies to get involved (Fazio et al. 2016). Comprehensive monitoring and quality assurance programs are required to provide industry with the necessary orientation and guidance to engage in cooperative TVET. Since the political level of LAC countries is often resistant to consultation and pursues its own agenda, care should be taken in project funding to ensure that there is a joint political will on the part of all parties involved and that change agents are in place to drive the change process.

3.2.4 QUALIFIED TVET STAFF (IN-COMPANY AND IN SCHOOLS)

What has emerged as a cross-cutting topic from our research is the need to qualify the staff involved in cooperative TVET. The qualification of school teachers and in-company trainers is one of the first issues to be addressed and has been implemented by most DC projects included in the study. It is likewise important to note that, when working with national educational institutions in many cases also the management personnel has been trained and further educated.

Process manuals have proven to be very helpful to orientate TVET institutions and training companies on how to proceed in the planning, implementation, and testing of cooperative TVET (see the comprehensive work in the Mexico case study and to a lesser extent in the Nigeria case study). A good example of further developing the skills of industry staff and of in-company trainers and company managers in parallel is the integrative industry-based training model for the hospitality sector in the Cambodia case study. Coming from the industry, it also connects to public education, encouraging the placement of teachers in industry programs to acquire more practical skills, and equipping in-company trainers with more didactic and pedagogical skills. Combining the development of a new training course in cooperation between industry and public TVET institutions with the simultaneous development of a corresponding in-company trainer program has also proved to be purposeful (refer to knowledge product in-company training, India case study).

Beyond these target groups also the staff in the so-called transition system, such as social pedagogues, support teachers, career entry guides or staff of employment agencies have been trained to increase the employability of trainees and rates of job placement. Integrative project approaches promote the further development of career guidance skills as a side measure, e.g., for TVET school personnel or staff of employment agencies (Cambodia, Kosovo, and India case studies). Good practices are also found in the Bolivia case study with the SILE system, and in the Nigeria case study.

\ SPECIFIC RECOMMENDATIONS FOR LAC

As discussed in section 1.4.4, very few LAC countries have a systematized qualification of TVET teachers. The other staff involved in cooperative TVET, like in-company trainers, ambassadors and liaison officers (with the exception of Mexico), are not trained at all beyond project activities. Next to the demand for national standards, this is certainly one of the key challenges for introducing cooperative TVET sustainably and effectively in the LAC region. Occupational standards for all key positions and roles and corresponding standardized training programs as well as processes for the training delivery and certification need to be established. Here a regional observatory of cooperative TVET (see 3.2.5) as exchange platform for standards, curricula as well as training and certification measures can be an effective and efficient solution.

3.2.5 INSTITUTIONALISED RESEARCH AND ADVICE

Labor market studies are promoted by several of the analyzed projects to identify potentials for market-driven occupational profiles. In Brazil, any development of a new training is based upon market research and the thorough analysis of the demand. Other projects, such as in the Egypt case study, encouraged the multi-stakeholder platforms to connect with regional labor market observatories to ensure that skills development initiatives are based on facts and figures, thus on identified needs. Some projects have acknowledged that evidence-based policy making is a prerequisite for an employment-oriented TVET system.

Most if not all projects included in the study promote cooperation with the industry to identify the skills needs in a particular sector and/or region. This means not only raising awareness among stakeholders of the importance of meaningful labor market data to increase the relevance of TVET, but also training stakeholders in the use of data collection and analysis tools. Systemic project approaches can help to put these instruments and capacities on a broader and sustainable basis. The Kosovo case study, for example, supported various stakeholders in bringing together existing labor market and TVET data, making it comparable and closing information gaps. It is important to also take the next step and transfer the data into a permanent, sustainable system – the Kosovo Employment Agency has been capacitated to regularly update labor market information as a real time system.

The Cuba case study has utilized the Multidimensional Vulnerability Index (IVM) commissioned by the Ministry of Labor and Social Security and adapted it to the situation of young people entering TVET and the identification of young people disengaged from study and work (NEET), thus allowing for a better guidance of these (see knowledge product in Annex 1).

\ SPECIFIC RECOMMENDATIONS FOR LAC

The promotion of research structures and capacities is particularly important for the region in view of fast-changing skills profiles and for a challenging work environment with increasing qualification requirements. Many LAC countries still have low capacity to identify the skills requirements demanded by industry. According to the IDB study, “evidence on the performance and impact of apprenticeships program is limited in the region, and as such it is difficult to estimate the real benefits for workers (in terms of employability, employment, and quality of employment in the short and long run) and for firms (in terms of productivity and profitability) that apprenticeships can bring to program participants” (Fazio et al. 2016). Employer surveys, skills anticipation models, or other forecasting instruments should be employed on a regular basis. The assessed DC projects have demonstrated the usefulness and effectiveness of skills councils worldwide. This is an approach already introduced in many LAC countries, however, it should be further developed and installed in a systematized way. Another recommendation that can be derived is that market analyses should become standard as a basis for the introduction of new and the adaptation of vocational profiles. Impact studies and cost-benefit analyses not only serve planning purposes but also are a valuable marketing tool for the acquisition of private and public partners.

With the support of international cooperation, vocational research should be institutionalized, perhaps in the form of a regional organization, comparable to the European Centre for the Development of Vocational Training (CEDEFOP, French acronym) or as a branch of the Inter-American Centre for Knowledge Development in Vocational Training (CINTERFOR, Spanish acronym). One of the tasks should be to systematize lessons learned from successful experiences and good practices in cooperative TVET, make them known and replicate them, with their adaptations at the national levels. An evaluation option is the creation of a web platform "Regional Observatory of cooperative TVET" that will be populated with existing experiences in the different countries of the region, identify and disseminate good practices, bring together the different foundations and private entities that provide assistance to companies, and consider support material (digital library) for those interested.

3.3 FOCUS TOPIC SPECIFIC CONCLUSIONS AND RECOMMENDATIONS

3.3.1 GENDER EQUALITY

According to the classification of gender promotion introduced in section 1.5.1, the case studies of Bolivia, Brazil and India depict a classic gender approach. The projects implement measures that meet the criteria for gender equality by improving access to TVET offers and increasing the number of women in technical professions, thus enabling them to raise their income and live a better life. The projects implement measures to overcome the conventional choice of women and men for the occupations that are socio-culturally ascribed to their gender. In Brazil and India, girls and women are encouraged to enroll in training for non-traditional occupations. In India, female representatives of TVET institutes and the industry are systematically involved in the design and implementation of cooperative TVET models. Furthermore, the IGVET project engages itself in incorporating gender issues in TVET reform processes.

As described in the gender criteria, measures for transformation mean to do things differently. Gender transformative activities need to include gender sensitive delivery mechanisms. For example, by offering child-care services and reducing financial barriers for girls and women, working on the safety of training spaces and female friendly

transportation, installing separate sanitation facilities, introducing legislation and/or school rules against sexual harassment, gender awareness training for teachers and in-company trainers and gender sensitive curricula. The case study of Brazil presents good practices and knowledge products enabling women to use the skills they have acquired by: linking them with mentors; fostering networking through socio-professional networks and cooperatives; facilitating access to credit or saving schemes; and supporting business development and connecting to new markets. The project Agricultural Technical Vocational Education and Training for Women (ATVET4W) and the Program for Strengthening Technical and Vocational Education in Cuba (PROFET, Spanish acronym) are further examples of innovative and comprehensive ways to empower women in the field of cooperative TVET. The ATVET4W project supports gender transformative policy dialog and advice on the continental level, national and micro level in six African countries by working closely with the relevant partners from the TVET sector and industry. An example is the creation of short-term TVET training at times and locations accessible to girls and women. Husbands and communities are informed and involved in the preparation and follow-up. Trainees are supported to overcome obstacles in applying the skills acquired through coaching, mentoring or peer exchange.

\ SPECIFIC RECOMMENDATIONS FOR LAC

In the machismo-driven Spanish-speaking LAC countries, promoting gender equality is an important first step in increasing participation of girls and women in TVET. However, these measures are not enough to change deeply rooted socio-cultural norms and stereotypes as well as structural barriers. To ensure that interventions do not remain isolated and potentially harm women and girls outside of school and turn well-intentioned measures into the opposite, we recommend implementing an integrative gender transformative change approach whenever possible. Gender transformative change means working also with men, as only when men and women work together and win-win situations are created, real change can happen as shown in the case study of ATVET4W.

3.3.2 GREEN TVET

Approaches that unlock the employment potential of future-oriented professions, e.g., the green or digital economy, have proven to be particularly effective and arouse the interest of stakeholders. By linking new educational needs with TVET and economic development, TVET gains an attractiveness that traditional occupations often do not provide. This attracts better qualified young people, who in turn contribute to the productivity of companies, setting in motion a positive self-reinforcing cycle. Industry benefits from the new knowhow and is thus more willing to engage in cooperative TVET. This creates classic win-win situations.

The decarbonization of the economy and the development of the circular economy will lead to new professions and adaptation of existing jobs to the skill demands of the green economy. Some sectors that have growing demand for skilled workers and a high potential to create green jobs are: renewable energy (see case study: Future Professionals in Brazil), agriculture (through organic food and beverages), eco-design, ecotourism, and transport, with many opportunities in the electric vehicles sector and public transport as well as construction, manufacturing (circular economy) and blue economy/aquaculture.

Adapting TVET and jobs to the new green reality can start with the development and piloting of short courses and offers e.g. for e-waste management and recycling or renewable energy (case study Africa regional, E4D) or the development of a further training program in green skills (case study India, IGVET).

Since introducing new and/or updating existing occupations requires investment in equipment, machinery and materials, a strong cooperation partner is important. This type of DC projects needs counterparts (above all ministries, but also training providers and business associations), who have the ability to equip training centers and to invest in the corresponding machines and learning material (see case study Brazil). Sometimes Public Private Partnership (PPP) projects are an effective means of involving companies in supporting the furnishing of training centers. In Brazil, for instance, the photovoltaic training for teachers of the Federal Institutes of Education, Science and Technology is implemented in partnership with Schneider Electric.

\ SPECIFIC RECOMMENDATIONS FOR LAC

As section 1.5.2 highlighted, cooperative TVET can contribute to tapping into the potential of the green economy in the LAC countries. In the case of bio-economy this often means working with a highly informal sector, and first of all, requires establishing organizational structures. This could be in the form of cooperatives and building strong networks involving all stakeholders (individuals, traditional communities and family farmers, trainers, public and private actors). Capacity building needs along value chains should be carefully analyzed starting from the business case, with a large focus on the development of technical, organizational and entrepreneurial skills. Value chains offer a wide range of opportunities for creating jobs. Target-oriented short courses, such as the qualification of tractor or forklift drivers, have the potential to also include vulnerable groups. For the identified jobs, occupational standards and curricula can be defined. This approach may also include empowering TVET institutes to deliver the needed qualifications. Biodiversity value chains can help to leverage this potential and generate income for rural populations in many LAC countries. The experience in Brazil shows that renewable energies offer a high employment potential.

3.3.3 DIGITALIZATION

To remedy the negative impact of the COVID-19 pandemic, in almost all of the projects included, online training has become an integral part of the project activities. Consequently, in order to assure a good quality of digital learning, many projects have offered digital training for the teachers and/or instructors of the TVET courses. The RECOTVET project in the ASEAN region trains multipliers for cascade training of teachers and in-company trainers. Also, the projects in Brazil and Bolivia foster the digital competences of teachers.

When discussing digital skills and abilities, the following successful examples of ICT skills development (ICT) were identified: The digital skills development project for people with disabilities (case study Africa regional, E4D) opens up employment opportunities for graduates in different sectors, such as telecommunication, tourism, financial sector. Moreover, the implementation of the opportunity-driven concept of skills development along value chains (Africa regional, E4D) has shown that it is possible to digitalize individual work steps along the value chains in a variety of sectors, (e.g., for the steering of modern vehicles in the construction sector), and to develop tailor-made short courses in cooperation with the industry. Whether these approaches have potential for further expansion and scaling up needs to be investigated in more detail.

For cooperative TVET, practical learning at the workplace is difficult to replace with online modules, as learning in Virtual Reality (VR) environments is technically complex and cost intensive. Theoretical learning, which can happen online, must be linked in a didactically meaningful way by face-to-face phases in blended learning processes. Virtual apprenticeships or virtual internships are best suited for jobs which themselves can be performed in this manner, e.g., programming, digital marketing, journalism and media production.

An example of good digital learning practice is the e-learning platform SEAVET.net created for the ASEAN countries. The platform offers short-term TVET training with well-qualified trainers. The number of TVET offers is constantly growing. At the time of this report, course were free of charge, but for sustainability reasons it is planned that the partner organization will sell them in the future to cover the costs for updating and maintaining the platform. SKYE in Nigeria is subsidizing the establishment of e-learning platforms for soft skills training. The atinigi e-learning platform of GIZ offers free courses for self-paced learning in more than 30 languages. Originally developed for Africa, Atingi is now used globally (e.g. in India).

Another aspect that case studies revealed, is the contribution that digital TVET and labor market information databases and systems can make. This can take place in terms of promoting evidence-based decision making and policy making for the future design of TVET and labor market measures, but also in terms of encouraging the development and application of smart intelligence and national governance systems (case study Kosovo, ALLED2, statistical barometers). SKYE fosters the development of an online pilot platform for mobile devices that connects artisans and craftspeople with potential clients.

\ SPECIFIC RECOMMENDATIONS FOR LAC

Especially in LAC countries, digital or web-based learning can contribute to the democratization of education, through access to open, free learning platforms and learning materials such as Massive Open Online Courses (MOOCs). However, it is also important to consider those who do not have access to the Internet and digital devices at home (digital divide). "The (COVID-19) crisis revealed and deepened both the structural gap in access to education for the most vulnerable citizens, as well as the digital split for those who did not have the tools to get on the 'train' of remote education with the use of technology" (see Ripani BID 2022). Attention to these vulnerable groups has to be paid and specific support provided.

In Brazil, the IT sector is expected to provide employment for millions of people in the next years. The "Future Professionals" project will capitalize on this potential and develop training courses in this field. The manufacturing industry and productive services will create another millions of jobs, especially in the context of Industry 4.0. In this context, the possible risks of gig economy and precarious employment conditions must be taken into account.

\ CONCLUDING REMARK

The 13 case studies clearly demonstrate the potential of cooperative TVET to contribute to increased employment, especially among young people aged 15-24, and to provide them with better life prospects. Many of the LAC countries are in a position to further disseminate cooperative TVET. The findings of this study and the good practices identified can provide valuable inspiration and guidance for the development of cooperative TVET in Latin America and the Caribbean.

ANNEX 1 KNOWLEDGE PRODUCTS

From the case studies analyzed, we have collected knowledge products that provide suggestions for adaptation to project contexts in LAC. For the localization of the knowledge products, we used the same matrix as for the localization of the case studies to allow a direct mapping to the five key features of cooperative VET and the three focus topics.

Table 4: Structured overview of knowledge products

KEY FEATURES	COOP. OF STATE + INDUSTRY	WORKPLACE LEARNING	NATIONAL STANDARDS	TVET STAFF	INSTIT. RESEARCH	GENDER EQUALITY	GREEN TVET	DIGITALIZA-TION
Africa reg. ATVET4W						•		
Africa reg. E4D	•	•						
Egypt	•	•		•				
Nigeria					•			
ASEAN	•			•				•
Cambodia	•	•	•	•				
India	•	•		•				
Pakistan	•	•						
Kosovo					•			•
Bolivia	•					•		
Brazil						•		
Cuba					•	•		
Mexico	•					•		

ANNEX 1.1 AFRICA REGIONAL ATVET4W

\ KNOWLEDGE PRODUCT: GENDER MAKES BUSINESS SENSE (BENIN, BURKINA FASO, GHANA, KENYA, MALAWI, TOGO)

Gender makes Business Sense (GmBS) has been developed as a practical capacity development journey for entrepreneurs. It is an entrepreneurship training with an additional gender dimension. The Gender makes Business Sense equips both women and men with practical business management skills, financial knowhow and an understanding of the socio-economic impact of gender dynamics in their businesses.

Figure 14: Gamifying business skills

GMBS is a solution to the problem that training alone does not necessarily empower women and or improves their income. It was developed as a follow-up to technical training. In the course of GMBS, the participants learn how to analyze their business and take more inclusive, strategic and cost-efficient business decisions. This is beneficial for men and women as it creates a safe environment in which innovative ideas and challenges can be collaboratively discussed.

GmBS's ultimate purpose is to improve entrepreneurs and their communities' well-being by creating thriving and profitable businesses in agriculture or other sectors that unlock employment opportunities. It is a training – available for in-presence but also purely as e-learning course – providing practical business management skills, financial knowhow and an understanding of the socio-economic impact of gender dynamics in businesses. Participants, both women and men, benefit from the business development and empowerment aspects. The approach combines theoretical and practical learning addressing gender constraints in entrepreneurship showing how a collaborative approach between women, men, public and private sectors, and the community can systematically redress the gender imbalances in the diverse value chain segments.

Reasons for using GmBS include:

1. "Gender diverse teams are more creative, better at generating new ideas and avoiding 'group think',
2. Diversity programs have a positive impact on motivation,
3. Diverse workforces perform better financially,
4. Greater diversity in organizations reduces staff turnover,
5. Reducing the 'gender gap' in the workforce has been proven to improve GDP,
6. Gender diversity on boards leads to greater corporate transparency and enhanced ethical orientation,
7. Increased gender diversity protects women against sexism and sexual harassment"[70]

Originally developed by ATVET4W for agripreneurs, the approach has been transferred to other sectors and continues to be applied by the SIFA program. More information about GmBS is available on the Sector Network Rural Development webpage.[71]

More information on Gender Makes Business Sense can be downloaded from the Aspyee Webpage, an African Skills Portal for Youth Employment and Entrepreneurship: https://aspyee.org/index.php/gmbs

[70] https://aspyee.org/index.php/GmBS_Aspyee *is the* African Skills Portal for Youth Employment and Entrepreneurship *where many ATVET materials can be found.* https://aspyee.org/

[71] https://www.snrd-africa.net/agribusiness-training-with-empowerment-at-its-heart/

ANNEX 1.2 AFRICA REGIONAL E4D

\ KNOWLEDGE PRODUCT: WORK READINESS CURRICULUM (KENYA)

The Kenya Association of Manufacturers (KAM) is committed to support the skills-based job creation agenda and increase manufacturing sector jobs. KAM has therefore partnered with E4D to develop and implement a work readiness training to improve access to jobs and economic opportunities for youth in Kenya and fit them well into the industry. The work readiness training targeting the graduates of E4D partner TVET institutions and beneficiaries is designed to teach soft skills to the graduates to make them employable in the manufacturing sector companies. The rationale is that work readiness is not sufficiently provided by the training institutions, technical skills alone are not enough. Work readiness training has recognizably improved the transition to jobs.

Figure 15: KAM logo 60th anniversary

The work readiness curriculum provides for both a pre- and a post-training module, and the training methodology embraces different participatory approaches such as mini lectures, group discussions, questions and answers, brain storming, role plays and video discussions. The course starts with an individual SWOT analysis and a session on self-awareness and self-esteem and provides concrete support and advice on how to produce a marketable curriculum vitae. It then moves to the teaching of basic business skills, including financial management, communication and negotiation, leadership, marketing, sales and good customer relations, delegation and time management, problem solving, decision making, and networking.

\ KNOWLEDGE PRODUCT: VET TOOLBOX (UGANDA)

As investments from the European Union to African countries increase, national economies can seize the opportunity to expand their share of local value addition and local job creation. However, in many countries there is a strong mismatch between quality and quantity of labor supply and demand. The main challenges in partner countries stem from a need for information about current and future job opportunities and for adequate education and relevant skills, to meet the demand of the private sector. Labor supply and VET systems are not responsive enough towards changing dynamics in terms of demand for skills. The VET Toolbox services, an initiative of several European development partners, jointly funded by the EU and BMZ, accompany European investments to help improve local benefits (e.g. jobs, income, local value chains) by addressing the skills gap.

Figure 16: VET toolbox logo

The VET Toolbox, which is currently being applied in five E4D countries, facilitates public private dialog and partnerships, supporting TVET institutions to provide employment-oriented training consistent with investment needs. These primarily include focus sectors of the EU External Investment Plan including renewable energy, sustainable transport, digitalization, etc. Feeding the results of the training measures and lessons learnt back into the PPP dialog intends to stimulate TVET reform. In the E4D countries mainly short courses are designed and implemented, where companies are involved in different stages of the training cycle, e.g. in the needs assessment, the conduction of DACUM workshops, the development of standards, and evaluation of training measures, whereas the companies are often less involved in the training measure itself. Practical orientation and learning is often promoted via internships as a quality standard.

In Uganda, rural electrification through solar mini grids has been identified as the key priority sector for the VET Toolbox activities. This initiative will support Uganda's rural electrification ambitions by complementing the ongoing promotion of solar powered mini-grid solutions with skills development and tailor-made training for the needs and opportunities of the private sector and beneficiaries. The focus will be on supporting the set-up of solar-based mini-grids and solar home kits through skills development efforts, leveraging the creation of access to electricity in rural areas, as well as developing knowledge products on productive use of energy (PuE) measures. The initiative will also support the development and introduction of practical training modules and curricula for PV system maintenance (specialization) and PuE at vocational training institutions in northern Uganda. In addition, the capacities of instructors shall be strengthened, enabling them to train technicians on the proper design, installation, and maintenance of solar PV systems and PuE.

More information on the VET toolbox can be downloaded here: Frontpage | VET Toolbox

ANNEX 1.3 EGYPT

\ KNOWLEDGE PRODUCT: IN-COMPANY TRAINING TOOLS MANUAL

The quality of the DS is highly dependent on the quality of in-company training; therefore, the definition of commonly accepted quality criteria and standards is key. On the basis of an analysis of practical examples of in-company training in 80 companies of different sectors and sizes, EEDS through the QPI in cooperation with the RUDS, MoETE and the National Centre for Human Resource Development (NCHRD) identified 7 tools necessary to improve and assure the quality of in-company training (see graph). These are compiled in a tool-kit that caters for the different needs and roles of all persons involved in in-company training according to the DS, and also serves as a guide for MSMEs where one person assumes all roles related to in-company training. The manual aims at encouraging the ownership of the companies which was well received by them.

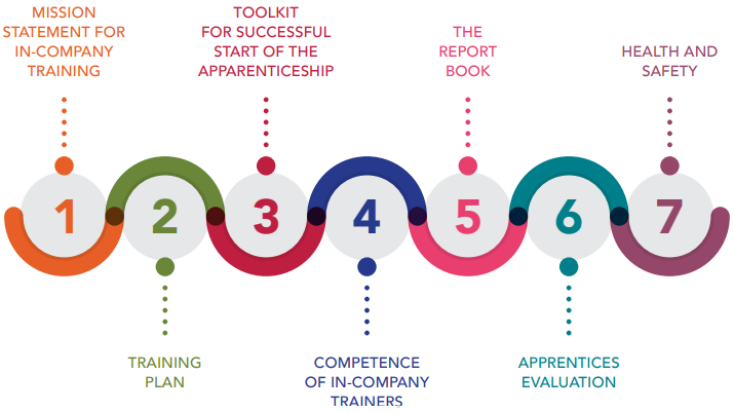

Figure 17: Quality of in-company training tools

Each of the 7 tools is structured along the following elements: purposes, processes, roles, best practice tips, and useful templates. Tool 1, the mission statement, is a significant tool necessary to capture the company's main objectives while serving as a communication method to be applied internally and externally.

Figure 18: Coaching situation

The tool describes practical tips for the three main steps, including planning the mission statement development, the actual developing, and adopting and publishing the mission statement. Tool 2, the training plan, is a guide for planning dual system training along six defined steps. It does not set a general framework for all types of companies, but rather takes into consideration the specifics of the individual company. The guide to training planning allows the training to be designed either full work process or single task oriented and is a basis for deriving other quality tools. Tool 3 comprises a toolkit for the successful start of apprenticeships, containing instruments and practical tips for the on-boarding of apprentices, making them familiar with their new work environment, and for building a trustful relationship between the company and the apprentices.

Tool 4 is dedicated to the in-company trainers who serve as role models and play the crucial role in imparting knowledge and skills to the apprentices. It combines a set of competences and standards that are required for in-company trainers, focusing rather on the pedagogic, planning, management and communication than on the technical skills. Tool 4 also provides a checklist for the required competences of an in-company trainer and guidance how to select the appropriate training method for apprentices. Tool 5, the report book, ensures continuous documentation of the learning process throughout the training period. It serves as an instrument for the apprentice and the in-company trainer to verify or rectify training implementation, and as a basis to evaluate the performance of the apprentice and provide feedback. Learning success controls (apprentice evaluation), tool no 6, can be used to assess whether the apprentices have successfully completed their tasks and acquired new competences, and if they are ready to proceed to the next training phase. The tool presents examples of different assessment types that can be adjusted to the respective training situation. Finally, tool no 7 on occupational health and safety is a guide for the company to analyze potential health and safety risks at the workplace at an early stage, and to develop preventive actions and instructions.

During EEDS the quality tools were successfully applied in 168 companies, and lessons learnt have been incorporated into the revised version of the manual. It now constitutes a quality requirement for any company that wants to participate in the EDS, and is ready to be scaled up horizontally, i.e. across additional sectors and regions, and vertically, i.e. to be integrated into the national system. The full manual can be downloaded here: https://publikationen.giz.de/qlinkdb/cat/ID=246341000

ANNEX 1.4 NIGERIA

\ KNOWLEDGE PRODUCT: GUIDELINES FOR "EMPLOYMENT AND LABOR MARKET ANALYSIS" (ELMA)

The purpose of the guidelines for "Employment and Labor Market Analysis" (ELMA)[72] is to address the need for a deeper understanding of country specific challenges to employment generation. ELMA provides a methodological tool for a comprehensive analysis of the labor market and employment situation and its respective underlying causes. It is based on the logic of the integrated approach for employment promotion of German development cooperation. Hence, possible factors are structured and analyzed according to their impact on labor demand, labor supply and the matching process of the labor market. The time perspective of the analysis is medium- (2-6 years) to long-term (up to 10 years). The structure of ELMA is flexible enough to deal with very different employment conditions in developing countries. Thus, it can be used for analyzing labor markets in low-income countries, transformation countries, as well as in middle income countries. ELMA might be useful for a broad range of stakeholders in development cooperation: it may help decision makers in operational departments and sector experts in technical departments at headquarters of implementing agencies as well as project managers and their partner institutions in partner countries to deepen their understanding of the main constraints and challenges for country specific employment generation. There is a great deal of flexibility in the mode of implementation of ELMA, but in order to incorporate as much national expertise as possible and to facilitate an intensive dialog on reform options a participatory, partner-driven process of conducting ELMA is recommended (see ELMA guidelines).

Download: ELMA Guidelines

Figure 19: Trainees in electromechanics

[72] The guidelines were produced on behalf of the German Ministry for Economic Cooperation and Development and published by GIZ

ANNEX 1.5 ASEAN

\ KNOWLEDGE PRODUCT: ASEAN BUSINESS AWARDS[73]

Figure 20: ASEAN business awards

Each year the chair of the ASEAN Business Advisory Council (ABAC) organizes the Asian Business Awards (ABA) recognizing outstanding ASEAN businesses in various categories since 2017. In 2019, the Skills Development Award was integrated into the ABA as one of the main categories. The award is given to companies whose contribution to the human resources development of the ASEAN workforce is inspiring as a good practice example. Eligible companies contribute to improving the quality of skills development of the workforce through skilling, reskilling, or upskilling. The selection criteria target (1) active cooperation with the public sector, (2) innovation and replicability, (3) approaches preparing the workforce for Industry 4.0., (4) the quality of skills development, (5) the financial and institutional sustainability. The participants in the ABA and the Skills Development Award enjoy the validation and recognition by the industry peers and it offers networking opportunities and access to the ASEAN business community. In 2022, the winners will be rewarded with a press campaign and trainings for in-company trainers of their companies. All winners are showcased in a brochure published on the SEA-VET.net platform[74].

\ KNOWLEDGE PRODUCT: UPSKILLING FOR TEACHERS & IN-COMPANY TRAINERS IN DIGITAL LEARNING[75]

In the ASEAN region TVET teachers as well as in-company trainers are well qualified content-wise but there is a lack of capacities in teaching contents online. Digital transformation and industry 4.0 are rapidly changing the skills demanded by the industry and how these skills are delivered in TVET. The COVID-19 pandemic fueled the interest in digitalization. The increased interest in digital ways of knowledge sharing and learning led to the development of a knowledge platform with an associated e-learning platform. Both TVET teachers and the in-company trainers were looking for online solutions to continue teaching and training their students. To enable them to create and apply smart online learning surroundings, teachers and trainers had to first be taught the tools for successful digital learning. Facilitating their learning, RECOTVET started training multipliers through a blended learning and flipped classroom method to cascade the knowledge on to teachers and trainers. The flipped classroom is a teaching method in which learners prepare individually and independently with the help of digital learning media. In the subsequent classes, learners can apply their knowledge in practice. The main difficulty for the teachers and in-company trainers is to restructure learning experiences for online courses. The following challenges have been overcome by digital learning: facilitating virtual sessions, mastering the software for digital learning, designing training content for online learning – both synchronous and asynchronous and prioritizing content and adjust time structuring.

RECOTVET supported the research on existing tools and strategies to inform the online course designers. The e-learning platform SEA-VET Learning offers online training courses for qualifying TVET professionals and for in-company trainers who want to learn new skills and advance their career. Five online learning offers on "Fit for Industry 4.0" and "Advisory Skills for Change Agents in Digital Transformation" have been created and are available on the regional eLearning platform. By now, over 250 TVET multipliers from 11 Southeast Asian countries are equipped with knowledge and skills on Industry 4.0 and Digitalization. 20 master trainers from 7 ASEAN countries are able to advise schools and companies in digital transformation process.

More information can be found on https://sea-vet.net/

[73] https://sea-vet.net/news/1124-extended-aba-skills-development-award-applications-now-open

[74] ASEAN SKILLS DEVELOPMENT AWARD - THE 2021 WINNERS (sea-vet.net), https://sea-vet.net/news/1113-aba-skills-development-award-applications-now-open

[75] https://sea-vet.net/news/1124-extended-aba-skills-development-award-applications-now-open

ANNEX 1.6 CAMBODIA

\ KNOWLEDGE PRODUCT: IN-HOUSE TRAINING IN THE HOSPITALITY SECTOR (IMPLEMENTATION GUIDELINE)

This guideline follows a two-fold purpose and describes a) the process and b) the implementation of in-house training (IHT), guiding through the entire cycle of IHT, and addressing technical and managerial staff of the companies, business associations and PTCs as well as ministerial staff. What makes the IHT guideline special is that it does not provide a step-by-step guide on how to conduct in-company training, it rather shows the process that has been followed to develop and implement in-company training. In this respect, it provides a basis for replication and transfer to other sectors and contexts. With regard to the process required to establish an IHT, the following 7 steps have been identified:

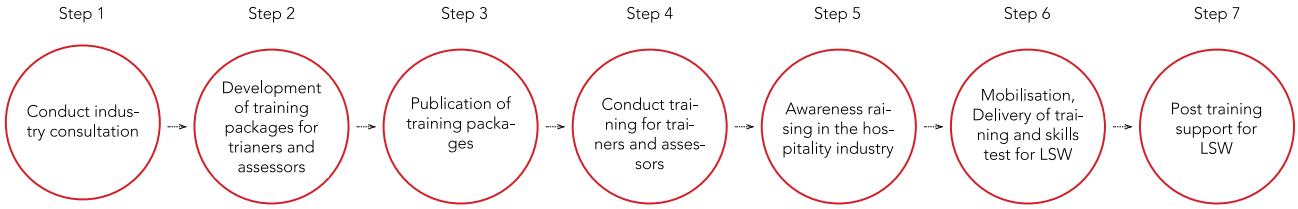

Figure 21: Seven steps of in-house training

As far as the actual implementation of IHT is concerned, the guide is structured around four key sections and complemented by source documents:

Development and implementation of IHT: This section provides information on: (i) IHT model and approach – triggering training demand among enterprises and developing training supply; (ii) selecting relevant occupations; (iii) defining the roles and responsibilities of the contractual partners; (iv) capacity building of local resources including trainers, master trainers and assessors, inter alia by establishing specific tools such as the professional industry placement (PIP) and high impact training (HIT); (v) developing industry based in-house trainers; (vi) working with trainers and assessors, highlighting central elements of successful training, and (vii) working with trainees focusing on motivating the learners to ensure the relevance of course provision.

Figure 22: HoKa trainees

Training delivery for low skilled workers: (i) development of training plan following a dual approach combining work-based with formal learning; (ii) description of pre-training activities, defining tasks and responsibilities and relevant tools; (iii) definition of roles and responsibilities for activities during training; (iv) end of training activities, and (v) emphasizing the important of post training support.

Training packages and tools developed to ensure the quality and consistency of training delivery: (i) curriculum development for occupations, incorporating local context and aligning with ASEAN standards (via international consultants); (ii) materials for trainers and assessors such as training and assessment manuals; (iii) materials for trainees to assist the learning process in the hospitality companies; and (iv) support to improve the working and learning environment for the trainees.

Outcomes, challenges and lessons learnt: this section summarizes the main achievements and challenges encountered during the 1st phase of implementation and suggests adaptions: (i) resistance of PDoT to participate and underperformance of the contracted partners required a mediation process to clarify roles and an adjustment of the training model; (ii) listing the major challenges encountered, most of which are attributable to the local context, which highlights the importance of analyzing the initial conditions and possible stakeholders first; (iii) summary of major lessons learnt - it takes time to gain the trust of the stakeholders to be involved, in the case of SDP about one year, before the training concept acquires a positive reputation and provides an incentive for other potential beneficiaries to join in; and the high impact hospitality training and PIP have proven to be decisive for improving teaching methodologies and industry knowledge of trainers and assessors.

Implementation guideline: SDP-In-House Training (IHT) Implementation Handbook.pdf (swisscontact.org)

Further information: SDP-Dual Vocational Training (DVT) Implementation Handbook.pdf (swisscontact.org)

ANNEX 1.7 INDIA

\ KNOWLEDGE PRODUCT: IMPLEMENTING THE DUAL SYSTEM OF TRAINING (BELAGAVI CLUSTER, KARNATAKA)

Belagavi, the manufacturing hub in the state of Karnataka with more than 87,000 SMEs, has a large number of jobs available for graduates and job seekers, but many of the vacancies cannot be filled. The reason is the lack of quality and quantity of well-trained workforce. With the support of IGVET, the Bengaluru Chamber of Industry and Commerce (BCIC) initiated the development of two new training courses under the Dual System of Training (DST) scheme to address the shortage of qualified labor. The key success factor in this project was the establishment of a strong cooperation between BCIC and a Belagavi-based ITI.

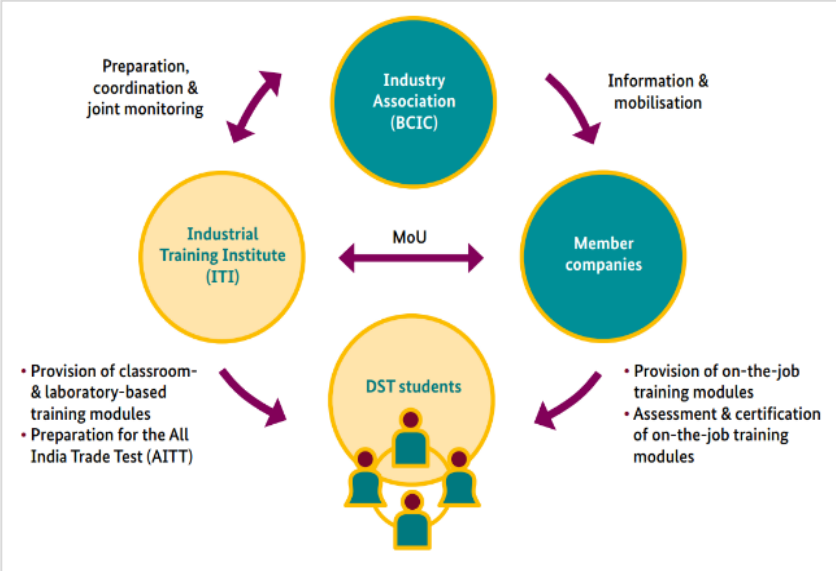

Figure 23: Stakeholder map for DST implementation (Belagavi)

The approach is summarized in a knowledge product on implementing the DST, a pilot measure for replication as it describes the ideal case of cooperative TVET, combining theoretical and practical learning. The KP is structured along the following lines: (i) providing information on the DST and providing the QR code to the scheme on the DGT website; (ii) outlining the major bottlenecks that can be encountered when carrying out DST courses; (iii) suggesting ways how to address the possible bottlenecks; (iv) providing a stakeholder map for DST implementation, outlining the main functions and tasks of the stakeholders (left); (v) describing the mobilization strategy how to kick-off the DST together with the industry partners; and (vi) presenting an overview of the training pattern.

The KP concludes with summarizing the major lessons learnt in the Belagavi Cluster DST process that can be relevant for other sectors and regions: it takes a good mediator to bring together the expectations and requirements of the industry and the ITI, trouble shared is trouble halved, one size does not fit all, and leaders lead by example – it always takes one to lead the way.

Download: A Working Book on Capacity Building Approaches in India (giz.de)

\ KNOWLEDGE PRODUCT: CONDUCTING A TRAINING FOR IN-COMPANY TRAINERS (BHIWADI CLUSTER, RAJASTHAN)

UWDMA in Bhiwadi entered into a partnership with a local ITI to develop a new training program for the production of uPVC windows and doors. A key component for the new training program was the development and implementation of a training program for in-company trainers which is documented in a knowledge product.

The new uPVC training program provides for alternating learning venues – the classroom and the production sites of UWDMA's members. Since the concept of alternating learning venues is relatively new to the Indian TVET system, this in-company training pilot measure was documented for replication, and is organized along the following key elements:

- Rationale for in-company training, pointing out potential challenges when first introducing it;
- Recommendations how to tackle the challenges; and
- Definition of the in-company trainer profile, requiring four complementary skills sets – pedagogical, technical, general and social competencies.

The competencies of the UWDMA member companies were mapped against the four dimensions of the in-company trainer profile and revealed deficits in three of the four areas. On the basis of the TNA a five-day training course was developed, and the training concept was organized around four training blocks corresponding with the four steps of planning, preparing, implementing and monitoring in-company training. Blocks 1 and 2 focus on developing general competencies, while blocks 3 and 4 concentrate on the pedagogical and social dimensions.

During the implementation of the pilot in-company training lessons were learnt that can help to shape future in-company training programs: it takes more than technical expertise to make a good in-company trainer, flexibility of employers and employees is key, learner orientation is critical, and practice makes perfect.

Download: A Working Book on Capacity Building Approaches in India (giz.de)

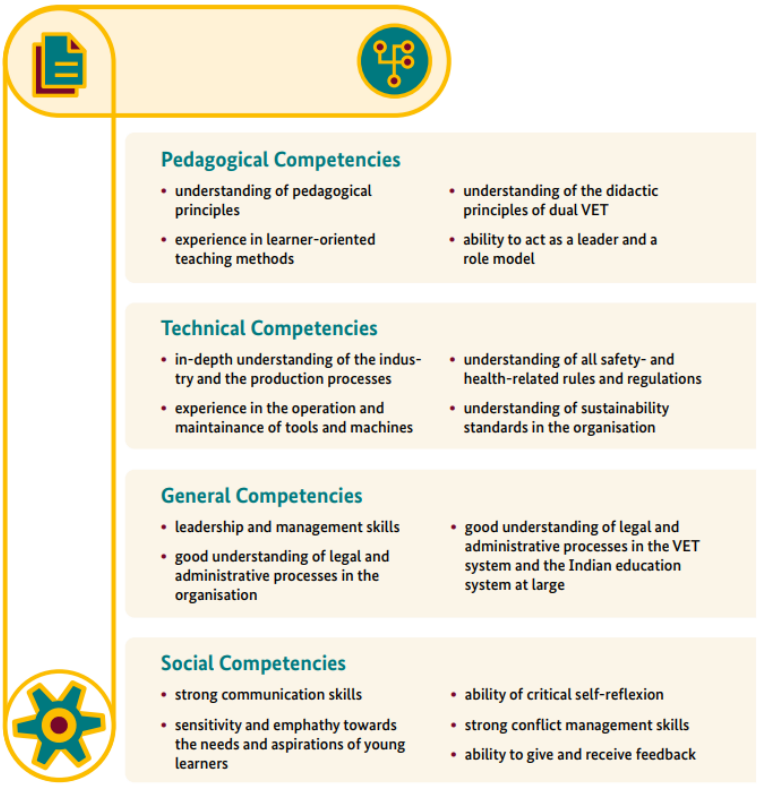

Figure 24: In-company trainer profile (Bhiwadi)

Figure 25: Instructor and trainees in Bhiwadi cluster

ANNEX 1.8 PAKISTAN

\ KNOWLEDGE PRODUCT: JOB FAIRS

Job fairs with around 50 companies and around 1.000 to 1.500 graduates and other stakeholders have been carried out. Some of them even during the COVID-19 pandemic which has been an enormous logistical challenge as all the hygienic measures needed to be fully applied, e.g. by installing disinfectant dispensers and regular announcements that masks were mandatory. Moreover, the number of participants allowed into the building had to be limited but the interested graduates waited patiently until it was their time to enter. Companies from different sectors set up recruitment kiosks to post current job opportunities and provide information about their enterprises and types of businesses. At the job fairs graduates had the opportunity to present themselves and look for future jobs. Participating in the job fair allowed them to have a first impression of what the employers look for, what the work and the atmosphere of working will be like. The percentage of graduates who successfully applied for a job has been very high. Participating companies saw the job fairs as a cost- effective way of hiring new employees.

\ KNOWLEDGE PRODUCT: SUCCESS STORIES OF EMPOWERED WOMEN

In the booklet "Skilled women, empowered women", individual success stories of female trainees are presented showing the struggle, resilience, hope and success of women participating in the initiative of skilled youth in Pakistan. The purpose of publishing these stories is to give inspiration and motivation to others in challenging times. It is used during events organized by TVETSSP, distributed to the partners of the project and downloadable from the website. Around a dozen female trainees share their experiences on how the improved skills have helped them to gain income, contribute to family's living expenses, and follow their dreams and plans for the future. Misbah Tasleem, for example, comes from a financially struggling family. She learnt dress making for income generation and plans to open a school for underprivileged children. She wants to empower herself through learning and to empower others through teaching. Download:

https://tvetreform.org.pk/wp-content/uploads/downloads/Reports%20and%20Publications/20201117SuccessStoriesofBeneficiariesworkedDuringCOVID19Measures.pdf

\ KNOWLEDGE PRODUCT: STRENGTHENING INDUSTRY PARTICIPATION IN TVET INSTITUTE MANAGEMENT COMMITTEES

Employer-led Institute Management Committees (IMCs) in TVET institutes as well as District Board Management (D-BoMS) aim at involving the industry on the micro level. The chairman of each IMC or D-BoM should be a representative from the industry as these committees play an important role in the management of the TVET institutes. The size of the committees varies from 5 – 10 members, with 50% coming from the industry, 10% from the civil sector and 40% from TVET. The roles and tasks of both committees are very similar, the difference relates to the geographical scope: IMC works with one TVET institute, the D-BoMS cover the whole district and work with several institutes.

It is part of the tasks to inform the TVET institutes about employment opportunities and to facilitate and promote public-private joint ventures in the TVET sector. The IMCs actively contribute to the preparation of the annual training plan, the usage of available resources and the assessment of trainers and teachers. The roles of IMCs and D-BoMs encompass, among others:

- Management (e.g., generate and utilize IMC funds, oversee equipment maintenance, communicate relevant information to SSCs, businesses and others)
- Demand-driven TVET offers (suggest revision of curricula, assess and supervise examinations, facilitate enterprise-based work-based, off-the-job & apprenticeship training. Facilitate career guidance and counselling)
- Cooperation of TVET with industry (provide mentors and guest lecturers, promote public private joint ventures for income generation and enhancement of training quality)

Guidance is given to the members of the committees in the manual for the Functioning of Institute Management Committees and District Board of Management.

Download: https://tvetreform.org.pk/wp-content/uploads/downloads/Reports%20and%20Publications/Manual%20on%20Functioning%20of%20Institute%20Management%20Committees%20and%20District%20Board%20of%20Management.pdf

ANNEX 1.9 KOSOVO

All major knowledge products of ALLED2 are official publications with an ISBN reference number, and are published in Albanian, English and Serbian. ALLED2 has developed the three statistical barometers in close and transparent cooperation with the respective stakeholders which serve as tools for evidence-based planning and help businesses to define their needs. Two of the barometers are presented below as relevant examples:

\ KNOWLEDGE PRODUCT: LABOR MARKET BAROMETER

The labor market barometer, containing a comprehensive labor market and skills needs analysis, was first undertaken in 2019 to address a topic of critical concern for policy-makers in recent years - skills gap and skills mismatch in Kosovo. The skills gap has consequences not only for private domestic companies, but for foreign direct investment as well. The labor market study identified the main skill and economic sectors in which Kosovo needs to invest, and at the same time justified the four economic sectors for ALLED2 interventions over the next 3 years. The study methodology unfolded around three components: (i) desk research and analysis of secondary sources, (ii) qualitative field research based on stakeholder interviews and situational/stakeholder analysis, and (iii) collection of company level data through questionnaire surveys and analysis of the survey data used to identify the labor market skills needs in selected sectors. The research provides insights into the skills types of issues companies face and the action they are taking to address them, providing a unique skills perspective alongside other labor market information based on secondary data research. This barometer represents the first step in the development of skills forecasting as a basis for better planning in educational and training institutions, and for taking policy decisions.

What makes the labor market barometer special is that labor market relevant data was scattered across the country and across different institutions. Data from 12 independent databases had to be collected, interlinked and to be made comparable, bringing together demographic, employment, business, education and training statistical information. After collating the data, information gaps were identified, which type of information is needed to create a complete picture and support the generation of missing data. The Labor Market Barometer is an approach that can be applied in other contexts. It is not a one-off tool but embedded in the Kosovo Employment Agency as an online statistics database. ALLED2 is building EARK's capacity to meet its responsibility to handle the barometer and keep it updated, as the barometer is now a real time system that needs regular data collection and analysis. Its utilization by all VET stakeholders, though, needs further promotion.

Download: Kosovo Labor Market Barometer, Kosovo Labour Market Barometer (rks-gov.net)

Download: Kosovo Labor Market and Skills Needs Analysis Report (basis for development of Labor Market Barometer), Report-Draft-215x215mm_print30092019.pdf (alled.eu)

\ KNOWLEDGE PRODUCT: KOSOVO SKILLS BAROMETER 1.0

(2nd Edition 2021, 3rd edition currently being finalized)

The Kosovo Skill Barometer 1.0 investigates the extent of the current and future skills needs in Kosovo. It examines the causes and consequent impact it has on businesses across a range of industries, providing the basis for evidence-based policy-making in education and training, and assisting young people and their parents in making informed career choices. The Kosovo Skills Barometer is a tool showing the skills and occupations landscape covering a period of only 5 years, due to the continually changing business environment and inability of the predominantly small and medium enterprises to forecast their needs for longer periods. The rapidly changing economic conditions are in fact a major reason for the arising skills shortages and skills mismatch, caused by technological transformation, globalization, transition to green economy, migration, and the inability of training institutions to adapt their programs to reality in the short term.

The barometer provides a system of identifying and forecasting the demand for and supply of different skills, occupations and subjects in different sectors of economic activity - and consequently any shortage and surplus. It highlights the sectors likely to grow faster or slower than average and the number of employees of different skills and qualifications needed in the growing sectors. It also provides information on the number of graduates of training and educational institutions at different levels and subjects. In summary, the skills barometer contains a set of information of interest for a range of labor market stakeholders including policymakers, enterprises in different sectors of the economy, employment agencies, education and training establishments, and trainees graduating from education and training, enabling them to make informed decisions. In the development of the barometer, the KCC with support from ALLED2 followed the ILO approach to skills needs anticipation. The Skills Barometer presents the methodology how to involve the industry into the skills forecasting process. KCC will conduct an update of the Skills Barometer every three years in cooperation with MEST and the National Council for VET, providing the information required to adjust and update VET curricula.

Download: Kosovo-Skill-Barometer-1.pdf (alled.eu)

ANNEX 1.10 BOLIVIA

\ KNOWLEDGE PRODUCT: INNOVATION CATALOG

Figure 26: Cover of innovation catalog

To show the innovative power inherent in the country's technical vocational training centers and the potential for industry as well as to improve the image of TVET, the project jointly with the Bolivian Ministry of Education published an innovation catalog. It presents twenty innovative products that have been developed jointly by teachers and trainees in public technical training centers. The catalog is organized by areas such as: industrial, mechanical, health, agriculture, and gastronomy. Each innovation is shortly described, followed by the investment needed, the contact data of the training center and the name of the inventor.

To give two examples from the industrial and catering sectors:

In Beni, in the Amazonas region, a trainee created a new ice cream made of chonta pulp, which has a taste similar to that of ripe bananas. Chonta is a palm tree that grows in the Amazon region and rich of Omega 3, potassium, and calcium. Energizing and refreshing at the same time, chonta ice cream is a sweet alternative to artificially flavored ice creams.

In the Oruro mining area two trainees (female and male) invented a Safety Robot for Mining. Equipped with six types of sensors, a multi-purpose robotic arm and four microcontrollers, the Safety Robot is designed to perform tasks inside the mine that would be dangerous to execute for the miners. Its sensors can monitor different types of toxic gases and measure temperature, humidity, and distances from structures to prevent possible landslides. A camera transmits a video signal to any mobile device. Download here.

\ KNOWLEDGE PRODUCT: GENDER EQUALITY STRATEGY

The gender equality strategy is described as one of the key levers of the project. Here we give access to some essential material to implement a gender equality strategy. The *Guide for the Application of the Gender Approach* was first published in 2012[76], aimed at facilitators in technical training providing conceptual references and methodological tools for the reflection and training of teachers with regard to gender issues. The aim was to encourage competencies for life in a more equitable society, critically reviewing discriminatory norms and values, which are transmitted in the classroom, family, community, and educational settings. This guide helped the teachers to identify positive ways of approaching each of the genders (men and women). In 2017, after a process of revision by the users themselves, the second edition was produced with updates in methodology and content. The guide is complemented by 10 PowerPoint presentations that are grouped in 6 modules. All the material is produced in Spanish.

Download: Guide and supporting presentations

The comprehensive material is accompanied by manifold videos for teachers on You Tube that explain concepts or give examples of women in technical occupations, in the form of testimonials and histories of life.

Link to Video material

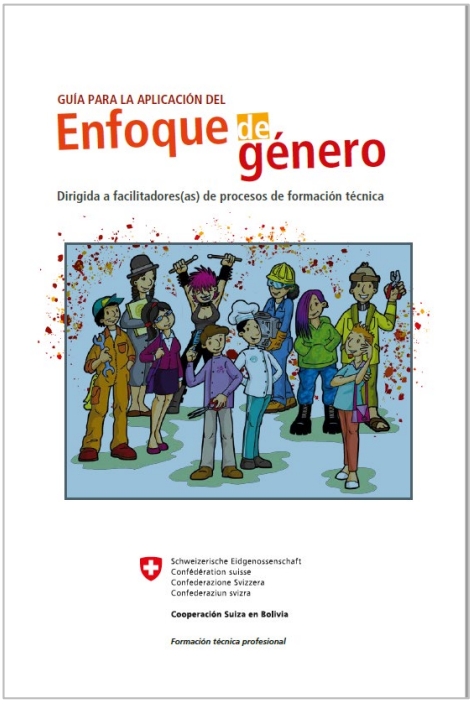

Figure 27: Guide for the application of the gender approach

[76] "Guía para la aplicación del enfoque de género dirigida a facilitadores(as) de procesos de formación técnica", Vocational Technical Training (FTP) project. Swiss Development Cooperation (SDC) in Bolivia, 2017.

ANNEX 1.11 BRAZIL

\ KNOWLEDGE PRODUCT: THE QUALITY SEAL OF INTERLIGADAS

An interested person, company or organization who wants to engage in the initiative Interligadas fills in an application form and states the commitments they plan to undertake. In the following some examples for committing actions given:

Schools can participate by setting targets for the presence of women in renewable energy courses and for female graduates. They can also promote marketing materials that are more inclusive, portraying women and choosing words that do not represent gender-based distinctions.

Companies can offer technical visits for female vocational and high school trainees, implement support measures for selection processes by establishing the presence of women in final lists, and advertising job openings using a language that allows women to identify with the opportunities. They can also offer and sponsor TVET courses and carry out mentoring programs for women.

Figure 28: Quality seal "Interligadas"

Social organizations that work with youth and women can connect with vocational schools and refer to them for courses and scholarships. They can produce material that supports gender equality in the energy market.

Professionals in the industry can also get involved by offering mentoring. And everyone can share the information of Interligadas in their social networks.

The quality seal can be used for marketing and show the commitment and corporate social responsibility (CSR) of a company or an institution with gender equality.

Link to website of Interligadas

Link to application form of Interligadas

Figure 29: Marketing campaign Interligadas

ANNEX 1.12 CUBA

\ KNOWLEDGE PRODUCT: POSTCARDS FOR INFORMATION AND SENSITIZATION ON EQUALITY AND INCLUSION

UNDP in collaboration with the project produced a series of seven postcards with key messages on equality and inclusion:

- Women with more economic autonomy
- Use of communication to promote equality (postcard shown here)
- Empowerment of social, educational, and preventive work
- Exercise of power
- Legal regulations for equality rights
- Healthy approaches
- Surveys with a gender perspective

The back of the postcard highlights an "Area of special attention", providing relevant information related to the topic of the postcard, e.g., regarding postcard no. 2 the area of special attention is the "Communication media". Among others advocates the need to guarantee institutional communication management with a gender perspective and a human rights approach in all institutions and agencies; and to disseminate scientific research results and statistical information on women in such a way that it is accessible to the entire population.

Figure 30: Sensitization postcard

\ KNOWLEDGE PRODUCT: MULTIDIMENSIONAL VULNERABILITY INDEX

In order to improve the analysis of situations of socioeconomic disadvantage, which serve as a basis for policies and programs for specific groups and communities, the Ministry of Labor and Social Security commissioned the Social and Labor Observatory to develop a measurement tool to identify the different factors that lead to such situations and the intensity of the effects caused by their combination.

The observatory began by defining social vulnerability as a situation that limits or hinders the capacity of a person, family, household, group, or community to anticipate, cope with, resist and recover from the effect of a natural, economic, social or health threat. It also addresses the lack of capacity to take advantage of the opportunities available in each region, in different socioeconomic fields and in networks of relationships, to guarantee their subsistence, quality of life, well-being or prevent their deterioration.

From here, the Multidimensional Vulnerability Index (IVM for the Spanish acronym) was elaborated which considers the rating of five dimensions (health, habitat, income, work, education and institutional) on well-being at the individual, family, and community levels. So, making it possible to quantify the level of satisfaction of these dimensions and the most serious conditions that arise from the combination of various deficiencies.

PROFET has taken the IVM and adapted it to the situation of young people entering TVET and the identification of young people disengaged from study and work (NEET), thus allowing for better guidance of these young people.

ANNEX 1.13 MEXICO

\ KNOWLEDGE PRODUCT: GIRL'S DAY

Figure 31: Young girl receiving information during the Girls' Day

Companies such as Nestle, Kia Motors, Alpla and Safran have adopted the "Girl's Day" initiative based on gender equality principles so that young women can learn more about the technical careers they are interested in and their potential in the industrial sector.

This exercise was promoted by the Ministry of Public Education (SEP), in collaboration with GIZ Mexico, with the objective of awakening women's interest in ED and to break down stereotypes in technical-industrial careers about what they can achieve on equal terms with men.

Female ED graduates who have successfully made a technical career in their companies share their experiences with young female trainees and serve as a role model. The objective is to motivate young women to engage in industrial professions and to acquire skills in e.g., mechatronics, industrial computing, pneumatics, hydraulics, electro mechanics, and machinery handling.

See video Girl´s Day Mexico 2019 on YouTube

\ KNOWLEDGE PRODUCT: PRACTICE GUIDE - 5 STEPS TO MULTIPLY DUAL EDUCATION AT STATE LEVEL

SEMS, GIZ Mexico and GOPA Worldwide Consulting Group jointly prepared and validated a technical document for the scaling up of the SED. The document describes the tasks of each actor, the scope of training and communities to be supported, as well as the states of the Republic where the field work would be implemented. This triggered a mechanism of trust and teamwork with federal and state educational authorities that has allowed to accumulate a lot of operational experience, which is consolidated and reflected in a Practical Guide of "Five Steps to Multiply Dual Education at State Level".

Step 1: Organize an executive meeting chaired by the State Secretary of Education, the State Undersecretary, and the Federal Representative of the Ministry of Public Education (SEP).

Step 2: Take the strategy defined in the executive meeting down to the school level by signing commitment letters where goals are set for growth. Subsequently, face-to-face trainings with school principals and their work teams (cooperation and academic) are carried out.

Step 3: Hold a meeting between the social actors with a strong media impact to show the first progress achieved and also invite more companies to join the project.

Step 4: Train and activate a network of dual business counselors so that they can visit business organizations and/or companies directly.

Step 5: It is recommended that a unit at state level is responsible for the coordination of the SED expansion work.

The Practice Guide is a short pragmatic document. The description of each step concludes with the products to be obtained at the end of each stage.

This guide and other relevant project documents can be downloaded in Spanish from the project webpage:

La formación profesional dual fomenta las perspectivas de jóvenes y empresas

ANNEX 2 LIST OF INTERVIEW PARTNERS

The team of authors would like to thank the key experts of the 13 selected projects for their willingness to answer our extensive questions and provide us with detailed information on the projects, useful insights and, last but not least, visual material.

Country	Interview Partners
Africa regional (ATVET4W)	Eva Naefe (GFA Team Leader) Sabine Klaus (GIZ Project Manager) Zarina Khan (Knowledge Management Officer) Geoffroy Gantoli (Coordinator ATVET4W West Africa and Tunisia), Sara Jabril (AUD-NEPAD Public Relations)
Africa regional (E4D)	Julia Froelicher (GIZ HQ TVET Advisor), Katja Mueller (GIZ HQ, Africa Department, E4D Advisor) GIZ E4D Team Kenya: Thomas Jaeschke (Team Leader), Eddy Oloo (CBET Advisor), Eve Mwende Murithi (TVET Advisor) GIZ E4D Team Uganda: Donald Agaba (Team Leader), Michael Seng (Deputy Team Leader), Christine Ssenteza (Project Manager Enterprise Development)
Egypt	Andreas Adrian (former GIZ EEDS principal advisor, now GIZ cluster manager Egypt) Nabil Nader (GIZ Head of Component Dual System Governance)
Nigeria	Tobias Wolfgarten (GIZ Head of Project Skills Development for Youth Employment (SKYE)) Alena Fesser (GIZ Advisor for Skills Development and Labor Migration, Gender Focal Point Nigeria) Johann-Peter Porten (Team Leader sequa Cooperative Vocational Training Component)
ASEAN	Miriam Heidtmann (GIZ Program Director) Teresa Toepfer (GIZ Advisor ASEAN) Honga Ross (GIZ Advisor ASEAN), Ansgar Schaefer (Junior Consultant GIZ Hanoi)
Cambodia	Nadia Ottiger (Deputy Director SDC Cooperation Cambodia, Head of SDP Program) Va Ro (SDC TVET Advisor) Christian Volker Ide (Swisscontact SDP Team Leader)
India	Dr Rodney Reviere (GIZ IGVET Team Leader) Sarah Stadler (GIZ IGVET Advisor)
Pakistan	Raja Saad Khan (Deputy Head of TVET SSP/Team Leader Governance and Policy Tahir Khan (Regional Coordinator), Zamir Sharukh (English Biscuit Company)
Kosovo	Efka Heder (ADA ALLED2 Team Leader) Albulena Zaimi (ADA Program Manager Education)
Bolivia	Amparo Ergueta Tejerina, National Program Officer, Embajada de Suiza en Bolivia Cecilia Lazarte (Project director, Proyecto Formación Técnica Profesional, Swisscontact Bolivia) Claudia Arandia Schmiedl, Project coordinator, Proyecto Formación Técnica Profesional Consorcio CEMSE - CEE)
Brazil	Julia Giebeler Santos (GIZ Head of Project “Future Professionals: Skills for the Green Economy”) Martin Studte (GIZ Coordinator for Energy and Digitalization in the Project “Future Professionals: Skills for the Green Economy”) Caroline Luciane Broering Dutra (GIZ Advisor for Energy and Gender in the Project “Future Professionals: Skills for the Green Economy”)
Cuba	Markus Glatz, PhD (SDC Deputy Head of Mission/Head of Cooperation, Swiss Embassy in Cuba Federal Department of Foreign Affairs FDFA) Mayra Prieto Espina (SDC National Program Officer, Swiss Embassy in Cuba)
Mexico	Torsten Klinke (GIZ Program Director, Programa Consolidación y Escalamiento del Sistema de Educación Dual) Eduardo Calderón (GOPA Worldwide Consultants Team Leader) Alfonso Figueroa Saldaña (GIZ Technical Advisor, Programa Consolidación y Escalamiento del Sistema de Educación Dual)

ANNEX 3 INTERVIEW GUIDELINE

The following interview guideline served as an orientation for conducting interviews with the 13 selected projects. Depending on the focus of the project, the corresponding items of the guideline were dealt with in greater depth. Other less relevant topics were only touched on superficially or omitted.

Interview guideline

Objective: To receive feedback from project staff and public and private DC partners on key challenges and success factors in implementing cooperative TVET projects/approaches, focusing on private sector engagement and the promotion of women in TVET programs.

General questions

1. Which role does the private sector play in your project to ensure that the TVET system/program responds to labor market needs, changes and future skills needs?
   a. With regard to identifying skills needs
   b. With regard to translating identified skills needs into formulation of occupational and training standards, curricula, TVET programs, training material
2. Which conceptual approaches and interventions of your project are most effective to strengthen active and broad engagement of the private sector in cooperative TVET? (What are levers of change?)
   a. With regard to governing cooperative TVET (joint steering with public sector, financing)
   b. With regard to implementing company-based training modules/programs
   c. With regard to monitoring TVET implementation and ensuring labor market orientation
   d. With regard to raising awareness and acceptance of cooperative TVET
3. In your project, what are key success factors and challenges as well as leverage factors for an active participation of the private sector during TVET system analysis and networking?
4. In your project, what are key success factors and challenges as well as leverage factors for an active participation of the private sector during TVET system building, establishing governance structures (legal framework), quality standards and infrastructure, TVET financing?
5. In your project, what are key success factors and challenges as well as leverage factors for an active participation of the private sector during TVET management and operation (development of curricula and training material, qualification of TVET staff, implementation of cooperative TVET curricula, mode of TVET delivery, examination and certification, recognition of prior learning)?
6. How do you involve private sector structures to foster cooperative TVET?
   a. What should be the role of chambers, business associations etc.?
   b. What are framework conditions needed?
7. From your project experience, what are concrete innovative examples regarding the involvement of the private sector?

Specific questions

8. Do you have conceptual approaches and interventions to promote gender equality in the design and implementation of your project, and if yes, which have proven most effective based on the following three issues?
   a. With regard to reaching and integrating women into cooperative TVET programs (incl. awareness raising)
   b. With regard to overcoming practical issues like safety, etc.
   c. With regard to overcoming gender-stereotypes (gender-transformative approaches)
9. Are marginalized groups such as refugees, persons with disabilities, the poor, etc. targeted in your project, if yes, which concepts and tools are best suited to involve them?
   a. With regard to addressing and encouraging them to participate
   b. With regard to practically integrating them into cooperative TVET programs

10. What are your success stories for the engagement of the private sector in cooperative TVET programs
    a. Specifically for the green economy – major lessons learnt
    b. Specifically for the digital economy – major lessons learnt
    c. (Training delivery)
    d. Are umbrella organizations offering specific courses, seminars, etc. for VET teachers and/or in-company trainers?
    e. Do they provide access to modern technology for VET schools (e.g., for conducting learning projects)?
    f. Are resources available for exchanging VET personnel between different learning venues?
    g. Does the business sector participate in a mixed (public-private) exam commission or contribute to the design and implementation of exams? If yes, how? (designing exam questions, execution, marking and quality checking of exams)
11. Do you apply or use any standardized virtual training components (virtual apprenticeships) in your project?
    a. Have they been developed to deal with the Covid 19 situation?
    b. Can they sustainably be used in cooperative TVET?
12. Scaling up of successful TVET systems / programs:
    a. Which potentials do you see to transfer and or scale-up your TVET approaches / best practices?
    b. What requirements must be met?
13. Is there systematic TVET or labor market research in your country/region, and if so, how do you collect and use the data for developing employment-oriented TVET programs?
14. What type of participation in financing is current practice? (Training allowances, apprentice wage, additional expenses for trainees such as insurance, travel expenses; time provided by company trainer, material, tools, technology provided)
15. Which conceptual approaches or interventions are best suited to increase employability?

ANNEX 4 LITERATURE

Arias, E.; Farías, M.; González-Velosa, C.; Huneeus, C.; Rucci, G. (2015). Educación Técnico Profesional en Chile. Washington, D.C.: Inter-American Development Bank (IDB).

Arias, E. ; Cruz, Y. ; Prada, M. (2021). El Futuro del Trabajo en América Latina y el Caribe. ¿ Cuáles son las tendencias en educación postsecundaria? Washington, D.C.: Inter-American Development Bank (IDB).

Bahl, A.; Dietzen, A. (Eds.) (2019). Work-based Learning as a Pathway to Competence-based Education. A UNEVOC Network Contribution. Bonn

Bank, V.; Busemeyer, M. R.; Dohmen, D.; Frommberger, D.; Baumann, F.-A.; Hanisch, J. (2015). Governance und Finanzierung kooperativer Berufsbildung. Die Rolle von privaten Akteuren und Verbänden stärken. Bonn/Eschborn: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ).

Barbosa, R. (2022): Ensino técnico pode impulsionar desenvolvimento do Brasil. https://www.poder360.com.br/opiniao/ensino-tecnico-pode-impulsionar-desenvolvimento-do-brasil/

BID (2022). Press release). Las ocupaciones asociadas a la economía digital crecen aceleradamente en la región.

Bosch, M.; Pagés, C.; Ripani, L. (2018). The future of work in Latin America and the Caribbean. Washington, D.C.: Inter-American Development Bank (IDB).

Caballero, A./ Pep Lozano, P./ García, C. (2018): ¿Cómo impulsar la FP Dual? Manual práctico para asesores de empresas y de centros educativos. Fundación Bertelsmann. Barcelona, Spain.

Calderón Cuevas, E./ Reyna, A. (2022) : Guía Práctica - 5 Pasos para la Multiplicación de la Educación Dual a Nivel Estatal. Mexico City.

Caves, K.; Ghisletta, A.; Renold, U.; Kemper, J. (2019): Meeting in the middle: TVET programs' education-employment linkage in developing contexts, KOF Working Papers, No. 460, ETH Zurich, KOF Swiss Economic Institute, Zurich, https://doi.org/10.3929/ethz-b-000356567.

Dietz, E.; Emil, A.; Müller, S. (2021). The Future is Equal. Success Factors for Gender Equality in Vocational Education and Training. Bonn/Eschborn: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ).

Donor Committee for Dual Vocational Education and Training (DC dVET) (2016). Dual VET in Development Cooperation: Mutual Understanding and Principles. Zurich.

Donor Committee for Dual Vocational Education and Training (DC dVET) (2021). Cost-Benefits Studies: Overview of Types, Requirements and Suitability. Zurich. https://www.dcdualvet.org/en/topics-experiences/engaging-the-business-sector/cost-benefit/

Heep. H. (2014). Catholicism and Machismo: The Impact of Religion on Hispanic Gender Identity. Washington, USA

Ebner, Ch.; Uhlig, A. (2016). Entstehung und Merkmale des dualen Ausbildungssystems. bpb https://www.bpb.de/themen/bildung/dossier-bildung/228394/entstehung-und-merkmale-des-dualen-ausbildungssystems/

Euler, D. (2013). Germany's dual vocational training system: a model for other countries? Gütersloh: Bertelsmann Stiftung.

Euler, D. (2018). Engaging the Business Sector in Vocational Education and Training. Working Tool for Policy Dialog and Project Design in Development Cooperation. Part 1: Study. Zurich: Donor Committee for Dual Vocational Education and Training (DC dVET).

Euler, D.; Wieland, C.(2015). The German VET System: Exportable Blueprint or Food for Thought? Bertelsmann Stiftung Berlin. DOI: 10.11586/2016010

Fazio, M. V.; Fernández-Coto, R.; Ripani, L. (2016). Apprenticeships for the XXI Century. A Model for Latin America and the Caribbean? Washington, D.C.: Inter-American Development Bank (IDB).

Federal Institute for Vocational Education and Training (BiBB) (2014). Training regulations and how they come about. Bonn.

Federal Institute for Vocational Education and Training (BiBB) (2017). 10 Jahre Qualitätsmerkmale im Praxistest. Deutsche Berufsbildungszusammenarbeit aus einer Hand. Berichte zur Beruflichen Bildung. Bonn.

Federal Institute for Vocational Education and Training (BiBB) (2019). VET personnel at companies and vocational schools. The heart of dual VET. Bonn.

Federal Ministry for Economic Cooperation and Development (BMZ) (2015). Shaping the future with shared values and interests – The BMZ's new Latin America policy. BMZ Paper 8. Position Paper. Bonn/Berlin: BMZ.

Federal Ministry for Economic Cooperation and Development (BMZ) (2017). Supporting TVET – Shaping the Future. Technical and Vocational Education and Training. TVET in Development Cooperation. Bonn/Berlin: BMZ.

Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) (2017). Down to earth: A practitioner's guideline to work with business and industry in TVET. A guideline for GIZ staff and partners to strengthen the involvement of business and industry in technical and vocational education and training in Asia. Bonn/ Eschborn: GIZ.

Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) (2021). Guía Práctica para la Empresa Educación Dual Sector Agropecuario (Practical Guide for the Company - Dual Education in the Agricultural Sector). published in Mexico City.

Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) (2022). Resultados de la encuesta para el Monitoreo y Evaluación del Sistema de Educación Dual en México 2021-2022. Mexico City.

Heinrich-Böll-Stiftung (2021). Zahlen und Fakten 2021. Digitalisierung in Lateinamerika. https://www.boell.de/sites/default/files/2021-11/factsheet_digitalisierung2021_de_web-1.pdf

Hoeckel, K. (2008). Costs and Benefits in Vocational Education and Training. OECD.

ibw Austria – Research and Development in VET (2016): Dual VET in Austria, Germany, Liechtenstein and Switzerland. Comparative Expert Study. Zurich.

Inter-American Development Bank (IDB); Inter-American Investment Corporation (IIC) (2021). VISION 2025. Reinvest in the Americas: A decade of Opportunity. Washington, D.C.: IDB & IIC.

ILO/CINTERFOR (2017). The future of vocational training in Latin America and the Caribbean: overview and strengthening guidelines. International Labour Organization. Inter-American Centre for Knowledge Development in Vocational Training - ILO/CINTERFOR. Montevideo.

ILO/Cinterfor (2020). Analytical inventory of experiences in the development and implementation of qualifications frameworks in Latin America. International Labour Organization. Inter-American Centre for Knowledge Development in Vocational Training - ILO/CINTERFOR. Montevideo.

IRENA (2020), Renewable Energy and Jobs – Annual Review 2020, International Renewable Energy Agency, Abu Dhabi.

Jäger, M. et al. (2016). Duale Berufsbildung als Option in der Entwicklungszusammenarbeit. Befragung von Expertinnen und Experten. Zurich: Donor Committee for Dual Vocational Education and Training (DC dVET).

Kankaraš, M. (2021). Workplace learning: determinants and consequences: insights from the 2019 European company survey. Luxembourg: Publications Office of the European Union. Cedefop working paper; No 7.

Lambert, T. (2018). Biodiversität in Lateinamerika Factsheet. Forschungs- und Dokumentationszentrum Chile-Lateinamerika e.V. Berlin

Lerman, R. (2019). Do firms benefit from apprenticeship investments? IZA World of Labor. https://wol.iza.org/articles/do-firms-benefit-from-apprenticeship-investments

Mummert,A. (2014): Guidelines for an Employment and Labor Market Analysis (ELMA). GIZ Publication. Bonn/Eschborn. https://d-nb.info/1097468305/34

Noltze, M., Euler, M. and Verspohl, I. (2018), Meta-evaluation of sustainability in German development cooperation, German Institute for Development Evaluation (DEval), Bonn

Portela Souza, A. et al. (2015). Vocational Education and Training in Brazil. Discussion Paper Nº IDB-DP-387. Inter-American Development Bank.

Redecker, Ch. (2017). European Framework for the Digital Competence of Educators: DigCompEdu. Punie, Y. (ed). EUR 28775 EN. Publications Office of the European Union, Luxembourg. doi:10.2760/159770, JRC107466

Saget, C. ; Vogt-Schilb, A. ; Luu, T. (2020). Jobs in a Net-Zero Emissions Future in Latin America and the Caribbean. Inter-American Development Bank and International Labour Organization, Washington D.C. and Geneva.

Secretaría de Educación Pública (SEP) (2022). Metodología y Criterios para la planificación de la Educación Dual en Media Superior. Mexico City.

Spöttl, G.; Parvikam, S.; Paryono, P. (2021). Fit for industry 4.0, innovative learning and teaching for digitalization and automation. GIZ RECOTVET. https://www.wbv.de/openaccess/themenbereiche/berufs-und-wirtschaftspaedagogik/shop/detail/name/_/0/1/6004870w/facet/6004870w///////nb/0/category/1636.html

UN Woman, IFAD, FAO, WFP, IFPRI (2017): "Do agricultural development projects reach, benefit, or empower women?"

Vossiek, J. (2019). Status and development of VET in Latin-America and Subsahara-Africa. In F. Marhuenda & M.J. Chisvert-Tarazona (Eds.), Pedagogical concerns and market demands in VET. Proceedings of the 3rd Crossing Boundaries in VET conference, Vocational Education and Training Network (VETNET) (pp.272-277) https://doi.org/10.5281/zenodo.2641931

Status and Development of VET in Latin-America and Subsahara-AfricaWälde, H. (2022): Harnessing the potential of an integrated approach to employment promotion. KfW Development Bank. Link: https://www.kfw-entwicklungsbank.de/About-us/News/News-Details_716992

Wallenborn, M. (2001). Vocational training in Latin America. Vocational Training No. 22 European Journal. Cedefop - European Centre for the Development of Vocational Training. Thessaloniki

Wenzelmann, F.; Schönfeld, G.: Kosten und Nutzen der dualen Ausbildung aus Sicht der Betriebe. Ergebnisse der sechsten BIBB-Kosten-Nutzen-Erhebung. Bonn 2022. https://www.bibb.de/dienst/veroeffentlichungen/de/publication/show/17630

Willer, H.; Trávníček, J.; Meier, C.; Schlatter, B. (Eds.) (2022): The World of Organic Agriculture. Statistics and Emerging Trends 2022. Research Institute of Organic Agriculture (FiBL), Frick, and IFOAM – Organics International, Bonn.

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