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MAPPING TVET SECTOR SKILLS ENGAGEMENT IN ASIA

FINAL REPORT

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Executive Summary

Introduction

The study entitled 'Mapping TVET Sector Skills Engagement in Asia' was commissioned by the International Development Research Centre (IDRC) and the Asian Institute of Technology (AIT). It aimed to identify gaps in current and past TVET interventions in Asia, with the aim of providing recommendations to inform IDRC's research agenda and strategy, and for policy improvements to enhance the impact of TVET/ skills development programs so they can more effectively benefit youth. The Terms of References provided assessment criteria for the study.

Methodology and limitations

This is mainly a desk-review based study. However, where possible, online consultations were conducted in the sample countries.

The assignment began with the identification of sample countries (Afghanistan, Pakistan, Bangladesh, Thailand, Cambodia and The Philippines) to focus the study, and was followed by a review of their socio-economic context and analysis of the country-specific history of TVET reforms and policy development, the process of change, the management of the change process, and the internal and external factors facilitating or resisting adaptation and change. The study also attempted to assess TVET interventions and the results achieved in terms of quality, relevance, efficiency and responsibilities; capacity to undertake evidence-based policy analysis and planning; and the transition from education to the labour market. Identification of key TVET actors, and sector strengths and weaknesses, lessons learned, and knowledge gaps in various TVET dimensions are among the areas the study covered before making recommendations for TVET improvement. Based on the country-findings, a synthesized report was prepared, following the assessment indicators used in the country-specific studies.

The draft country report was shared with national experts for review and feedback. Where possible, the country-specific and synthesized findings were shared with country stakeholders to gather further feedback and additional information, with the aim of further improving the report. The consultation inputs were used to improve the draft report.

Limitations of this assignment included an almost complete reliance on desk review and the use of sample countries. The latter were mainly least developed, middle, or upper-middle-income countries.

Socio-Economic Context and TVET Development

The socio-economic conditions of the six countries studied have shared and country-specific contexts - including population dynamics, poverty levels, labor market trends, and economic structures – that influence the design, implementation, and relevance of TVET systems.

Demographic and labor force dynamics. All these countries are characterized by large and youthful populations, with Pakistan, Bangladesh, and the Philippines being among the most populous. Each country also sees significant annual labor market entrants. Youth bulges, especially in Afghanistan, Pakistan, and Bangladesh, create demand for skills training leading to employment, placing stress on the existing TVET systems to be demand-responsive. Thailand, albeit with its aging population and slow population growth, still faces labor force challenges.

Poverty and Vulnerability. Except for Thailand and the Philippines, the others fall under the least development country (LDC) status, where economic difficulties limit both countries' prospect for TVET/ skills development and individuals' aspiration for being competitive in the employment market. Notably, Afghanistan and Pakistan have witnessed severe poverty, while Bangladesh and Cambodia are on the path of poverty reduction, albeit with persistent



disparities within countries. Political instability and natural disasters further compound vulnerability, for instance in Afghanistan, Bangladesh, and Pakistan affecting especially the youth, females, and populations in underserved regions/areas.

Skills mismatch and the predominant informal sector. Countries' efforts on TVET/skills development are demonstrated by their TVET policy and program reform actions, but the mismatch between demand and supply is persistently pervasive. A very high informal sector - with up to 88% of workers in Cambodia and Bangladesh- and not much lower in Thailand, has a dominant presence in labor markets. These two adversaries – high informal sector and mismatch in skills demand and supply- have consistently been undermined TVET effectiveness, primarily the employment outcomes, but this also implies the need for making TVET actions relevant to this setup.

Economic sectors and GDP. The service sector is the largest contributor to GDP in all countries studied and is followed by agriculture and industry sectors. As such, agriculture sector remains a primary employer in several countries, including Afghanistan, Thailand, and Cambodia. This economic structure has implications for reforming TVET systems to enable them to address the gaps accordingly. However, TVET developments in these countries appear to have remained slow in progressing towards this direction.

Employment and migration. Employment rates vary by country, with a relatively high unemployment rate in Pakistan and lower rates in other countries, yet underemployment remains a major issue across the countries studied. Notably, labor migration to foreign countries migration is a key feature of the Pakistan, Bangladesh, and the Philippines economies, yet many migrants fall into the unskilled category. This indicator highlights the significance of TVET/ skills training, particularly for youth leaving their countries for employment.

In summary, albeit differences in development status, all six countries recognize TVET as a strategic tool for economic development, poverty reduction, and labor market integration. Therefore, countries are in need of quality and relevant, inclusive, outcomes-led and scalable TVET systems responsive to demographic pressures, and domestic and international labor market demands.

History of TVET Development and Change Management

The development of TVET systems across the countries studied reflects both common and country-specific development histories and is rooted in the country-specific socio-political contexts.

All the countries' TVET system development is characterized by a national/ federal level government agency with regulatory and, often also with, implementation responsibilities. For instance, Afghanistan's TVET reform began in the early 20th century and culminated in the establishment of a TVET Authority in 2018. Pakistan initiated its reform post-1947, now operates under a federated model with NAVTTC holding quality assurance responsibility and TVETAs operating at the province level with implementation responsibility. Bangladesh's reform is noted for the National Skills Development Authority (NSDA) under the Prime Minister's Office (PMO). Similarly, the Office of the Vocational Education Commission (OVEC) in Thailand, Training Department (DGTVE) under Ministry of Labor and Vocational Training (MoLVT) in Cambodia and TESDA of the Philippines are regulatory authorities in the respective countries.

TVET development across these countries has the following common features:

Policy and strategic alignment: Countries have made efforts to align TVET systems with national development vision/plan/strategies, such as Bangladesh Vision 2040, Thailand 4.0, Cambodia's Rectangular Strategy, and Pakistan's 'Skills for All' Strategy.



Institutionalization and decentralization. All countries have formalized TVET governance, with national/federal government agency primarily responsible for quality assurance. Pakistan and the Philippines are progressing towards decentralization and therefore, differ compared to other countries.

Standardization and quality assurance. All the six countries studied have national vocational qualifications frameworks (NVQF) in place and are at various stages of operationalization. Similarly, recognition of prior learning (RPL) is operational in all countries and complements the NVQ systems by opening a path for informal sector workers to the formal sector. Most of the countries are also noted for their efforts towards development and rolling out of competency-based training and assessment (CBT&A) systems.

Business and industry engagement. Most of these countries have provisions for Business and Industry/ employers' representation in national/federal TVET governing boards but with varying shares across the countries. Most of these countries have also developed structures such as Sector Skills Councils (Cambodia and Pakistan), Industry Sector Councils (Bangladesh), and TESDA and Regional Industry Boards (Philippines) to facilitate industry linkage but with variation in performance. For instance, while it is in operation in other countries, SSCs in Pakistan are almost closed due to the absence of legal ground and assured funding provisions.

Access, inclusion, and flexibility. Each country has, at least in the policy, provisions for various training models (short term training in almost all countries); workplace-based training (almost all countries)/ apprenticeships/ cooperative vocational training (e.g. in Thailand and the Pakistan); complete workplace-based training (Pakistan); alternative shifts (morning, day or evening shifts as in Afghanistan or the evening and on the weekends as in Thailand); and scholarship provisions in almost all countries to improve access for females and marginalized populations. The short-term training and alternative shifts provide flexible opportunities for learners to access and continue their education and training programs.

Management of change. During the TVET reform/ development process, changes took place in many TVET dimensions and were complex, as is the TVET system itself. Countries appear to have managed such change through various instruments and systems including policy development and/or revision, human resources development and its continuation (in response to technological changes and teachers' vacancies), institutional restructuring, and capacity building and experimentation of various TVET/ skills development models. Some lessons from the change management processes include:

- **Policy reforms** (in all countries) - provided guiding framework and legitimacy for the TVET/ skills development initiatives;
- **Development plans and strategies** (in all countries) - to some extent, shaped the interventions in a time-bound manner;
- **Stakeholders' engagement** (in all countries, except in Afghanistan) - especially with business and industry associations (BIAs), although their share varied across countries, showed increased institutionalization over time. The BIAs and stakeholders, particularly the governments, over time, learned how to collaborate with each other;
- **Capacity building** (in all countries) - of institutions and teachers/trainers is recognized as a persistent bottleneck. Without trained teachers, it is not possible to deliver education and training.

The TVET reform was influenced by countries' internal and external factors. Internal factors such as fragmented governance, weak institutional capacity, and low societal perceptions appeared as some reasons for slow progress, while funding and technology transfer as external factors, played a key role in the reform process. Foreign country migration in countries like Pakistan, Bangladesh and the Philippines exerted pressure on the respective country



TVET systems to prepare a workforce responsive to the employment market in the destination countries.

Although not applicable uniformly across the countries, new trends, such as adoption of vocational qualification frameworks, and pressure created from the needs to be responsive to Industry 4.0, and green and digital skills initiatives, have created positive pressure for change. Similarly, all the countries, in an effort to enhance quality and relevance, appear to have made efforts to convert traditional time-bound curricula into competency-based and include workplace-based training as compulsory element.

In summary, all the six countries studied showed a trajectory of progressive, transformative, and outcomes-oriented TVET systems, but with varying results.

Progress in TVET Development

This chapter examines the progress made by the countries studied in advancing their TVET systems. It examines critical dimensions of TVET systems including governance, effectiveness, inclusion, quality, relevance, BIAs engagement/ labor market interface, outcomes, efficiency, financing, affordability, adoption and scalability, and strengths and weaknesses.

Governance. As explained above (under history of TVET development), all the countries have put one or more legal and policy instruments including TVET Acts, national policies, and strategic development plans in place for TVET development. Introduction and continued revision of these frameworks (for instance, Pakistan's TVET strategy 2018 was an amended version of its predecessor 'National Skills Strategy 2009 – 2013') are evidence of growing political commitment to TVET/skills development and aim to improve access, inclusion, quality, relevance, efficiency and outcomes, with increased participation from the private sector/business and industry associations (BIAs). TVET governance features vary across countries for instance, centralized model as in Bangladesh, Thailand and Cambodia, and federal model as in Pakistan.

TVET governance structures across countries are also noted for their nature and BIAs representation. For instance, it is of semi-autonomous nature as in Afghanistan (TVET-Authority), Pakistan (NAVTTTC at federal level) and its TEVTAs at provincial levels), Bangladesh (NSDA), Thailand (OVEC) and the Philippines (TESDA). Inclusion of BIAs is another feature and exists in all these agencies, but their share of the total membership varies between insignificant (e.g., the Philippines) to significant (e.g., Pakistan).

Effectiveness. This section presents efforts on TVET effectiveness across countries covering dimensions such as sectors and qualifications, number of institutes, enrolment, qualification framework, and delivery models.

- **Sectors.** Key TVET sectors where TVET qualifications are offered include agriculture, health, construction, and hospitality, whereas countries have also distinct sectors such as mining in Afghanistan, and garment manufacturing in Bangladesh.
- **Competency-based training (CBT).** The transition to competency-based training (CBT) is underway in almost all countries, with Pakistan and Bangladesh demonstrating better progress than other countries.
- **Qualification frameworks and Recognition of Prior Learning (RPL).** These mechanisms are established in all countries, though their scale of operationalization and effectiveness vary by country.
- **Coverage and enrolments.** TVET institutional coverage and enrolment levels vary widely by country. The Philippines leads in the institute number, while Bangladesh has the highest annual enrolment, reflecting strong uptake of short-term training. Online delivery (e.g., Massive Open Online Courses (MOOCs)) in the Philippines has been a flexible training opportunity, not found in other countries. Afghanistan has an issue with access and

enrolment due to its peculiar policy to limit females/girls' education/skills development up to Grade six.

- **Training delivery models.** Among the training delivery models, institute-based education and training remains dominant across all the countries. However, countries have been putting emphasis on inclusion of workplace-based training (WBT) in the form of On-the-job-training (OJT) or apprenticeship (names vary by country for instance CVT in Pakistan and Dual VET in Thailand and the Philippines). Pakistan places a lot of emphasis on WBT and operates models such as Teaching Factory, OJT or CVT. However, the paucity of information on results of WBT in general and specific models under it is noted across countries.

Inclusion. All the countries studied have varying levels of progress in inclusive TVET opportunities, with key differences across policy frameworks, gender, disability, marginalized groups, financial support, and training modalities.

- **Policy Frameworks.** All countries have inclusive TVET policies, though their implementation varies. Pakistan's TVET Policy 2018 and Bangladesh's National Education Policy (2010) have explicit provisions on inclusion. Thailand, Cambodia, and the Philippines have well-established legal frameworks supporting inclusion.
- **Gender Inclusion.** The Philippines leads in gender parity (51.42% female enrolment in 2024). Pakistan and Bangladesh have lower female participation (ranging from approximately 29% to 33%). Thailand and Cambodia implement gender mainstreaming strategies targeting rural and marginalized women. Afghan law does not allow female education, including TVET, beyond Grade six.
- **Inclusion of people with disabilities.** Thailand and the Philippines provide stronger legal and scholarship support for persons with disabilities. Afghanistan has 16 disability-inclusive TVET institutes/centers.
- **Inclusion of marginalized communities.** All countries, at least in policy, target marginalized populations. For instance, Afghanistan is flexible allowing school dropouts to continue their education and training; Pakistan and Bangladesh place emphasis on training rural and minority groups; Thailand has focus on border and indigenous youths. The Thai TVET system also features inclusive accessibility, with specific support for persons with disabilities, underprivileged students and girls to receive governmental funding. Cambodia prioritizes ethnic minorities, and the Philippines covers diverse vulnerable groups.
- **Financial Support.** Each country has its own financial support system for needy students/trainees. For instance, Thailand has Equitable Education Fund (EEF) for this purpose. Pakistan and Bangladesh offer limited targeted support, and Cambodia depends on NGO/donor funds for this purpose.
- **Training Modalities.** Countries have used training models as an inclusion strategy. For instance, community-based and online (in the Philippines), and flexible shift-based training (morning, day, or evening sessions in Afghanistan; and evenings and weekends in Thailand) models are used to facilitate inclusion of learners facing various constraints.

Quality. Although results vary, quality has been a common agenda emphasized by all countries, as explained in the following paragraphs of this section.

National Qualifications Frameworks (NQFs). Each country has adopted a National Qualification Framework (NQF), with varying levels in its operationalization. While most frameworks span eight levels (European model), Bangladesh has adopted an NQF with ten levels. The Philippines and Cambodia have developed supporting credit systems, while Pakistan has formalized equivalencies up to NQF Level 8, which is an exception compared to others. However, challenges remain in its operationalization after Level 5, particularly at the higher levels. Thailand and Philippines have shown stronger alignment of curricula and certification with NQFs, while Afghanistan and Cambodia are at the initial phases.



Quality assurance system. NAVTTC of Pakistan has responsibility of quality assurance. The National Accreditation Council (NAC), under its umbrella has made good progress and operates mostly online. Bangladesh, through Bangladesh Technical Education Board (BTEB), is making progress in this area. Similarly, Thailand (Office of National Education Standards and Quality Assessment) and the Philippines (TESDA) have established strong quality assurance bodies conducting regular assessments. Afghanistan and Cambodia remain in early stages in this front.

Competency-Based Training and Assessment (CBT&A). It has been considered a quality assurance strategy. Its process, if followed properly, could also help contribute to enhancing relevancy. Accordingly, its adoption across countries is expanding. Pakistan has made good progress, and Bangladesh is following suit; Thailand and the Philippines have institutionalized CBT&A, although its coverage has yet to grow to the extent seen in Pakistan Cambodia have also introduced CBT&A but with only limited coverage and capacity. Formative assessment, as practiced in Pakistan, can help measure learning outcomes in a continuous basis.

Teacher Quality and Professional Development. The establishment of teacher training institutes in all countries (for instance, CoEs in Pakistan, TTTC and VTTC in Bangladesh) are examples. Thailand and the Philippines emphasize continuous professional development for teachers. Afghanistan and Cambodia have limited capacity to strengthen teacher quality. While Pakistan and the Philippines are making progress in assessor development, this is not commonly found in the other countries.

Infrastructure and Digital Integration. Pakistan, Bangladesh, Thailand and the Philippines are expanding infrastructure (institutes and information systems). Afghanistan and Cambodia struggle with basic facilities, which make quality-relevant efforts less certain. Thailand has well-equipped institutes and digital learning platforms, as does Pakistan, although some technical glitches persist at the institute level.

Relevance. All six countries studied demonstrate a shared commitment and progress toward aligning TVET programs with market demands, albeit with varying levels of achievements. For instance, all countries have provisions for BIAs' membership in national/federal TVET bodies, and policies emphasize industry-responsive curricula and workplace-based training (WBT). Albeit with uneven success, these policies and actions, apparently, have contributed to enhanced relevance and serve as opportunities for labor market interface.

Private Sector/BIAs Engagement and Labor Market Interface

As summarised above, various instruments (such as BIAs membership in governing bodies, sector skills councils, and their engagement in TVET processes such as curriculum development), and management of TVET/training institutes are practiced by countries to enhance labor market interface.

As presented in the foregoing chapters, all the countries have accepted BIAs as vital governance partners, with representation on national TVET boards ranging from a low share of membership (as in Bangladesh and Thailand) to a high (as in Pakistan). Pakistan stands out from others in this regard, as it exhibits the most comprehensive integration of BIAs at all governance levels, including at the institute-level management committees.

Sector Skills Councils (Cambodia), Industry Boards (Bangladesh), and TVET Industry Board (TIB) and Registered Industry Boards (RIBs) (the Philippines) exist broadly but differ in performance and outcomes. Sector Skills Councils were established in Pakistan but almost failed. Pakistan's institute-level engagement (through institute management committees and district board of management) stands out for its strength and outcomes, while Cambodia and Thailand show less documented involvement at this level.



Workplace-based training (WBT) systems are universally adopted but remain in different forms (as OJT in most countries, Cooperative Vocational Training (CVT) in Pakistan, Dual-VET in almost all countries, and teaching factories in Pakistan). These initiatives are often fragmented or project-based in many contexts, except in Pakistan and Thailand, where structured models such as dual VET (as in Thailand) and CVT (as in Pakistan) are gaining ground. In Pakistan, TVET III introduced memoranda of understanding (MoU) between TVET providers/institutes and local enterprises.

The private sector's role in managing TVET institutes/training centers is significant in most countries, including in Afghanistan (under MoLSA).

Employment Outcomes

Although employment and change in training-led income are the two critical TVET/skills training outcomes, due to a lack of income data, this study has focused on reporting employment outcomes.

- **Afghanistan.** The country faces major challenges with limited employment evidence, mainly due to weak labor market linkages and interface, and inadequate data systems.
- **Pakistan.** According to the nationwide TVET III tracer study (2024), the employment rate among competency-based training graduates with compulsory WBT was 52%, but it was much lower among conventional training graduates. However, the report showed that, irrespective of the training model, the vast majority of employers (>90%) who hired trained workers were satisfied with those who had attended training programs.
- **Bangladesh.** The country saw moderate employment (39%), with strong employer demand for improvements in graduates' industry-readiness.
- **Thailand.** Despite a strong TVET system, the employment rate of TVET graduates (2023, round 3) was found to be 30.4%.
- **Cambodia.** The country demonstrates strong performance, with 80% employment within six months and over 78% employer satisfaction. However, due to paucity of information, it is difficult to generalize these results across the TVET system.
- **Philippines.** Employment rates for Employment-Based Education and Training (EBET) graduates ranged between 70.5% and 84%, which is impressive. However, these outcomes may not apply to other training models. Some of the interesting findings from TESDA tracer study included: i) about 23% who were unemployed before and were able to find a job after attending a program, and ii) 30.3% acquired new job after completing a TVET program. However, 36.22% of the unemployed before training were still unemployed.

These findings suggest that tracer study practices are inconsistent and incomplete across the countries, limiting the comprehensive assessment, preferably of employment outcomes. Still the above data suggest that, except for Cambodia (despite insufficient information on research methodology and coverage) and the Philippines (only in the case of EBET), employment outcomes are generally low across the countries. Even in Pakistan, despite significant emphasis on CBT&A approach and a lot of focus on WBT, the employment outcome results under TVET III suggest there is room for improvement in both quality and relevance.

Efficiency. Efficiency for the purpose of this study is considered as the optimal use of financial, human, and physical resources in TVET delivery. Bangladesh and Afghanistan manage education and training programs in institutes through double or even triple shifts per day to maximize infrastructure use but face challenges due to persistent staff vacancies, particularly in Bangladesh. Pakistan demonstrates its progress in digital governance through the National Skills Information System (NSIS), enhancing data management (including the use of formative assessment data for final assessment) and accreditation efficiency. The NVQS Registry-linked formative assessment system in Pakistan contributes to making the final assessment both cost- and time-efficient. Thailand has mobilized information technology and adopted advanced



administrative approaches such as performance-based budgeting and decentralized procurement. The Philippines features a large number of private sector providers sharing financial and operational responsibilities, thereby lessening the government's burden. The MOOCs model of training also contributes in financial and time efficiency as it is delivered through an online platform.

Financing. Government funding is the primary source of finance for TVET across countries. However, private sector contributions (primarily through management of TVET/skills training institutes) and International Development Partners (IDPs) support through grants, loans, and technology transfer. Afghanistan suffers from chronic underfunding, especially for infrastructure development at the institute level. Pakistan's TVET financing is noted for continued support from IDPs (from TVET I to the current TVET IV). Bangladesh's government covers a large portion (70%) of TVET costs, but most allocations are directed toward staff salaries. Several donors have been supporting Bangladesh's TVET sector, either through grants or loans. In the Philippines, the government funds TVET through TESDA, but this constitutes a small proportion of the national education budget. However, the country's TVET system benefits from strong private sector investment in the operations of private TVET institutes. Over 90% of institutes are under private sector financing.

Affordability. Continued reliance on external financing indicates the governments' limited investment capacity and difficulty in fully affording TVET education. This finding applies across all countries. Most countries, through public institutes, provide fee-free or low-cost TVET services, which improves access and enables programs continuation. For instance, Pakistan's fees are low and are also in some cases complemented by scholarships provisions. Stipend and scholarship programs are helpful for disadvantaged learners in Bangladesh and the Philippines. However, the out-of-pocket expenses required to cover daily needs such as transportation and accommodation still constrain access, particularly for economically disadvantaged learners. Even more important is the opportunity costs for this segment, including women and marginalized groups.

Adoption-Scalability. As presented earlier, most countries have adopted national qualifications frameworks (together with RPL), CBT&A, and WBT as reform instruments. However, insufficient financing, teacher/trainer shortages, and the inadequacy of laboratories (in terms of machines, equipment, and consumables) impede country-wide scalability.

Sustainability. Sustainability of proven interventions hinges on governments' continued policy commitment, BIAs' influential presence and productive engagement, institutional and teachers/trainers' capacity, and assured and sufficient funding. Assessed in these terms, policy provisions are in place in all countries, but BIAs' share and productive engagement in governance varies by country, with Pakistan performing better than the others. Similarly, the capacity for training teachers and trainers is limited across all the countries, except for Pakistan (due to its CoEs), which is better placed than others. External support/project-based funding in all countries (except for Thailand) is a critical factor, and without it, countries would likely struggle to sustain reform achievements. Political changes (for instance in Afghanistan and Bangladesh) may also impact sustainability. As such, the continuation of reforms in Afghanistan and Bangladesh remains uncertain.

TVET System Strengths and Weaknesses

As summarised in the following paragraphs, while some strengths are common across the countries studied, each country also has its own distinct strengths. The same applies to weaknesses.

Common Strengths. Statutory/legal TVET frameworks, national policies/development/strategic plans, federal/central agencies with governance roles, national vocational



qualification frameworks (NQFs) together with RPL systems, and public funding commitment are shared strengths across the countries.

Country-specific strengths. The country-specific strengths as highlighted below are:

Country	TVET strengths
Afghanistan	Policy recognition of market relevance; multiple shifts for education and training
Pakistan	<ul style="list-style-type: none"> ▪ Operationalization of NVQ with equivalency up to Level 8 between TVET and general education streams ▪ Robust BIA engagement at multiple governance levels ▪ CoEs for teachers and assessors training; and ▪ Broad implementation of CBT&A
Bangladesh	<ul style="list-style-type: none"> ▪ NSDA under Prime Minister’s Office (PMO) ▪ Functional Industry Skills Councils (ISCs) ▪ CBT rollout underway
Thailand	<ul style="list-style-type: none"> ▪ System for labor market surveys ▪ Strategic alignment with Thailand 4.0 and Eastern Economic Corridor (EEC) initiatives ▪ Institutionalized Dual VET model ▪ Credit bank system to support lifelong learning and mobility
Cambodia	<ul style="list-style-type: none"> ▪ Improved BIA engagement in TVET governance ▪ Introduction of blended learning approaches ▪ Expansion of Dual VET; ▪ Focus on digital economy integration.
Philippines	<ul style="list-style-type: none"> ▪ Demand-driven training model ▪ Expansion of CBT implementation ▪ Dual VET programs in collaboration with industries ▪ Use of MOOCs to improve accessibility and efficiency.

Weaknesses. All countries studied suffer from several common weaknesses as below:

- **Governance.** TVET apex bodies are entrusted with both regulatory and implementation roles, but often limited focus on their regulatory responsibilities.
- **BIA Mobilization.** BIAs’ engagement remains weak despite their statutory presence in TVET governing boards across countries. This is so also the case in Pakistan, even though significant emphasis is placed on BIA engagement.
- **Quality.** Even countries that have successfully piloting CBT continue to use traditional curricula (for instance, Pakistan’s Prime Minister’s Hunarmand Programme). TVET systems across all countries (except for Pakistan’s CoEs) suffer from shortages of trained teachers and inadequate laboratory facilities. TVET Systems are also noted for limitations with practical training consumables. Lack of formative assessment/ continuous assessment of learning outcomes was noted in all countries. Even in Pakistan where formative assessment is foundation for summative assessment, whether students/ learners are supported for training until they feel confident is unclear.
- **Relevance.** There is weak industry collaboration, irregular labor market assessment, and limited implementation of work-based training.
- **Efficiency.** Student/trainee dropouts and low female enrolment/participation are observed across the countries
- **Data Systems.** Absence of nationally accepted indicators and corresponding baseline data, along with their irregular updates, are noted in all countries. Except for the Philippines, practice of assessing cycle completion rate (CCR) and survival rate (SR) was not common.

These findings highlight the need for coordinated and sustained efforts to address these challenges and improve the quality, relevance, and sustainability of TVET systems across all countries.



Key TVET Actors and Partnerships

Government institutions (federal and provincial ministries/TVET apex agencies), business and industry associations (BIAs)/private sector, non-governmental organizations (NGOs), and international development partners (IDPs) including international non-governmental organizations (INGOs) are key actors and partners in TVET development.

Government Institutions. Multiple ministries and agencies oversee TVET planning, implementation, and funding across all countries. The main role is typically assumed by either the Ministry of Education or the Ministry of Labor. TVET federal/apex bodies (such as the TVET-Authority in Afghanistan, NAVTTC in Pakistan, NSDA in Bangladesh, OVEC in Thailand, DGTVET in Cambodia, and TESDA in the Philippines) have semi-autonomous status and coordinate efforts with non-governmental development partners (BIAs/private sector, NGOs and IDPs).

Business and Industry Associations (BIAs). BIAs are accepted as key partners to ensure TVET relevance to labor market needs, though their engagement varies significantly across the countries studied. All countries except Afghanistan have BIA membership in federal/ apex governing boards, and in Pakistan, even at provincial and institute-level boards. Thailand and the Philippines have institutionalized BIA participation, particularly through dual-VET systems, and Pakistan has a Cooperative Vocational Training (CVT) model. Similarly, Industry Sector Councils (ISCs) in Bangladesh, and TVET Industry Boards and Regional Industry Boards (under TESDA) in the Philippines, are important BIA stakeholders. Pakistan initially began collaboration through SSCs and, despite their very limited success, the country has realized their potential for enhancing TVET relevance.

Non-Governmental Organizations (NGOs). NGOs contribute significantly to expanding access in underserved regions/target groups, delivering training, and policy advocacy, in all countries, with their role being especially prominent in Bangladesh, Pakistan, and the Philippines. In Bangladesh, BRAC and UCEP have a long history of service and broad coverage, particularly reaching marginalized groups, while Afghan NGOs support the bridging of skills gaps and shortages in conflict-affected regions. Despite their important contributions, only limited evidence exists showing governments' acceptance of NGOs as an integral part of national TVET systems.

International Development Partners (IDPs). As explained earlier, IDPs have played a key role in funding and technology transfer across all countries studied, but with varying levels of collaboration and results. Key players include the European Union (EU), Asian Development Bank (ADB), and the World Bank. Similarly, GIZ appears as an active partner in several countries. The role of UNESCO and the International Labor Organization (ILO) is also significant. Pakistan, Bangladesh, and the Philippines have robust IDP-supported reform initiatives focused on CBT and WBT.

To summarise, all the countries studied exhibit strong public sector leadership and broad participation from national and international stakeholders. A common shortcoming, however, is the lack of mechanisms for systemic and institutionalized collaboration across the key players.

Key Issues and Challenges

Apart from the TVET systems' weaknesses, they also suffer from several important issues and challenges as summarised hereunder.

Governance, roles and focus. Fragmented governance with overlapping mandates among ministries is common in Bangladesh, Thailand, and Cambodia. Often the ministries of education and labor compete or share these roles (as is the case in Afghanistan, Bangladesh



and Cambodia). Poor coordination across ministries and TVET bodies leads to duplication and operational confusion, ultimately hampering service delivery.

Most countries have BIA membership in governing boards, but except in Pakistan, their share is insignificant, making them insufficiently influential. Further, most countries' apex bodies are also undertaking implementation roles, while their primary focus should have been on quality assurance. For instance, NAVTTC in Pakistan, OVEC in Thailand and TESDA in the Philippines have dual roles weakening their quality assurance/regulatory functions.

Operationalization of Qualifications Frameworks. While most countries have developed national qualifications frameworks together with RPL, their operationalization including in Pakistan remains limited. Issues include TVET being mainly operational up to the Diploma level (Level 4) or Advance Diploma (Level 5), and its insufficient alignment with higher education. Amidst this government provisions and position, the rhetoric that societies perceive TVET as 'the second option' is conflicting. Similarly, despite a large informal sector, including in Thailand, the limited-scale operationalization of RPL is another issue worth noting.

Relevance. A persistent and pervasive gap skills mismatch exists between the demand (what employers need) and the supply (what TVET graduates – from long or short-term programs-possess) across countries studied. This is mainly due to lack of an institutionalized system that could regularly collect labor market demands and feed them into the TVET system, helping the institutes prepare graduates accordingly and successfully address skills gap and shortages. Despite several labor market interface mechanisms in place, the interaction between learners (soon-to-be graduates) and the market/ business and industry/ employers/client is often weak. No evidence of monitoring how the learners/ apprentices progress in learning during OJT/WBT was found. This information gap is significant issue within the TVET systems across the countries.

Access and inclusion. Gender disparities, inadequate access for persons with disabilities, and marginalized populations from underserved regions persist across the countries. Socio-cultural barriers and weak policy implementation, even when provisions exist in most country policies, become obstacles for female participation, particularly in Afghanistan and Pakistan. Thailand and the Philippines face challenges in reaching rural populations.

Quality. Quality assurance systems are generally underdeveloped, curricula are often outdated, and a shortage of teacher/trainer training opportunities resonates across the countries. Training for teachers/trainers in actual workplaces or real-world industry settings remains undocumented. Accreditation systems still require strengthening in all countries.

Funding Gaps. Underfunding impacts the development of physical infrastructure, especially laboratories (equipment and tools) and consumables necessary for practical training across all the countries. Likewise, donor dependency persists, and capital budgets are limited, slowing down the modernization efforts required for overall reform.

Perception of TVET. All countries exhibit a preference for academic streams, with TVET considered a second option for academically weak students/ learners. This stigma often contributes to low enrollment and high dropout rates. It is observed in all countries studied, including, to some extent, Thailand and the Philippines.

Lessons Learned

Study of TVET interventions across Asia, as summarised below, reveals some important lessons for TVET development:



Policy and governance. Strong national policy and governance frameworks are crucial for sustained and systemic TVET development. Dual responsibilities - regulatory and implementation – carry a high risk of undermining the focus on quality assurance.

BIAs Engagement. Structured mechanisms, such as majority representation in national/federal and provincial TVET bodies, could enhance relevance and strengthen the interface with the employment market. Their engagement in institute/school management committees could improve effectiveness of delivery at the institute level. Active partnerships between BIAs and the TVET system can improve the relevance of education and training services.

Qualifications Frameworks and RPL. Qualifications frameworks are crucial for standardization, recognition, and equivalency of TVET qualifications. RPL can help acknowledge informally acquired skills/competencies and open formal pathways for furthering education opportunities. However, merely adoption of the vocational qualification framework is not enough. To help the students/ learners reap its benefits such as cross-boarder recognition of qualifications and TVET graduates' seamless academic progression, such framework must be integrated with overall education qualification framework. Such integration must be backed with legally binding equivalency and recognition of qualifications. The almost universal practice of putting educational ceiling to TVET students/ learners mostly up to Level 4 or, at the most, 5 is reason for a widespread detest for TVET among youths and parents.

Competency-based training and assessment (CBT&A). The CBT&A approach in education and training can help prepare industry-ready graduates. Regularly measuring learning outcomes while students/ learners are still enrolled is helpful for preparing them for final assessment.

Equity and inclusion: Policy stipulations alone are not insufficient to enhance inclusion. Strict monitoring of implementation is essential to ensure equity and inclusion objectives are achieved.

Training Facilities and Equipment: Market-relevant laboratories equipped with appropriate machinery, equipment, and tools significantly enhance education and training outcomes.

Research responsive TVET system. Continued mismatch in demand and supply and limited employment outcomes across the countries suggest, merely labor market research is not enough. The government must be able to use the research findings to ensure evidence-based policies and planning in place. In the sequence, the TVET system must be able to internalize the research findings and develop qualifications accordingly.

Institute level autonomy. The institutes are best positioned to understand the labor market demands. Therefore, government practice of deciding qualifications to offer must be reviewed to allow flexibility to the institutes to decide on the courses to offer.

Data and Monitoring: Nationally agreed indicators, along with corresponding baseline data and information, are critical for evidence-based planning, performance monitoring, and evaluation.

To summarise, TVET systems in these countries face multifaceted issues and challenges related to policy, governance, quality, relevance, equity, and outcomes. Addressing these gaps and deficits requires coordinated, multi-dimensional strategies, supported by sustained investment and collaborative stakeholder engagement. Lessons learned suggest that stand-alone interventions are insufficient; rather a holistic and systemic approach integrating policy alignment, BIA engagement, capacity building, data systems, and infrastructural enhancement is essential for effective TVET reform and its long-term sustainability.



Knowledge Gap, Research Agenda/priorities, and Policy Questions in TVET

While significant reforms and progress have been made in the TVET landscapes across the countries studied, persistent evidence gaps may hamper the formulation, implementation, and evaluation of effective policies and plans.

Knowledge Gaps. As summarized below, several key areas reveal persistent knowledge gaps that hinder effective TVET planning, implementation, and evaluation.

Impact of policies and reform/strategic plans. All countries have formulated national TVET policies and strategic plans. However, this desk study found no substantial evidence of independent assessments measuring the impact or contribution of these policies, particularly regarding what has worked, what hasn't, and why. Consequently, the effectiveness of policy interventions remains largely unverified across all countries.

Performance of Institutional and governance reform. There is a notable absence of evaluations analyzing the performance of TVET apex bodies, including TVET-A in Afghanistan, NAVTTC in Pakistan, NSDA in Bangladesh, OVEC in Thailand, DGTVET in Cambodia, and TESDA in the Philippines. There are several other TVET agencies in each country. Examples include, Technical and Madrasah Education Directorate in Bangladesh, Thailand Professional Qualification Institute and Department of Skills Development, and National Training Board in Cambodia. Their effectiveness in fulfilling mandates, institutional strengths and weaknesses, and governance-related challenges have not been systematically documented. Additionally, institutional coordination and collaboration mechanisms, particularly in Afghanistan, Thailand, and Cambodia lack robust analysis or supporting data.

Engagement and Influence of BIAs. In-depth studies are lacking on why governments provide limited influence and decision-making space to BIAs despite their formal presence in governance structure. There is also a need to examine what policy and legal frameworks could foster meaningful and productive partnerships with BIAs in planning, delivery, and monitoring of TVET systems.

Labor Market Relevance. There is a limited documentation on the role and effectiveness of BIAs in key TVET processes such as labor market research, curriculum development, teacher training, and job placement. Similarly, evidence on the actual outcomes and effectiveness of work-based training models (WBT) remains sparse. A critical unanswered question across all countries is: Why do public TVET remain largely supply-driven and disconnected from labor market assessments? Moreover, there is a dearth of information on how informal sector workers and micro-entrepreneurs access skills development opportunities, despite their dominance in many national economies.

Equity and Inclusion. Comprehensive research is lacking to explain, in detail, the policy and intervention deficiencies that hinder efforts to enhance equity and inclusion in TVET systems. Recognition of Prior Learning (RPL) is a recognized and proven instrument for linking informal and non-formal learning to formal education and training pathways. However, its limited-scale implementation remains an under-researched issue across the countries studied.

Curriculum and Future Skills. There is limited research on the integration of emerging skills such as Artificial Intelligence (AI), green skills, and digital competencies into TVET curricula. Significant gaps are observed particularly in Afghanistan, Cambodia, and Thailand, where curriculum reform efforts in this area are either minimal or undocumented.

Certification, recognition and Pathways. None of the countries have conducted comprehensive evaluations of their national qualifications frameworks or credit transfer systems. A key question in operationalizing NVQF is whether the Occupational Standards and curriculum align with the NVQF level descriptors. Furthermore, there is no empirical evidence



that these systems have succeeded in establishing seamless recognition and progression pathways for TVET graduates equivalent to those in academic streams.

Key Research/Policy Questions. Based on the above backdrop, the following policy questions emerge:

- How can national policies, plans, strategies be better translated into improved and coordinated service delivery at all governance levels – federal, provincial, regional and local/ institute levels?
- What factors and actors positively or negatively influence the success or failure of TVET reforms and interventions across diverse contexts?
- Why have been NVQS and RPL operations remained limited? To what extent have these interventions been successful? Why do TVET graduates have to pursue higher education in the general education stream instead of within the TVET system?
- Why does the mismatch between demand and supply persist so pervasively, resulting in low employment outcomes? Despite very poor employment outcomes, why are labor markets not regularly assessed and the results fed into the TVET systems for evidence-based program design and service delivery? What mechanisms can institutionalize labor market assessments and integrate employer feedback into curriculum design? Why do governments not follow market demand-based approaches despite policy rhetoric? What are the income outcomes of graduates?
- To what extent has TVET system been able to skill, reskill, and upskill existing and informal sector workers?
- To what extent is the TVET system able to offer enterprise development training?
- Which TVET models have been successful or unsuccessful across the countries, and what factors or actors are responsible for these outcomes?
- What are the educational and career pathway outcomes for TVET graduates? What could help enhance TVET's public perception? Considering the high likelihood for employment and income outcomes, why is it still perceived as second or even third option? What factors contribute to policymakers and society viewing it as a low-level form of education compared to the general education stream?
- Which policies or strategies could effectively replace current provisions and expand access and inclusion for disadvantaged populations?
- How can quality assurance systems, including accreditation mechanisms, be strengthened to prepare industry-ready graduates from both long and short-term education and training programs?
- Why do comprehensive monitoring systems not exist, and how can they be made effective?

Research Agenda and Priorities. Based on the identified knowledge gaps and policy questions, research in the Asian countries would need to focus on the following areas:

- Impact evaluations of major policy and institutional reforms.
- Performance evaluations of federal/apex and provincial TVET bodies
- National TVET sector assessments to establish nationally agreed indicators and baseline values necessary for evidence-based planning and progress monitoring/evaluations.
- Analysis of factors and actors hindering the operationalization of market-responsive and quality TVET services
- Investigation into barriers preventing access to TVET services for women, rural youth, and marginalized communities.

National Key Growth Sectors and TVET

Agriculture, green economy/climate change, digitalization, infrastructure, and tourism have been identified as priority growth sectors by the countries studied. To address the workforce needs in these nationally prioritized sectors, TVET systems, in partnership with relevant business and industry sectors, are expected to:

- Identify occupations, qualification levels, and the scale of workforce required in each priority sector.
- Develop/reform curriculum focusing on these occupations.
- Train teachers /trainers and managers.
- Ensure necessary infrastructure, especially practical training facilities, is in place.

Country-Specific Research Priorities

In addition to the common research agenda outlined above, future research could also focus on the following country-specific priorities.

- Afghanistan - Explore proven business/enterprise development models and customize TVET for small-scale industries and microenterprise development.
- Pakistan – Investigate integration of Artificial Intelligence (AI), energy efficiency, and water conservation into TVET curricula and delivery.
- Bangladesh – Assess TVET support to shipbuilding and pharmaceutical sectors through tailored training programs.
- Thailand – Study workforce readiness for the electric vehicle industry and the Bio-Circular-Green (BCG) economy.

The discussion above highlights the overarching and country-specific knowledge gaps, research priorities, and policy questions critical to enhancing TVET relevance, inclusiveness, and quality. It also underscores the importance of aligning TVET development with national economic growth priorities creating affirmative pressure for building demand-driven, responsive skills development systems in the countries studied.

Conclusions and recommendations

This section presents a synthesis of key conclusions and corresponding recommendations, drawn from the findings summarized in the preceding sections.

Despite country-specific socio-political contexts, the countries studied faced common systemic challenges including: weak alignment of TVET with national development visions; gaps in translating policies into actionable results; fragmented governance structures; weak partnership between Business and Industry Associations (BIAs) and the TVET system; outdated curricula; poor linkages between TVET and general education streams; limited opportunities for work-based learning; and inadequate employment outcomes for graduates. These findings underscore the need for strategic realignment, coordinated governance reforms, and a focus on quality, relevance, and outcomes to improve TVET system performance. Highlights of the conclusions and corresponding recommendations by thematic area are presented in Table 2.

Table 2: Key conclusions and recommendations

Thematic area	Conclusion	Recommendations
Strategic Alignment	TVET is insufficiently integrated into national development strategies.	Align TVET reform and development initiatives with national priority sectors such as agriculture, construction, and manufacturing. Embed skills strategies within national development plans. Conduct research to identify sector-specific occupational demands, and design corresponding education and training programs / qualifications.
Governance and Coordination	Fragmented and overlapping institutional arrangements.	Establish multi-sector stakeholder mechanisms to ensure coherent policy and programmatic interventions. Such platforms are essential for aligning efforts, avoiding duplication, and sustaining reforms. Clarify and streamline the roles of TVET apex bodies, with a focused mandate on quality assurance and regulation.
BIAs engagement	Limited BIA engagement weakens system leadership.	Ensure at least 50% representation from BIAs/employers in the governing board at all levels.

Thematic area	Conclusion	Recommendations
		Mandate the establishment of Sector/Industry Skills Councils through legal provisions, and provide financial support for their operation, especially during initial stages.
Quality and Relevance	Despite some piloting of CBT, lack of market research, traditional curricula, insufficient teacher training, and limited WBT have resulted in graduates lacking sufficient quality and relevance.	<p>Future reform actions should prioritize competency-based curricula, institute/program accreditation, teacher training, and laboratory upgrades.</p> <p>To enhance relevance, both long-/medium-term feasibility studies and short-term rapid market appraisals should be institutionalized in each country.</p> <p>TVET systems, including providers, should be empowered to directly engage with business and industry to align with market demands.</p>
Recognition and pathways	National Qualification Frameworks (NQFs) and Recognition of Prior Learning (RPL) are not fully operationalized or utilized.	<p>TVET qualifications development, assessment, and certification should begin with aligning occupational standards to NVQ level descriptors. Subsequently, curriculum development, teacher training, and laboratory improvements should be aligned with these descriptor requirements.</p> <p>TVET and general education stream graduates should be granted equal recognized through statutory provisions.</p>
Access and Equity	Disparities in access persists across the countries for females, persons with disabilities, and learners from rural and marginalized backgrounds.	Instruments such as targeted funding/scholarship, shift-based education and training, mobile training units, female-friendly programs could be effective in addressing these gaps.
Work-Based Training (WBT)	Work-based training of one form or another is necessary across all education and training models, but it is not consistently practiced in all countries.	Irrespective of TVET/skill development model, occupation, or qualification level, all programs should be mandatorily linked to WBT such as OJT, CVT, Dual VET, or apprenticeship models).
Planning and Financing	TVET interventions are often externally influenced and may not be fully backed by evidence.	Countries should institutionalize evidence-based planning by establishing nationally agreed indicators and, corresponding baseline data and information systems.
Performance assessment of TVET systems	<p>In the process of developing TVET systems, all countries have introduced national TVET policies and plans and established regulatory and implementation agencies at the national and provincial levels. However, the performance and contributions of these institutions remain largely unexplored. These agencies often take implementation roles, sometimes based on their mandate and sometimes due to the availability of external funding. In such cases, they risk being distracted from their core responsibility of quality assurance, which is the central to any effective TVET system. The implications and impact of these dual roles remain an under-researched area. Similarly, the outcomes of teacher training institutes and related capacity development efforts also are seldom assessed.</p> <p>International development partners (IDPs), including INGOs, are engaged in supporting TVET systems across all these countries. However, there is a lack of studies evaluating their</p>	Systematic and participatory assessments of national TVET agencies, teacher training efforts, and development partner-supported interventions are necessary. These evaluations should aim to generate evidence on success and failures and provide practical feedback to improve institutional performance and achieve better TVET outcomes.



Thematic area	Conclusion	Recommendations
Capacity building and policy dialogue	<p>contributions and effectiveness in achieving sustainable TVET outcomes.</p> <p>This study shows that TVET is complex development agenda involving many stakeholders ranging from parents/communities to policy makers. As equivalency and recognition is major issue in TVET development, there is need for brining academic stream on board. However, no such mechanism exists in Asia.</p>	<p>With purpose to build capacity of stakeholders' (managers, practitioners, planners, and policy makers from the TVET world, universities and relevant ministries) through cross-fertilizations of lessons learned across the countries and policy dialogue, an Asia level facility for this purpose appears to be a need.</p>

Acronyms

ACAP	Assessment Capacities Project
ADB	Asian Development Bank
AIT	Asian Institute of Technology
ANDS	Afghanistan National Development Strategy
ANQA	Afghanistan National Qualifications Authority
ANQF	Afghanistan National Qualifications Framework
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BES	Bangladesh Education Statistics
BIAs	Business and Industry Associations
BLFS	Bangladesh Labor Force Survey
BMET	The Bureau of Manpower, Employment, and Training
BNQF	Bangladesh National Qualification Framework
BPC	Bangladesh Planning Commission
BTE	Bureau of Technical Education
BTEB	Bangladesh Technical Education Board
CBT	Competency-Based Teaching and Training
CBT&A	Competency-Based Training and Assessment
CCDT	The Committee of Chairmen and Directors of Technical Education
CESP	Committee on Education and Skills Policy
CESP	The Committee on Education and Skills Policy
CoEs	Centers of Excellence
CORE	Centre for Occupational Research and Education
CVT	Cooperative Vocational Training
DAE	Diploma in Engineering
DBOM	District Board of Management
<i>DM-TVET</i>	Deputy Ministry for TVET
DoAE	Department of Agriculture Extension
DoSS	Department of Social Services
DoT	Department of Textile
DoWA	Department of Women Affairs
DTE	Directorate of Technical Education
DTESD	Department of Technical Education and Skills Development
DTVET	Department for Technical and Vocational Education
EE	Ex-post Evaluation Report
EU	European Union
GB	Gilgit-Baltistan
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
HSC	Higher Secondary Certificate
ICT	Islamabad Capital Territory
IDPs	International Development Partners
IDRC	International Development Research Centre
ILO	International Labour Organization
IMCs	Institute Management Committees
IMF	International Monetary Fund
ISC	Industry Sector Council
ITDAP	Integrated TVET Development Action Plan
KDI	Key Development Indicator
KP	Khaiber Pakhtwa
M&E	Monitoring and Evaluation System
MEWOE	Ministry of Expatriates' Welfare and Overseas Employment
MoE	Ministry of Education
MoFEPT	Ministry of Federal Education and Professional Training

Mol	the Ministry of Industries
MoLE	Ministry of Labour and Employment
MoLSA	Ministry of Labor and Social Affairs
MoLSAMD	Ministry of Labour, Social Affairs, Martyrs, and Disabled
MoWCA	Ministry of Women and Children Affairs
MoYS	Ministry of Youth and Sports
NAC	National Accreditation Council
NAP	National Action Plan
NAPWA	National Action Plan for the Women of Afghanistan
NAVTEC	National Vocational Technical Education Commission
NEET	Not in Education, Employment, or Training
NEIP	National Education Interim Plan
NEP	National Education Policy
NESP	National Education Strategic Plan
NETP	National Economic Transformation Plan
NEXT	National Employment Exchange Tool
NGOs	Non-governmental organizations
NISTE	The National Institute for Science and Technical Education
NOSS	National Occupational Skills Standards
NSDA	National Skills Development Authority
NSDC	National Skills Development Council
NSDP	National Skills Development Policy
NSIA	National Statistic and Information Authority
NSIS	National Skills Information System
NSP	National Skills Portal
NSS	National Skills Strategy
NTA	National Training Commission
NTR	National Training Regulations
NTVQF	National Technical and Vocational Qualifications Framework
OJT	On-the-Job Training
OSU	Occupational Skills Upgradation
PMS	Project Management System
PP2041	Perspective Plan 2041
PPP	Public-Private Partnership
PTC	Provincial Training Committees
PVTC	Punjab Vocational Training Council
QABs	Qualification Awarding Bodies
RPL	Recognition of Prior Learning
RTCs	Regional Training Centers
SDG	Sustainable Development Goals
SEIP	Skills for Employment Investment Program
SSC	Secondary School Certificate
SSCs	Sector Skills Councils
STEP	Skills and Training Enhancement Project
TESDA	The Technical Education and Skills Development Authority
TMED	Technical and Madrasah Education Division
TRSP	TVET Reform Support Programme
TTB	Trade Testing Board
TVET	Technical and Vocational Education and Training
TVET-A	Technical and Vocational Education and Training Authority
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC-	UNEVOC-UNESCO International Centre for Technical and Vocational
UNESCO	Education and Training
VTCs	Vocational Training Centres



WB
WBT

World Bank
Work-Based Training

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Chapter 1: Introduction

1.1 The context

International Development Research Centre (IDRC) plans to develop research strategies interventions on technical and vocational education and training (TVET) including skills development and the future of work in developing countries in Asian region. These research efforts aim to address both shared challenges and country-specific needs. The research agendas identified would focus on priority areas which can create significant impacts to the region, as well as help to narrow the gaps in TVET and skills development program implementation.

In order to identify the research agendas, IDRC intended to commence a scoping study in the six developing countries. For this purpose, the IDRC has entered into contract with Asian Institute of Technology (AIT). This assignment involves assessing the current TVET/skills development status in the developing countries in Asia and identifying gaps based on the assessment criteria in TVET/ skills development systems. These assessment criteria are specified in the IDRC terms of references (ToRs).

The assignment is expected to include the new direction of TVET implementation framework that encompasses immersing issues such as TVET system - industry relationship, cutting edge technology, future skills, climate change and relevant innovations.

1.2 Assignment objectives

The overall objective of this assignment is to map the TVET engagements across Asia in order to identify gaps in both current and past interventions. The aim is to provide evidence-based recommendations that will inform IDRC's research agenda and strategy, and support policy enhancements to improve the impact of TVET and skills development programs, ensuring they effectively benefit youth.

The specific objectives are:

- a. Conduct a comprehensive mapping of TVET engagements to identify and analyze similarities, differences, gaps, and their effectiveness, using established criteria such as quality, sustainability, inclusion, affordability, and scalability. This includes identifying key areas requiring further dialogue, analysis and policy consultation. Provide targeted recommendations for research, policy actions, and strategies to enhance and modernize TVET policies and systems covering curriculum, delivery, and assessment. Assess the strengths and weaknesses of existing interventions and partnerships, and offer recommendations to foster more gender-responsive, equitable, and inclusive TVET systems.
- b. Propose approaches to strengthen the strategic alignment between research, policy frameworks, industry needs, and the instruments of TVET/ skills development, along with related sectoral plans and policies.
- c. Develop a research agenda on TVET and skills development focused on key growth sectors in Asia. These may include the green and care economies, energy, water, agriculture, blue economy, waste management, and digital economy, infrastructure development, artificial intelligence, and other disruptive technologies and innovation-driven fields such as science, technology, engineering and mathematics (STEM), aimed at enhancing youth employability.

1.3 Scope of work

To meet the study objectives outlined above, IDRC has engaged the Asian Institute of Technology (AIT) to undertake the following specific tasks:

- a. Analyze the national socio-economic contexts of the selected countries, including internal and external changes impacting them, and identify the resulting imperatives and expectations for TVET, particularly in light of emerging technologies and the future of work.



- b. Examine the history of TVET reforms and policy development, including the process of change, change management practices, and the internal and external factors facilitating or resisting adaptation and transformation.
- c. Map and assess current TVET interventions in Asia, drawing lessons from both current and past experiences. Assess concrete outcomes in terms of quality, relevance, efficiency, effectiveness, inclusiveness, funding mechanisms, partnerships and their impacts, policy framework and instruments, labor market alignment, private sector involvement, institutional roles and responsibilities, capacity for evidence-based policymaking and planning, and the education-to-employment transition.
- d. Map the key TVET actors critical to the design, development, and success of interventions and policies.
- e. Produce a report identifying the strengths and weaknesses of current interventions and partnerships across developing countries, along with recommendations for improvement.
- f. Draw lessons from international experience and both regional and national consultations. Identify and assess good practices and standards for effective TVET development, referencing relevant models from development partners, international NGOs, and private sector TVET providers.
- g. Identify knowledge gaps in research, innovation, infrastructure, curriculum, and policy. Highlight key policy questions that need to be addressed.
- h. Draw conclusions and provide specific recommendations to fill the identified knowledge and policy gaps. Suggest refinements and areas requiring greater emphasis. Propose a targeted research agenda for TVET and skills development aimed at enhancing youth employability.
- i. Suggest additional strategies for knowledge generation that support the future development of TVET systems in the region.



Chapter 2: Methodology

2.1 Assessment Process and Approach

Assignment process. The study followed the provisions and assessment criteria outlined in the Terms of Reference (ToR). An inception report was prepared and finalized after incorporating feedback from IDRC. In response to a specific request from IDRC, Bangladesh was added as an additional sample country due to its relevance to the study.

The next step in the process involved a comprehensive desk review, followed by the drafting of individual country reports. Each draft report was shared with a national expert in respective country, who provided critical feedback, enhanced the report, and facilitated virtual consultations with relevant stakeholders. Inputs from these consultations were incorporated into revised versions of the draft report.

These steps are discussed in greater detail in the following sections of this chapter.

Approach. The study primarily relied on a review of secondary data and information sources. However, as noted above, it also included consultations with key national stakeholders, thereby adopting a participatory research approach.

2.2 Assessment criteria

This assignment adhered to the assessment criteria outlined in the Terms of Response (ToR). Additionally, to align with international standards, the UNESCO-UNEVOC TVET assessment framework and the evaluation criteria of the OECD were also applied.

The ToR includes a broad set of indicators that are closely aligned with OECD criteria, including relevance, effectiveness, efficiency, outcomes, coherence and sustainability. However, to ensure full alignment with the ToR, the assessment also includes dedicated sections on governance, inclusion, quality, business and industry engagement/ labor market relevance, adoption and scalability, affordability, key actors, and the research agenda.

2.3 Countries selected as sample

Asia comprises 49 countries, spanning from East Asia to the Middle East and transcontinental regions. These countries represent a wide spectrum of economic development, ranging from least developed to advanced economies. Given this diversity, selecting a representative sample of countries posed a methodological challenge.

To maintain focus on development related issues, this study deliberately excludes advanced economies. Instead, countries were selected based on two key criteria: development diversity and geographical representation.

As outlined in Table 1, the selected sample includes: the Philippines from East Asia, representing a lower-middle-income country. Thailand and Cambodia from Southeast Asia, representing upper-middle-income and least developed country (LDC) status respectively. Similarly, Pakistan and Bangladesh from South Asia, both classified among least developed or lower-income economies. Finally, Afghanistan from Central Asia representing a fragile and least developed context.

This selection allows the study to explore TVET systems across a wide development and regional spectrum, ensuring relevance to IDRC's objectives and broader policy implications across Asia.

Table 2.1 Selection criteria and countries chosen for the study

Development status	Geographical distribution			
	East	South-east	South	Central
Upper middle income		Thailand		
Lower middle income	The Philippines		Pakistan	
Least developed		Cambodia	Bangladesh	Afghanistan

2.4 Tools for study

Following the assessment criteria discussed above, the study process was completed through literature review and consultation with stakeholders.

2.4.1 Literature Review

The country assessments began with a review of relevant national development plans and, where available, labor force surveys. This initial step was crucial to evaluate whether existing legislation and policies support or impede the development of TVET systems. It also provided a foundation to assess the relevance and alignment of current TVET policies and plans with broader national development objectives.

In addition to policy documents, the literature review encompassed TVET-related publications and reports, particularly those focusing on access, inclusion, and equity issues. This comprehensive review helped contextualize the status of TVET within each country and informed subsequent stages of the assessment. To facilitate the desk review, assessment questions were developed by including assessment areas, corresponding indicators including that requested in the TORs and information sources (Annex 1).

2.4.2 Drafting the country and synthesis report

While the literature review progressed, country reports were drafted. All the country reports with detailed references are presented in Annex 2.1 to 2.6). In parallel to the drafting of country reports, the synthesis report was also drafted. As synthesizing six country reports by covering large number of indicators was challenging. Therefore, major data and information from each country report was summarized in a matrix and presented in Annex 3.

2.4.3 National consultation

The summary of country findings were shared with national stakeholders to solicit comments and feedback. Leveraging its alumni network, the Asian Institute of Technology (AIT) identified national TVET experts who reviewed and contributed to improving the draft reports. These revised drafts were then shared among broader national stakeholders, primarily government officials, for further review and input. This process was critical for validating the findings and finalizing the country reports.

Key stakeholders engaged during the consultations included government ministries and agencies, public and private TVET practitioners. While most consultations were conducted online, where possible face-to-face consultations, for example, in Thailand were held. List of people met during the consultation stage is presented in Annex 4.

Until the date of the draft submission to IDRC, consultations were completed with Pakistan, Thailand and Cambodia. The country consultation for the Philippines is planned for 24 June 2025. Initial exchange has been already established with Afghanistan and Bangladesh country experts and as next step, consultation will be held with government stakeholders as soon as consultation schedule is availed to AIT.

2.5 Finalizing the country reports

After feedback from the stakeholders from the respective country's stakeholders, each country report was finalized. In parallel, the synthesis report was also finalized for submission to the IDRC.

2.6 Study limitations, difficulties and mitigation measures

SN	Study limitations, difficulties	mitigation measures
1	<ul style="list-style-type: none"> ▪ The majority of data and information used in the country reports which form the foundation of the synthesis report were retrieved from online sources and official websites. ▪ Access to hard copies of relevant documents was often not possible. This was one of the most significant limitations of the study. 	<ul style="list-style-type: none"> ▪ By far most of the data and information are connected with a detailed reference. Therefore, each country report has massive number of references. ▪ National consultants managed to review and help improve the report. ▪ Further, national consultations were conducted including both government and non-government TVET stakeholders.
2	Most often, the available data and information was project-or donor-specific, making it difficult to generalize findings at the national level.	Such information was used selectively as good practices or illustrative case examples, even within the same country.
3	Often times, the currency (timeliness) of the available data and information from desk reviews was questionable.	Outdated resources were only used when corroborated by more recent or validated data.
4	During the desk review plethora of data and information was available online, many documents lacked specific dates or timelines for the interventions described.	Where possible, efforts were made to triangulate such data with other sources. Information lacking credibility or verifiable context was either excluded or used minimally.
5	It was challenging to contact the authors or institutions responsible for key documents, and in many cases, no clarification or further information were provided.	Data and information that appeared dubious or unverifiable despite their potential importance were either excluded or used only with caution and noted limitations.

2.7 Organization of the report

Chapter 1 is an introduction of the study and is followed by methodology as Chapter 2. While Chapter 3 covers socio-economic context, Chapter 4 presents the history of TVET development.

Chapter 5 Progress in TVET development and covers most the TVET dimensions/ indicators including governance (policy development and national capacity on policy development, and TVET governance structure); effectiveness; inclusion; quality; relevance; private sector engagement/ labor market interface; employment outcomes; efficiency; financing, affordability (for students/ learners, government and institutes); adoption-scalability; sustainability; and TVET system strength and weaknesses.

Chapter 5 is followed by 'Key TVET actors and partnerships' as chapter 6. Key issues and challenges are presented in Chapter 7 and Lessons learned in Chapter 8. Chapter 9 presents Knowledge gap/ research agenda before making conclusions and recommendations as Chapter 10.

The last two chapters, Chapter 9 and 10 have focused on identifying knowledge gaps and proposing a research agenda, and on presenting the conclusions and recommendations, respectively. Where feasible, the similarities and dissimilarities across the countries are presented to make the report reader-friendly.



Country reports in Annex 2 (Annex 2.1 Afghanistan report, Annex 2.2 Pakistan report, Annex 2.3 Bangladesh report, Annex 2.4 Thailand report, Annex 2.5 Cambodia report and Annex 2.6 The Philippines report) is the vertebrate of this report. Each country report more or less follows the contents of this report.

Chapter 3: Socio-Economic Context

This chapter presents a synthesis of the socio-economic contexts of the six countries studied—Afghanistan, Bangladesh, Cambodia, Pakistan, the Philippines, and Thailand. Detailed country-specific data, information, and references are provided in **Annexes 2.1 to 2.6 (Country-Specific Reports)**. For ease of reading, key indicators and thematic by country are summarized in Annex 3.

The selected countries reflect diverse socio-economic conditions, characteristic of an Asian region shaped by rapid population growth, youth-dominated demographics, varying levels of poverty, and widespread informality. These structural conditions significantly influence both the opportunities and challenges associated with the development of Technical and Vocational Education and Training (TVET) systems in the region.

Key socio-economic indicators and their corresponding values are presented in Table 3.1 and are further elaborated upon in the following sections of this chapter.

Table 3.1: Summary of socio-economic context

Socio-economic indicators	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Populations (million)	35	263	169.87	66.95	17	109
Working-age population (million)	19.18	143.11	119	40.42	11	50.7
New entrants to the labor force	400,000	1.25 million	2.2 million	800,000	160,000	444,000
Economic status	Low-income status	Lower middle income country status	Least developed	Upper middle-income	Least developed	lower middle-income
Poverty rate	Over 50%	25.3%	5%	6.8%	10%	10%
Informal employment	73.6%	72%	84.9%	64%	88.3%	
Unemployment rate	13.3%	8.5%	3.5%	0.9%	0.2%	4.3%
Largest Contributor to the GDP	46.5% by service sector	57.7% by service sector	51.24% by service sector	58.7% by service sector	40.8% by industry sector	62% by service sector
Employees in agriculture	34.5%	37.4%	11%	31.3%	32.64%	20%

3.1 Populations and labor force dynamics

All countries reviewed have substantial populations. Pakistan has the largest population, with 236 million people, followed by Bangladesh (169 million) and the Philippines (109 million). Thailand (66.95 million), Afghanistan (35 million) and Cambodia (17 million) have comparatively smaller populations. Bangladesh, with a population of 169.87 million, has a working-age population of 119.37 million, of which 59% are economically active. Thailand's labor force includes over 40 million individuals aged 15 years and above. However, Thailand is now experiencing a decline in population growth and an aging trend, an emerging demographic shift that sets it apart from the other countries in this study.

Youth population bulge is particularly evident in Afghanistan, Pakistan, and Bangladesh, where large cohorts of young people are entering the labor market each year. For instance,



Afghanistan sees approximately 400,000 new labor market entrants annually, most of whom lack basic literacy or marketable skills. The number of new entrants is even higher in Pakistan and Bangladesh. While Thailand's figure is also significant, it remains relatively higher only when compared to countries such as the Philippines, Afghanistan and Cambodia. This ongoing influx of young labor market participants places growing pressure on national education and training systems, including TVET institutions, to provide accessible, relevant, and high-quality skills development opportunities.

Poverty and economic vulnerability. With the exception of Thailand (an upper-middle-income country) and the Philippines (a lower-middle-income country), the remaining countries in this study represents a range of lower-income classifications. Bangladesh, and Cambodia are designated as least developed countries (LDCs), while Afghanistan is categorized as a low-income country. Pakistan, although not an LDC, is classified as a lower-middle-income country. This finding means that poverty continues to affect large segments of the population across most countries in the study. In Afghanistan, nearly half the population remains in poverty. In Pakistan, the poverty rate reached 25.3% in 2024, a 7%-point increase in just one year resulting in an estimated 13 million additional people falling below the poverty line. Bangladesh has made notable progress, reducing its poverty rate from 11.8% in 2010 to 5.0% in 2022; however, disparities persist, particularly among youth and rural populations. Cambodia reduced its poverty rate to below 10% prior to the COVID-19 pandemic, while in the Philippines, the incidence of poverty among families fell to under 10% in 2023. Thailand reduced its poverty rate to 6.8% in 2020, although significant rural-urban disparities remain.

Political transition (such as in Afghanistan and Bangladesh) and natural disasters (notably in Pakistan and the Philippines) have further exacerbated socio-economic vulnerabilities. These disruptions increase the risk of development setbacks and highlight the urgent need for inclusive, resilient TVET and skills development systems, both to sustain progress and to support rapid recovery in the face of future crisis.

Informality, sectoral structure, and skills gaps. Informal employment continues to dominate labor markets across the region. In Afghanistan, for example, 73.6% of GDP is linked to the informal sector. Similarly, 88.3% of workers in Cambodia and 84.9% in Bangladesh are engaged in informal employment. Even in Thailand, which enjoys a relatively stronger economic position, informal employment remains significant at 64%, though this is the lowest among the countries studied.

Across all six countries, the services sector is the largest contributor to GDP, ranging from 46.5% Afghanistan to over 62.1% in the Philippines. This is followed by agriculture and industry, with agriculture playing a particularly significant role in Bangladesh and Cambodia. Despite its lower share in GDP, agriculture remains the largest source of employment in most countries, employing 34.5% of the workforce in Afghanistan, 31.3% in Thailand and 11% in Bangladesh. A persistent issue across the region is the mismatch between education and training outcomes and labor market needs. This has critical implications for the design of both short and long-term TVET programs. In Pakistan, for example, despite the adoption of competency-based curricula, the continued use of traditional, outdated courses contributes significantly to this skills mismatch. In Bangladesh, approximately 9.65 million young people are classified as NEET (not in employment, education, and training), and the gap between supply and demand in skills continues to be a pressing challenge. Similarly, Thailand and Cambodia, despite notable progress in TVET system development, continue to face skills shortages in key growth sectors.

Migration, employment trends, and TVET relevance. Labor migration is a common characteristic across the region, particularly in Pakistan, Bangladesh, and the Philippines. In Bangladesh, data indicate that over 54.23% of migrants are classified as unskilled, underscoring the need for pre-departure skills training. Similarly, in the Philippines, 12% of



households have at least one member who has worked as an Overseas Filipino Worker (OFW). In Afghanistan, political conflict has led to significant migration flows into neighbouring Pakistan, a long-standing trend.

Unemployment rates vary across the countries. In 2023, Pakistan recorded a relatively high unemployment rate of 8.5%, whereas rates were notably lower in other countries, 3.5% in Bangladesh, 0.2% in Cambodia, and 4.3% in the Philippines.

Despite differences in income levels, the evidence presented above highlights the critical role of TVET in preparing a workforce that meets domestic labor market needs while also enhancing competitiveness in the international job market. Accordingly, as elaborated in Chapters Four and Five, all countries studied have placed significant emphasis on the development and reform of their TVET systems.



Chapter 4: History of TVET Development and Management of Change

This chapter synthesizes the history of TVET development and assesses how the six countries Afghanistan, Bangladesh, Cambodia, Pakistan, the Philippines, and Thailand have managed the process of change. Detailed country-specific data, information and references are provided in **Annexes 2.1 to 2.6 (Country-specific reports)**. For ease of reading, key indicators and thematic data by country are summarized in Annex 3.

4.1 TVET development and institutional evolution

TVET development across these countries presents a complex yet interconnected landscape. While each system has evolved within its own socio-political context, common trends are evident in areas such as policy and institutional reform, relevance, quality assurance, and alignment with labor market needs.

In Afghanistan, vocational education began in 1923 and was gradually institutionalized with the establishment of the Department for Technical and Vocational Education (DTVET) in 1947. After several decades of development efforts, the TVET Authority (TVET-A) was established in 2018. This body is responsible for both TVET and literacy education and holds a broad mandate covering policy development, curriculum design, and program delivery.

Pakistan's vocational training system also traces its origins to 1947, but significant reforms began during the 1980s and early 2000s. The establishment of the National Vocational and Technical Education Commission (NAVTEC) which was later restructured as the National Vocational Technical Training Commission (NAVTTTC), along with the creation of provincial TVET Authorities (TVETAs), marked the major turning point in the country's TVET development. The National Skills Strategy (NSS) 2009 - 2013 served as a key policy document guiding the first and second phases of TVET reform under the EU-GIZ support program. Its successor, the National Skills Strategy 2018-2023, shaped the third phase and continues to influence the current phase, (TVET IV) (2024 – 2029). This latest phase is expected to consolidate lessons learned from earlier reforms, particularly those from TVET III. Pakistan has made substantial progress in implementing competency-based training and assessment (CBT&A), enhancing engagement with business and industry and their associations (BIAs), and operationalizing work-based training (WBT) models.

The development of Bangladesh's TVET system is marked by its transition from a supply-driven model to a more reform-intensive approach after 2000. A major milestone came in 2011 with the introduction of TVET policies and plans under the Ministry of Education (MoE). The establishment of the National Skills Development Authority (NSDA) has contributed, to some extent, to improve collaboration among stakeholders. Another significant development is the integration of skills development into general education pathways through the Bangladesh National Qualification Framework (BNQF). These reforms introduced competency-based training (CBT), recognition of prior learning (RPL), and a national qualifications framework. However, many of these reforms are still in the process of being institutionalized and require further operational integration.

Thailand's TVET system, one of the oldest in the region, traces its origins to 1898. A modernized framework began to take shape with the enactment of the 2003 Education Administration Act (EAA) and the 2008 Vocational Education Act (VEA), both implemented under the central coordination of the Office of Vocational Education Commission (OVEC). In 2012, an institutional amalgamation process streamlined the management of hundreds of smaller vocational schools. Further consolidation was achieved through the 2016 Directive, which brought private vocational institutions under OVEC's supervision, contributing to the establishment of a unified governance framework.



Cambodia's TVET system has shown significant maturation since 2004, when all the TVET functions were brought under the Ministry of Labour and Vocational Training (MoLVT). Governance transitioned from a fragmented structure to a centralized model under the Directorate General of TVET (DGTVET). Similar to trends in other countries, Cambodia has made efforts to integrate informal and non-formal training into the formal system through the operationalization of national qualifications. The 2012 National Qualifications Framework (NQF), along with the establishment of Sector Skills Councils, aims to ensure employer relevance and enable vertical mobility across education streams.

For the Philippines, a major turning point came in 1990 with the establishment of the Technical Education and Skills Development Authority (TESDA). Subsequent policies, including the K to 12 Reform (2013) and the Philippine Qualifications Framework (PQF 2018), expanded TESDA's scope and strengthened its regulatory and quality assurance functions. TESDA supports modular and ladderized training programs that are integrated into the broader K–12 education system. More recently, the enactment of the Digital Workforce Competitiveness Act reflects a strategic shift toward future-oriented and digitally relevant skills.

4.2 Common themes and strategic trends

The country-specific findings in Section 4.1 helps identify common features of TVET development across the studied countries, summarised below.

4.2.1 Institutionalization and decentralization

All countries have established dedicated national TVET authorities and are progressing toward decentralization. For example, Pakistan's provincial TVET Authorities (TVETAs) and the regional structures under TESDA in the Philippines. Afghanistan remains an exception, maintaining a centralized TVET-Authority (TEVT-A).

4.2.2 Standardization and quality assurance

Albeit varying levels of integration with general education, all six countries have adopted national qualifications frameworks, enhancing standardization, and permeability availing optional pathways for TVET and skills training graduates. The use of competency standards and recognition of prior learning (RPL) system is increasing, though significant variation remains in their implementation across countries.

4.2.3 Business and industry engagement

All countries recognize the importance of business and industry engagement in TVET governance. Inclusion of business and industry association (BIAs) and employers in federal-level governance such as in Pakistan, Bangladesh and the Philippines is increasingly common, though their influence and effectiveness vary by country.

Examples include formation and operation of Sector Skill Councils (SSCs) in Cambodia and Pakistan, Industry Sector Councils (ISCs) in Bangladesh, employer boards in Thailand, and the Industry Training Board (ITB) and Regional Industry Boards (RIBs) in the Philippines.

However, limited information is available regarding the specific contributions of BIAs as governing board members within sector councils across these countries. This highlights an area where further research is needed.

4.2.4 Access, inclusion, and flexibility

Nearly all the countries have emphasized improving access by establishing TVET and short-term training institutes. Short-term training enhances access and fosters inclusion by enabling individuals with time or financial constraints to participate without committing several years to complete a full qualification. When national vocational qualifications (NVQ) systems are properly organized, even qualifications earned through short-term training can contribute towards a full qualification. The Recognition of Prior Learning (RPL) and NVQ frameworks not only expand access but also promote inclusivity. For example, Afghanistan's multi-shift



programs allow learners to attend sessions morning or evening that best fit their schedules, thereby reducing opportunity costs. Such flexible arrangements are particularly beneficial for women and marginalized groups, facilitating their participation in TVET and skills development programs.

4.2.5 Policy coherence and long-term vision

As shown in the Chapter/Section 3.3.1.1 (Policy Development), all six countries have developed policies and strategies that have supported the advancement and reform of their TVET systems. Countries such as Bangladesh, Thailand, Cambodia, and the Philippines have aligned TVET reforms with broader national development goals and long-term visions. In Pakistan, TVET strategies and policies have provided a structured framework for targeted reform interventions, including the adoption of Competency-Based Training (CBT&A), greater business and industry engagement, and the implementation of workplace-based training models.

In summary, while the scale and speed of reform vary, all six countries demonstrate clear progress in transforming their TVET sectors.

4.3 Management of change during the TVET development process

The management of change in TVET systems across the countries studied has been a complex process, involving policy and institutional reforms, engagement of business and industry associations (BIAs), development of human resources and institutional capacity, and the piloting and scaling up of various TVET and skills development models including workplace-based training. The findings indicate that each country's unique socio-economic and development context has influenced the trajectory of its TVET system. However, as summarised in Table 4.1, several areas of convergence also emerge, offering valuable opportunities for cross-country learning and regional collaboration.

TVET Dimensions	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Policy Reform	National Education Strategic Plan (NESP); Afghanistan National Qualifications Framework (ANQF)	National 'Skills for All' Strategy (2018); TVET Policy (2018)	Shift toward demand-driven approach	Thailand 4.0, 20-Year National Strategy	Industrial Development Policy (IDP), Rectangular Strategy	TESDA Act, Philippine Development Plan (PDP)
Institutional Reform	Establishment of TVET-Authority (TVET-A)	NAVTTTC as national lead	NSDA as coordinating body; and BTEB as quality assurance body	Office of Vocational Education Commission (OVEC) and regional offices	Ministry of Labor and Vocational Training MLVT as central agency	Strengthening of TESDA and regional structures
BIA/stakeholders' engagement	Limited engagement of BIAs	Governance bodies and institutional level; Sector Skills Councils (SSCs)	Governance structure and Industry Sector Councils (ISCs)	Industry representation in governance; PPP in dual training	National Training Board and SSCs	Regional Industry Boards (RIBs), industry-TVET Boards (coordination platforms)
Role of Development Partners	Key role, but risk of low national ownership	Financial and technical support from EU, GIZ, British Council	Engagement of ADB, WB, ILO	Support from GIZ, ADB	ADB-led STVET project	Partner support through LMI initiatives, and development programs
Capacity Building	Limited progress	Establishment of Centers of Excellence (CoEs); training of teachers and assessors	SEIP-led trainer development initiatives	Teacher training; use of digital platforms	Focus on upskilling and leadership development	Emphasis on quality assurance; PQF-aligned NTQF and RPL systems
Monitoring/Sustainability	Irregular monitoring mechanisms	Digital M&E through National Skills Information System (NSIS)	M&E integration under SEIP	Integrated M&E in national strategy	Phased rollout of pilots	TESDA-led standards, certification, and continuous improvement mechanisms

Based on the information in Table 4.1, similarities on change management process across the countries are presented in the following paragraphs.

- Policy development and reform:** All six countries initiated TVET reforms through national policy frameworks, education strategies, or development plans. Examples include Afghanistan's National Education Strategic Plan (NESP), Pakistan's Skills for All Strategy (2018) and TVET Policy (2018), Thailand 4.0, and the 20 Year National Strategy, Cambodia's Rectangular Strategy and Industrial Development Policy, and the Philippine Development Plan (PDP). These strategic documents have served as key instruments to steer reform agendas guide institutional restructuring and align TVET with national socio-economic priorities.
- BIAs' engagement:** All countries, to varying degrees, have involved business and industry associations (BIAs) in governance structures or established independent bodies to ensure stronger industry linkages. Examples include Sector Skills Councils (SSCs) in Pakistan and Cambodia, Industry Sector Councils (ISCs) in Bangladesh, and the Industry TVET Board and Regional Industry Boards (RIBs) in the Philippines.

- **Emphasis on Labor Market Alignment:** Albeit variation in implementation and outcomes, all six countries recognized the importance of aligning TVET programs with labor market needs. This has been pursued through competency-based training and assessment (CBT&A) frameworks, national qualifications frameworks (NQFs) and increased employer engagement.
- **IDPs' engagement:** The desk review confirms that each country received support from international development partners such as the EU, ADB, GIZ, the World Bank, UNESCO and the ILO. These partners have played crucial roles in financing, providing technical assistance, and promoting innovation. However, in countries like Afghanistan and Cambodia, relatively higher dependence on external support raises concerns around long-term sustainability and national ownership.
- **Human and institutional Capacity development:** All countries have taken steps to strengthen human and institutional capacity through instructor training, infrastructure upgrades, curriculum revision, and the establishment of training institutions. Pakistan's Centers of Excellence (CoEs) have focused on instructor training and infrastructure. Thailand and the Philippines demonstrated strong models of institutional and human resource development, while Bangladesh prioritized capacity building through the Skills for Employment Investment Program (SEIP).

4.4 Factors influencing the change process

As revealed by the desk review, a combination of internal and external factors has influenced TVET reform and development in the countries studied. While some of these factors are shared across countries, others are shaped by distinct national contexts. These findings are summarised in Table 4.2 and further elaborated in the remaining sections of this chapter.

Table 4.2: Factors Influencing TVET Reform

Thematic Area	Common Internal Factors	Common External Factors
Governance	Policy commitment; fragmented structures; limited coordination	Donor support; regional policy frameworks (e.g., AQRF in Thailand, the Philippines, Cambodia)
Institutional Capacity	Inadequate staffing; outdated equipment; weak infrastructure	Externally driven capacity-building programs
Curriculum and Quality	Misaligned curricula; challenges with CBT reform; weak industry links	Pressures from Industry 4.0; technology transfer from global partners
Access and equity	Gender disparities; disability inclusion gaps; rural-urban divides	Migration trends; global equity agendas
Financing	Predominance of government funding; limited private sector co-financing (mainly at institutional level)	External investments – grants or loans
Social Perception	TVET perceived as a second-choice option for low-performing students	Global discourse on skills integration is gradually improving TVET's image
Labor Market Interface	Graduate underemployment; weak tracer studies; limited labor market information systems	Pressure from foreign labor markets; automation; demands of the green economy

4.4.1 Internal Factors

Policy Commitment. Government policy commitment has played a pivotal role in driving TVET reform and development. For example, Pakistan's National Skills for All Strategy and TVET Policy 2018, along with the decentralization of TVET management to the provincial level, provided a foundation for systematic reform. Similarly, Cambodia's National TVET Policy (2021–2030) has offered strategic direction and legitimacy for the reform process (ADB, 2021). However, in nearly all countries studied, the fragmentation of TVET responsibilities among multiple organizations combined with limited coordination between relevant institutions has hindered the implementation of integrated and coherent policies.



Institutional Capacity and Human Resources. Across all six countries, limitations in institutional and human resource capacity, particularly the shortage of qualified teachers and trainers have hindered the effectiveness of TVET reforms. While efforts are being made to improve trainer development, progress remains uneven. For instance, Bangladesh has only two teacher training institutes, reflecting limited training capacity, and many instructors lack industry experience (ILO, 2022). Similarly, Pakistan has not yet fully operationalized its Centers of Excellence (CoEs) intended for teacher training.

Curriculum and Quality Assurance. Most countries are progressing toward competency-based training and assessment (CBT&A); however, challenges persist in developing and effectively implementing CBT-aligned curricula. In particular, Afghanistan, Cambodia, and the Philippines continue to struggle with aligning curricula to labor market needs due to the continued use of traditional content and outdated teaching methods (TESDA, 2023; UNESCO, 2021).

Access and Equity. Barriers to equitable access remain a persistent challenge, particularly for women, persons with disabilities (PWDs), rural populations, and out-of-school youth. Afghanistan's restriction on girls' education beyond Grade 6 is a stark example, significantly limiting the capacity of the TVET system to serve female learners. In Pakistan, female enrolment remains significantly lower than that of males. In the Philippines, regional disparities hinder the effectiveness of decentralization in expanding inclusive access to TVET opportunities (TESDA, 2023).

Financing. Government remain the primary source of funding for TVET across the region, with public institutions generally offering either fee-free or subsidised training programs. While the private sector is actively engaged in TVET provision in most countries, the training fees charged by private institutions are often higher than those of public providers, potentially limiting access for disadvantaged groups.

Societal Perception. Across all countries studied, a strong preference for academic education continues to dominate, with TVET often perceived as a “second option” or, a fallback for less academically inclined students. This societal bias significantly limits the attractiveness of TVET pathways and constrains broader participation.

4.4.2 External Factors

International Development Partners (IDPs). In nearly all countries studied, international development partners have played a crucial role in supporting TVET reform and development through both funding and technical assistance. For example, the European Union (EU) has significantly contributed to reforms in Pakistan and Bangladesh, and to a certain extent in the Philippines, by pushing systems toward modernization (UNDP, 2019; EU, 2021). The Swiss government has been notably active in Bangladesh, while GIZ has provided consistent support in Pakistan, Thailand and Cambodia. Major international financial institutions such as the World Bank and the Asian Development Bank (ADB) have also been instrumental offering not only funding but also strategic technical guidance, both of which have strongly influenced the direction and scope of TVET system development in these countries.

Labor market demands. In countries with a strong culture of labor migration particularly Bangladesh and the Philippines, which have large overseas workforces, TVET systems are increasingly shaped by foreign labor market demands (ILO, 2023). These trends influence both the design and prioritization of skills training programs.

Demographic features. Youth population bulges in countries such as Afghanistan, Pakistan and Bangladesh, alongside the growing need for reskilling older workers in Thailand, create both pressure and opportunity for expanding and modernizing TVET systems. Additionally, the



need for Recognition of Prior Learning (RPL) is evident across all countries, further driving TVET reform.

Technological disruption and industry 4.0 Automation, digitization, and the shift toward green economies are rapidly transforming the skills landscape. In the Philippines, active research and pilot initiatives are beginning to inform curriculum reform, though institutional uptake remains a challenge (TESDA, 2023). Green skills development is gaining traction across the region, particularly in Pakistan and the Philippines.

Regional and global frameworks The ASEAN Qualifications Reference Framework (AQR) serves as a strong motivation for countries in Southeast Asia to pursue regional standardization and the portability of qualifications. Cambodia, Thailand, and the Philippines are actively aligning their national systems with the AQR. Similar efforts toward qualifications harmonization are also underway in South Asia.



Chapter 5: Progress in TVET Development

This chapter synthesizes the findings on progress made by the six countries (Afghanistan, Bangladesh, Cambodia, Pakistan, the Philippines, and Thailand) in TVET thematic areas including governance, effectiveness, inclusion, relevance, quality, efficiency, funding, affordability, adoption-scalability, and sustainability. However, for better readability, the strengths and weaknesses of the TVET system are presented in Section 5.13 of this report, and issues and challenges are separately presented in Chapter Seven.

The details of country-specific data and information together with all relevant references are presented in **Annexes 2.1 to 2.6 (Country-specific reports)**. In order to make the reading comfortable, the key indicators and corresponding data and information under each thematic area by country are presented in Annex 3.

5.1 Governance

Under this Chapter, the TVET Acts, Policies and strategic/reform plan provisions promulgated, formulated, and implemented by governments are summarized.

5.1.1 TVET Acts

All six countries under study have TVET-related Acts, TVET policies, and/or national strategies in place, reflecting governments' increased policy attention to TVET/skills development. All the countries have a TVET Act for the establishment of an institution with responsibility for sector development. As evidence, the Presidential Decree on the TVET Authority (TVET-A) in Afghanistan, the National Vocational and Technical Training Commission (NAVTTTC) Act in Pakistan, the National Skills Development Authority (NSDA) and Bangladesh Technical Education Board (BTEB) Act in Bangladesh, the Vocational Education Act in Thailand and the Technical Education and Skills Development Authority (TESDA) Act in the Philippines are available.

5.1.2 TVET Policies and strategic/reform plans

All these countries have either the TVET sector policy or strategy in support of the operationalization of the Acts. Evidence include Afghanistan's National TVET Strategy 2020-2024; Pakistan's National Skills for All Strategy 2018-2023, Bangladesh's National Skills Development Plan (NSDP) 2011 (under the Ministry of Education) and NSDP 2021 (under NSDA); Cambodia's Strategic Plan 2024-2028 (under the Ministry of Labor and Vocational Training) and Skills Development Roadmap 2023-2035; and the Philippines Technical Education and Skills Development Plan 2023-2028.

These policies and plans are aligned with their government's overall development plan. For instance, Afghanistan's TVET plan is related to the country's National Priority Program 2017. Similarly, Bangladesh's TVET plans are aligned with the country's Sustainable Development Goals (SDG) 2030, the Perspective Plan (2021-2041); and Vision 2041. Cambodia's TVET development plan is aligned with the National Strategic Development Plan 2019-2023.

Common themes across the TVET policies/plans include improving access and equity and enhancing quality and relevance. A notable trend is the shift toward competency-based training and assessment (CBT&A) and the engagement of BIAs in governance and implementation.

All these countries have a National Technical/Vocational Qualification Framework (NT/VQF), as one of the major policy instruments for quality, recognition, and mobility between TVET and general education. Among the countries, Pakistan has an NVQF with Doctoral Level (Level 8), while it is up to bachelor's level (Level 6) in Bangladesh and Thailand. TVET is below bachelor's level in the remaining three countries (Afghanistan, Cambodia, and the



Philippines). Thailand has even started to work on credit provisions and the Philippines has initiated dialogue on this agenda. Pakistan has established equivalency up to Level 8 creating assurance for equal recognition of qualifications under TVET and general education. However, some relevant questions include when qualifications will be available for all 8 levels and whether the NVQS-based standards and curriculum strictly align with NVQS-level descriptors. For instance, the NVQS level 5 descriptor requires that the graduate of this level be a specialist technician. Therefore, the question is whether the actual Level 5 graduates possess this competency. As this is a critical issue in addressing the mismatch between demand and supply, answering this question requires further in-depth studies. Similarly, Recognition of Prior Learning (RPL) as part of NT/VQFs is operational in all countries.

Despite the presence of policies – Acts, plans, strategies and TVET policies, the level of implementation of these components varies across the countries. While the implementation status is relatively better in most of these countries, the speed and comprehensiveness are often hindered by weak institutional coordination, insufficient funding, and gaps in human resource capacity. For instance, Afghanistan faces the most acute challenges, while, the other countries demonstrate a relatively better delivery mechanism.

5.1.3 Capacity to develop evidence-based policy

As presented in Chapter 5.1.1 (TVET Acts, Policies, and Strategies) above, all the countries have shared aspirations to improve evidence-based policymaking. However, their capacity to generate, manage, and apply data and research in planning and monitoring TVET varies across the countries. For instance, Pakistan, Thailand, and the Philippines stand out for having operational and institutionalized TVET Management Information Systems (MIS). Bangladesh and Cambodia have also introduced MIS systems, often with support from international development partners. Afghanistan has some level of information system but faces capacity gaps and its fragile context severely constrains data collection and dissemination systems, forcing it to rely on external assessments/diagnostics. However, even in countries where the MIS is relatively stronger, for instance in Pakistan, systematic use of evidence in policymaking has yet to be institutionalized, and data quality and coverage still have gaps.

5.1.4 Governance structures

Governance arrangements for TVET show a wide variation across countries and are shaped by each country's political, economic, and administrative context. TVET governance structures can be divided into three categories across the countries. For instance, there is a relatively centralized TVET governance in countries like Bangladesh, Cambodia, and Thailand where line ministries or authorities lead policy formulation and implementation. The second structure is from Pakistan where NAVTTC as a federal structure has mainly the regulatory and coordination responsibilities, leaving implementation responsibility to the provincial TVET Authorities (TEVTAs). The Philippines context is unique for its autonomous central authority (TESDA) with regional structures and strong multi-sectoral engagement. All the programs operating under public funds are required to report to TESDA.

Most countries face coordination challenges across ministries and authorities, particularly where TVET spans the general education sector, labor/employment, and higher education sectors. For instance, Bangladesh and Thailand have made efforts to establish inter-ministerial committees. However, in Bangladesh, NSDA, under the Prime Minister's Office (PMO), works in parallel to programs under the Ministry of Education (MoE). Afghanistan's governance is highly fragmented, with overlapping mandates among the TEVT-A and Ministry of Labor and Social Affairs (MoLSA). Engagement in both regulatory and implementation responsibilities of NAVTTC (Pakistan) and TESDA (The Philippines) appears to have dual responsibilities – regulatory and implementation- and apparently shows less willingness to detach themselves from the implementation roles.

With all the TVET responsibilities including non-formal and informal (short course) vocational training under the Ministry of Labour and Vocational Training (MoLVT) and the Ministry of Social Welfare, the Cambodian TVET system appears to be a better system compared to other countries noted for high sector fragmentation.

Business and Industry and its associations (BIAs) engagement in TVET governance is emphasized by all countries but its level of engagement varies. Share of BIAs in Pakistan’s federal, provincial, and institute-level governance is relatively better than in other countries, while it is weak in most of the other countries. For instance, only a small share of Board Members of the NSDA of Bangladesh and the TESDA of the Philippines are BIA representatives, while no indication of such involvement was found in Afghanistan. The establishment of the sector skills council as sector-specific body in Pakistan was almost a failure, but it has had some success in Bangladesh, Cambodia and the Philippines. Evidences of its operations in Afghanistan was not available.

5.2 Effectiveness of TVET systems

This section synthesizes key TVET aspects such as qualifications and programs on offer, institutions and enrolments, TVET/skills training models, and recognition mechanisms across the countries.

5.2.1 Qualifications and programs

As shown in Table 5.1, all countries have initiated reforms to align qualifications and training with labor market demands. However, the level of qualification under TVET varies by country. For instance, while Pakistan has a TVET/vocational qualification framework with Level 8 (Doctoral qualification), Thailand and Bangladesh have up to Level 6 (bachelor’s degree qualification). The remaining three countries have placed TVET qualifications below the Bachelor’s Degree qualification. However, after the Bachelor’s Degree in the Philippines and National Certificate (NC) 5 in the Philippines, graduates can pursue further education through the general education stream. Similar provision exists in Afghanistan, but it is not the case in Bangladesh and Cambodia. Pakistan has made significant progress in operationalizing NVQF, and, given the NAVTTC mandates, it could implement qualifications up to Level 5.

Table 5.1: Education and TVET Qualification framework by country

Qualification Framework	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Educational qualification framework	Level 8	Level 8	Level 10	Level 8	Level 8	Level 8
TVET Qualifications framework	Below Bachelor’s Degree level	level 8	Bachelor’s Degree level	Bachelor’s Degree level	Below Bachelor’s level	Below Bachelor’s level

Education and training in agriculture, health, hospitality, and construction sectors are common in all these countries but mining in Afghanistan and ready-made garments in Bangladesh are notable sectors specific to these two countries. Efforts to embed green and digital competencies are emerging, with Thailand leading in green TVET initiatives.

Similarly, a move toward competency-based training (CBT) is in progress across all the countries. Pakistan’s progress in converting traditional courses into CBT is prominent. Similarly, the Philippines has also institutionalized CBT and integrated it within the Ladderized Education Program. Although CBT is progressing, Cambodia and Bangladesh continue to offer traditional and supply-driven curricula. Despite notable progress in CBT, traditional courses are still continuing even in Pakistan.



5.2.2 Recognition of Prior Learning (RPL)

The formal recognition of skills acquired outside the formal systems is crucial for inclusive TVET and for its integration with general education. It is part of the NVQ operationalization process as it ascertains the competency levels of the individual working in the informal or non-formal setting. While its operationalization in Afghanistan was still in the early stage, Pakistan and Bangladesh have operational RPL systems but considering the large scale of the informal sector, its coverage is apparently limited. Its operational status in the Philippines is better as the mechanism under TESDA avails wide access to both domestic and returnee workers. Thailand and Cambodia have RPL systems in place, but uptake is low due to limited awareness and outreach.

5.2.3 Institutions and enrolments

The number of TVET institutions across the countries varies widely in scale, quality, and access. For instance, the Philippines has the largest number of institutes and the least in Cambodia. All the countries have private sector funded TVET institutes/ training providers. However, their number in Bangladesh (~5000) and the Philippines is higher compared to the other countries. Pakistan, different from other countries, has institutes exclusively for females/girls, although co-ed training institutes also exist in the country. Afghanistan's provision for girls/females is very different from others as they cannot continue education/TVET education after Grade 6.

In terms of the annual education and training enrolments, it is the highest (1,818,522) in Bangladesh followed by the Philippines (1,633,933) and the least (52,781) in Cambodia. The large enrolment numbers in the first two countries are also due to short-term training and particularly in the Philippines, it is due to its popular Massive Open Online Courses (MOOCs) which give access to people even outside the accessible urban areas and to the working populations with difficulty allocating time for institute-based education and training.

5.2.4 Education and training models

In most of the countries, education and training are primarily institute-based. Although Dual VET is in practice in all these countries, its prominence varies. For instance, it is practiced in Pakistan and known as 'Cooperative Vocational Training (CVT)' and is one of the preferred models. However, it has yet to scale up. Thailand has an institutionalized dual-VET system, integrating school-based and enterprise-based learning¹). The Philippines supports Enterprise-Based Education and Training (EBET) although its scale is limited. Bangladesh and Cambodia have initiated dual training, but its scale is limited. Afghanistan remains reliant on traditional, school-based models, with limited workplace learning opportunities.

5.2.5 Workplace-based training

Workplace-Based Training (WBT) can be divided into two: i) post-institute training in the workplace; and ii) Dual-VET (including traditional on-the job apprenticeship).

Both these models are almost common in all countries, albeit under different names for the second model. While it is called Cooperative Vocational Training (CVT) in Pakistan, it is known as dual-VET in the rest of the countries. The Teaching Factory (TF) which also falls under the second model was found in Pakistan. However, how widely these models are practiced and what is their impact are questions that can be answered through a separate and in-depth study.

¹ Office of National Educational Standards and External Quality Assessment (ONESQA). 2020. Summary of External Quality Assessment of Vocational Education Institutions for Fiscal Year 2020. onesqa.or.th. Accessed: 03 June 2025.



5.3 Inclusion

The six countries studied have made varying degrees of progress in embedding inclusive education principles within their TVET policies and systems. The comparative narrative below highlights the similarities and differences in policy and practice among these countries.

5.3.1 Policy frameworks

All countries have policy provisions supporting inclusive education in TVET, albeit to different extents. Pakistan has institutionalized inclusion through its *TVET Policy 2018 and National 'Skills for All' Strategy 2018*. Bangladesh includes TVET accessibility within its *National Education Policy (NEP) 2010* and through the Inclusive TVET for the Disadvantaged and Persons with Disabilities initiative. Thailand has integrated inclusion through the *Equitable Education Act 2018* and the *Education for Persons with Disabilities Act 2008*. Cambodia's TVET reforms are guided by the *TVET Policy 2017–2025 (MLVT Cambodia, 2017)*, while the Philippines has embedded inclusion provisions within the *TESDA Act 1994* and subsequent programmatic interventions. Afghanistan, although lacking a comprehensive inclusion policy, apparently has operational practices targeting vulnerable learners.

5.3.2 Gender inclusion

The Philippines is notable for achieving gender parity in TVET enrolments. As of September 2024, 51.42% of enrolled individuals were female, with women also comprising the majority of graduates (TESDA 2024; ADB 2021). Pakistan and Bangladesh lag in gender comparison: in Pakistan, 33% of institutional capacity is reserved for females, and 29% of public institutions are female-only (Pakistan TVET IV 2023), while in Bangladesh, the female enrolment share was only 29.53% in 2023, falling short of the national gender parity target (BANBEIS 2023). Afghanistan provides TVET access to girls up to Grade 6 only (TVET Authority – Afghanistan 2023), limiting female inclusion in advanced TVET/skills training. Cambodia and Thailand implement gender mainstreaming through policies such as the *Gender Mainstreaming Policy and Strategic Plan in TVET*, and national strategies aimed at empowering women in rural areas (MLVT Cambodia 2017).

5.3.3 Disability inclusion

Thailand has legal frameworks supporting disability inclusion, particularly the *Education for Persons with Disabilities Act 2008* and associated scholarships funded by the Equitable Education Fund. Bangladesh's National Education Policy includes strategies for integrating students with disabilities, while Pakistan and Cambodia acknowledge disability inclusion but provide limited structural support. The Philippines explicitly targets persons with disabilities through TESDA scholarships. Afghanistan's provision of 16 disability-inclusive TVET institutions is noteworthy.

5.3.4 Inclusion of marginalized groups

All six countries have mechanisms aimed at reaching marginalized groups. Afghanistan permits re-entry for dropouts below Grade 9 (TVET Authority – Afghanistan 2023) leaving opportunities open for individuals unable to continue their education. Pakistan and Bangladesh focus on rural populations, Madrasah students, and religious minorities (TVET IV Pakistan 2023; Integrated TVET Development Action Plan Bangladesh 2022). Thailand targets youths in border areas, indigenous groups, and individuals impacted by drug-related issues (OVEC Thailand 2024). Cambodia's policies prioritize ethnic minorities and the rural poor, while the Philippines has comprehensive strategies encompassing Indigenous Peoples, returnee migrants, victims of abuse, and inmates (TESDA 2024).

5.3.5 Financial support

Thailand provides financial support through the Equitable Education Fund (EEF 2023). The Philippines administers scholarship schemes (TESDA 2024). Cambodia relies on NGO and donor-funded scholarships, while Pakistan and Bangladesh offer limited financial assistance targeted at women and disadvantaged regions (TVET IV Pakistan 2023; BANBEIS 2023).



Afghanistan's inclusions efforts are hindered by funding constraints and limited international aid (TVET Authority 2023).

5.3.6 Training modalities

Training models are also an instrument for addressing the exclusion issues. The Philippines has implemented robust community-based and online training (called TOPs/MOOCs) targeting those unable to attend physical institutions (TESDA 2019). Thailand also offers distance learning and community outreach, particularly for border and underserved regions (OVEC Thailand 2024). Bangladesh and Cambodia operate Madrasah-linked and community-based programs, while Pakistan increasingly utilizes digital training for women in high-tech sectors. Multi-shift operation of TVET programs in Afghanistan and alternatives of education and training during evenings and weekends in Thailand provide options to participate in the shift students/ learners feel comfortable with.

5.4 Quality

All six countries recognize the importance of TVET quality but are at different stages of development and implementation.

5.4.1 National Qualifications Frameworks (NQFs)

As also presented in the foregoing chapters, all countries have adopted national qualifications frameworks as a tool to standardize TVET/ skills development outcomes, support recognition, and facilitate students'/learners' progression and mobility. These frameworks, such as ANQF (Afghanistan), NVQF (Pakistan), NTVQF/BNQF (Bangladesh), NVQF/NQF (Thailand), CQF (Cambodia), and PQF (the Philippines), establish common reference points for skills and competencies.

Desk review findings suggest that the frameworks in Thailand, the Philippines, and Pakistan are better positioned as curriculum development, certification, and progression pathways are aligned with the NQF systems. Frameworks in Afghanistan and Cambodia are still in the development phase and face challenges in operationalizing standards consistently across institutions and ministries. Bangladesh's integration of NTVQF with BNQF has facilitated vertical alignment within TVET and diagonal (movement to higher level in another stream) alignment between TVET and general stream, though implementation remains uneven.

5.4.2 Accreditation system

The extent and mechanisms of institutional accreditation and program quality assurance vary across the countries. For instance, Thailand and the Philippines implement quality assurance systems, with bodies like ONESQA (Thailand) and TESDA (Philippines) conducting regular assessments. Annual Self-Assessment Reporting (SAR) of Thailand is not found in other countries and can be considered a good practice on the internal quality assurance front. Pakistan and Bangladesh have national-level accreditation bodies (the National Accreditation Council under NAVTTC Pakistan; BTEB in Bangladesh) that are engaged in scaling up institutional and program accreditation. The NAC works independently, and its operations are almost online. In Cambodia and Afghanistan, quality assurance functions are relatively at an initial stage, often relying on internal self-assessments.

5.4.3 Competency-Based Training and Assessment (CBT&A)

The tendency to shift from traditional curriculum-based approaches to CBT&A is expanding across the countries. Pakistan is good example and so is Bangladesh as they have adopted large-scale CBT&A models, with 386 and 290 qualifications, respectively. Similarly, Thailand and the Philippines have institutionalized CBT&A. Cambodia and Afghanistan are introducing CBT&A incrementally, but coverage is still limited, and capacity constraints such as assessor training and assessment tools continue.

5.4.4 Teacher quality and professional development

Teacher development, as quality assurance instrument, remains a backbone of the TVET system in all these countries although progress appears uneven. Thailand and the Philippines have institutionalized continuous professional development (CPD), with mandatory training, certification standards, and national academies (e.g., NTTA in the Philippines). Teacher training role of Pakistan’s National Institute for Science and Technical Education (NISTE) is now replaced by provincial Centers of Excellence (CoEs) with varying capacities and levels of operation. However, they do not exist in Gilgit-Baltistan and Azad Jammu Kashmir provinces. Bangladesh has been working on teacher training through Technical Teacher Training Center (TTTC) and Vocational Teachers Training Institute (VTTI). Afghanistan and Cambodia have made initial progress by establishing national teacher training institutes, but they lack sufficient scale and qualified trainers.

A common gap is the limited availability of qualified assessors across all systems, which affects the CBT&A-based assessment processes.

5.4.5 Infrastructure

Institute/school infrastructure, particularly laboratories for institute-based practical training are critical for quality and relevant training. However, this capacity also varies by country. For instance, Thailand is making good progress and is noted for its well-equipped institutions, ICT-based learning platforms, and national investment in ‘smart schools’ and digital assessments. Pakistan’s status is noted by excellent infrastructure in CoEs and some private schools with state-of-art facilities. The Punjab Vocational Training Council (PVTC) institutes, under private sector management, are also well equipped. However, this situation cannot be generalized across the nation.

Pakistan, the Philippines, and Bangladesh are expanding digital tools and infrastructure but often face budget limitations or urban-rural disparities. Sometimes technical glitches can lead to system failures, such as in the case of digitized M&E at the institute level in Pakistan. Afghanistan and Cambodia continue to struggle with basic infrastructure gaps, affecting their ability to implement modern quality assurance mechanisms or blended learning models. Afghanistan particularly lack funds for development.

5.5 Relevance

The countries’ relevance of TVET systems reflects a common commitment to improving alignment with business and industry needs. However, the degree of responsiveness, institutional mechanisms, and TVET’s integration with industry vary by country. Some of the important similarities under the TVET relevance in the countries under study are summarised in Table 5.2 and explained in the following paragraphs of this chapter.

Table 5.2: Labor Market Relevance and Challenges

Country	Labor Market Relevance and Challenges
Afghanistan	Relevance of TVET is significantly undermined by a lack of stable labor market linkages. Despite some strong industry associations such as those in mines and minerals, and printing, formal employer engagement remains minimal, and evidence of sector-specific demand assessments is unavailable
Pakistan	Strong policy frameworks (the TVET Policy and National ‘Skills for All’ Strategy) drive reform. BIAs are involved in governance and curriculum design. NSIS provides supply-side data, but its employment information wing called NEXT (National Employment Exchange Tool), also provides demand side information too. TVET III mandated WBT for duration ranging between 1 to 2 months, but, as identified by the Tracer Study in 2024, implementation was inconsistent, especially in institutes offering traditional courses.
Bangladesh	NSDA registered 16 ISCs under the Company Act 1994, fostering a labor market interface. However, employment outcomes are only moderately successful.
Thailand	Uses robust labor market intelligence tools—e.g., Labor Force Surveys, EEC statistics, and Board of Investment forecasts—to guide training supply. This positions Thailand as a regional leader in evidence-based workforce planning in the ASEAN region. However, low employment



Country	Labor Market Relevance and Challenges
	outcomes question use of such important provision in the TVET policy and programs planning and implementation.
Cambodia	Despite institutional engagement with employers, the ADB (2023) reports a significant skills mismatch—90% of employers in garments and 79% in tourism found graduates unprepared for the sector. Yet employment outcomes are very high.
The Philippines	TVET relevance remains a concern, especially in curriculum responsiveness. However, there are significant efforts in employer partnerships and WBT, as noted in private sector engagement strategies. TESDA’s ongoing reforms aim to better integrate market feedback into program design.

5.5.1 Policy emphasis on labor market alignment

Most countries have national policy frameworks that highlight the needs for industry-responsive curricula, workplace-based training (WBT), and stronger government-BIAs collaboration. For example, Pakistan’s TVET Policy 2018 and Cambodia’s Pentagon Strategy prioritize skills development for economic development, while Bangladesh and the Philippines emphasize private sector participation.

5.5.2 Efforts to strengthen industry engagement

All six countries have made efforts to collaborate with BIAs or equivalent bodies. This includes involvement of BIAs in governance bodies like Pakistan’s NAVTTC and TEVTAs, or Bangladesh’s Industry Skills Councils (ISCs). Pakistan’s efforts are distinct in that BIAs/employers have strong and productive presence at the institute level.

5.5.3 Use of Work-Based Training (WBT)

Blended and experiential learning models, including internships, cooperative vocational education, and on-the-job training, are promoted in most countries as also tool for enhancing relevance. However, implementation varies, and challenges persist in ensuring that these models are consistently applied and effectively supervised.

5.6 Private sector engagement/ labour market interface

The countries studied have made varying degrees of progress in fostering partnerships between TVET systems and business and industry associations (BIAs). These partnerships are critical to ensuring that the training provided matches labor market needs, thus enhancing the relevance, quality, and employability outcomes of TVET graduates. Table 5.3 summarizes the data and information on private sector engagement/labor market interface.

Table 5.3: Private sector engagement/labor market interface

Mechanism for interface	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
BIA in Governance	Limited or unclear	Strong (52% in NAVTTC and on average 46% across the country including TEVTAs)	Low (2 of 25+ in NSDA which is merely 8%)	Low (3 of 32 in OVEC Board which is 3%)	Low (5 of 35 in NTB which 14%)	Moderate (from 15.4% to 27.3% in TESDA Board)
Sector Skills Councils / Industry Boards	Insufficient information	Established but underperformed, almost failed	Functional across 11 sectors	33 committees headed by industries	Four SSCs formed in 2018	Five National Industry TVET Board (ITBs)/ RIBs created but effectiveness unclear
Institute/school management committees (IMCs)	Shuras but without BIAs representation	Strong IMCs (in public schools) and District Board of Management in PVTC schools BIAs role effective	Present but less prominent	Not well-documented	Some TTI–industry initiatives	Institutional links exist
Work-Based Training Models	No structured models reported but traditional apprenticeship called 'Ustad-Sagird' system	CVT, OJT, Teaching Factory models but traditional apprenticeship called 'Ustad-Sagird' system as in Afghanistan	OJT and Dual VET, traditional apprenticeship	Dual VET, traditional OJT	Multiple WBT (Dual VET, RIS, apprenticeship) and traditional OJT	Traditional OJT, Apprenticeship, Learnership
Private Sector Institutes	350 under MOISA	Growing number of private institutes	5000+ private TVET providers under TMED alone	Mix of public-private	15.5% private institutes	Over 90% private sector institutes

5.6.1 Similarities across the countries

Based on the above data (Table 5.3), similarities across the countries on private sector engagement/labor market interface are presented hereunder.

BIAs' role in governance. All countries have recognized that the engagement of BIAs in governance structures facilitates labor market interface. They include national boards (e.g., NAVTTC in Pakistan, TESDA in the Philippines, and NSDA in Bangladesh), or institute management committees (e.g., IMCs and DBOMs in Pakistan).

Sector Skills Councils/Industry Boards. Most countries have established Sector Skills Councils or Industry Boards to enable direct input from employers on sector-specific occupations, skills gap identification, curriculum development, training standards, and skills forecasting. While these structures exist in Pakistan, Bangladesh, Thailand, Cambodia, and the Philippines, their effectiveness varies across countries due to lack of legal back up and resource constraints.

Work-Based Training and apprenticeships. As explained earlier, all countries have introduced work-based learning models, such as On-the-Job Training (OJT), Dual VET, or Apprenticeship programs, to strengthen the interface between training institutions and the world of work. These models provide an opportunity for learners to understand the world of work (employer, industry and the client/customers), and employers to assess soon-to-be graduates and their performance in the workplace settings. However, implementation remains uneven, with limited uptake in some cases.

Private sector management of TVET institutions. Most of the countries have a significant share of private TVET institutions, ranging from 15.5% in Cambodia to over 5000 private providers in Bangladesh. Insufficient data is available for Afghanistan in this regard.

5.6.2 Dissimilarities across countries

Despite the intent to strengthen BIAs engagement practices, the following dissimilarities are found across the countries:

Engagement in governance. The extent of BIA representation on national boards differs significantly—from 3% on Thailand's OVEC Board to 52% in Pakistan's NAVTTC Board. Bangladesh includes only two BIA members out of more than 25 in the NSDA Board. Afghanistan's current BIA engagement level remains unclear, although past documentation indicates weak linkages between the TVET system and industry. Therefore, except Pakistan, the BIAs engaged in these apex bodies may not have sufficient influence on a stronger labor market interface. This may be an interesting area for future study.

Effectiveness of Sector Skills Councils (SSC). While the such model (names vary by countries) has been widely adopted for labor market interface, its effectiveness varies. In Pakistan, as shown in Table 5.3, SSCs have nearly failed. In contrast, Bangladesh and Cambodia demonstrate more structured and sector-specific engagement, with Bangladesh leveraging industry partnerships (e.g., in the Ready-Made Garment sector) to provide factory-based training.

Institutional-level engagement. Pakistan's IMCs and District Boards of Management (DBOMs) show strong evidence of impactful industry participation at the lowest governance/institute level, which is less visible in other countries. Institutional-level engagement in Thailand and Cambodia remains less clearly defined in the available documentation.

Workplace-based learning models. While all countries implement On-the-Job (OJT), Thailand and Pakistan appear to be making progress toward the systematic adoption of structured Work-Based Training (WBT) models, such as Cooperative Vocational Training (CVT) in Pakistan or dual VET in Thailand. In Pakistan where all the education and training and practice activities are held within in the workplace as in RMG sector in Bangladesh.

5.7 Employment outcomes

Employment outcomes related information is presented in Table 5.4 and the commonalities and differences are explained in this section.

Table 5.4: Employment Outcomes of TVET Graduates

Country	Employment Outcome	Tracer practices	Study	Employer responses
Afghanistan	Limited job placement	No evidence		Not found
Pakistan	Employment rates: 57% (2020 Tracer Study) – 52% (2024 Tracer Study); over 80% employer satisfaction	Project based, nation wide regular study is not common practice	based, wide tracer study is not	Over 90% satisfied (TVET III Tracer Study)
Bangladesh	39% employed or self-employed (2021)	Exists but not systematically institutionalized as in Pakistan		Strong demand for skilled workers
Thailand	30.4% (Vocational Education Workforce Network Center in 2023)	No information available	information	No information available
Cambodia	80% employed within 6 months	As above		78% employer satisfaction
Philippines	84.15%; for EBET: 85.5%	As above		No information available

Specific features of employment by country are presented hereunder.

Afghanistan. Desk review findings suggest that Afghanistan suffers from limited employment outcomes primarily due to training relevance, poor training quality and limited industry linkages. There is minimal evidence from tracer studies or labor market tracking to substantiate this, as noted by the World Bank (2013). This highlights a gap in data systems and follow-up assessments critical to measuring impact.

Pakistan. There is growing integration with industry through workplace-based training (WBT), indicating progress in TVET-industry linkage. However, the employment rate of the TVET III graduates ranged between 52% and 57% and that of CBT graduates under work-based training (WBT) was higher than the conventional training graduates which suggested improved employability of former than later graduate categories. According to the TVET III tracer study, by far most of the CBT graduates' employers were satisfied by the latter's' performance. However, this finding did not vary among employers hiring non-CBT graduates. This means, employers are in need of trained workers.

Bangladesh. According to the DTE Tracer Study 2021, only 39% of diploma-level graduates from 2018–2019 cohorts were employed or self-employed, which, according to an ADB study, indicates an improvement from the past. Employment outcomes data suggest employment outcomes remain modest. The report noted a substantial employer demand for skilled workers, implying that employment outcomes could improve if the quality and job-readiness of graduates are enhanced. The data is currently limited to polytechnic graduates, highlighting the need for broader and systemic institutionalization of the tracer study practices across the country's TVET system.

Thailand. The OVEC study suggests relatively low employment rate, albeit a lot of progress in various dimensions of TVET. Also, there is lack of information about the regularity of tracer studies and employer satisfaction.

Cambodia. Cambodia presents strong employment outcomes, with 80% of graduates securing jobs within six months of completing training, and over 78% of employers expressing satisfaction with graduate competencies (Jolita 2024). This suggests an effective system in terms of skills-employment matching. However, the lack of follow-up data on income levels and further educational progress limits the comprehensiveness of outcome evaluation.

Philippines. The country shows high employment rates for employment-based education and training (EBET) graduates but according to TESDA Tracer Study 2019, the national average was 84.15%.

The above evidences suggest that:

- i) tracer studies are not conducted regularly or comprehensively covering the TVET system across the country;
- ii) employment rates vary by country; and there is high demand for properly trained graduates in all the countries
- iii) CBT and workplace-based training models are more likely to yield better employment outcomes compared to traditional, institute-based training models.

5.8 Efficiency

Efficiency in TVET systems refers to the optimal use of financial, human, and physical resources to deliver quality outcomes with minimal wastage. In addition, internal efficiencies such as dropout and enrollment trends, and administrative modernization are also relevant to efficiency. Findings on efficiency, as detailed in country reports (Annex 2), are summarised in Table 5.5 below and further detailed in the following paragraphs.

Table 5.5: TVET efficiency and challenges

Country	Efficiency Measures	Efficiency Challenges
Afghanistan	Triple shifts (morning, day and evening); combined general and TVET streams in 172 schools	Limited data; unclear outcomes and staffing effectiveness
Pakistan	NSIS, NVQ Registry, NEXT for MIS CoEs for joint training Some co-ed education schools providing education jointly to male and female students	Fragmented coordination between federal and provincial levels
Bangladesh	Double shifts to enhance access	Dropouts, reduced enrolment, teacher/ staff vacancies
Thailand	Performance budgeting, digital reforms, teacher networks; evening and week-end options for students/ learners unable to find time for study during the office hours.	Institutional capacity for reform sustainability
Cambodia	Growing enrolment under MoYES	High dropout under MoLVT; limited attractiveness
Philippines	90% private providers; RIBs for sectoral alignment	Not enough information available

Utilization of institutional resources. Afghanistan and Bangladesh have adopted multiple-shift operations to extend access and optimize infrastructure. For instance, Afghanistan operates some TVET institutions in both morning and afternoon shifts, and 172 TVET schools deliver both general and vocational programs. Bangladesh follows a similar model with double-shift operations to enhance coverage. However, both countries face challenges in translating this infrastructure efficiency into educational outcomes, as concerns remain regarding low cycle-completion rates/pass-out rates, continued staff vacancies, and poor retention rates. Pakistan, although has TVET schools for females and males, also has co-ed institutions. Training of teachers and students in Pakistan through CoEs is good practice from a resource's efficiency perspective.

Digital platforms and data systems. All the countries are making efforts to make use of information technology-based platforms for data and information collection, management and dissemination. However, the case of Pakistan is exceptional and exemplary as the country demonstrates significant progress in digital governance for efficiency. The National Skills Information System (NSIS), particularly due to its NVQ registry which is connected with provinces, provides a centralized database on enrolments, standards, and curricula. The National Employment Exchange Tool (NEXT) under NSIS for linking graduates with employers is important from an efficiency perspective, although it is in its initial stage.

Pakistan's accreditation system is exemplary, as most of the process is conducted online, with only final few spot checks as exceptions. These tools are important in view of cost and time efficiency.

Administrative reforms and budgeting. Thailand's reform efforts reflect administrative efficiency. Key reform provisions include adoption of performance-based budgeting; decentralized procurement processes; strategic international cooperation and networking (e.g., with the Federation of Thai Industries); and improved personnel administration through teacher associations. Such provisions are not found in other countries.

Unified governance and financial efficiency. The Philippines, through TESDA, offers an integrated approach by centralizing TVET governance. Notably, over 90% of TVET providers are from the private sector, which shares the government's financing burden and allows for flexibility in program delivery. The establishment of Regional Industry Boards (RIBs) further supports coordination at the sectoral level.

5.9 Financing

The TVET funding across the six countries reveals that the government is the primary source of funding, complemented by the private sector and external support. Findings detailed in country reports (Annex 2) are summarised in Table 5.6 and briefly presented in the following paragraphs of this section.

Table 5.6: TVET funding situation

Country	Main Funding Sources	Donor partnership	Private Sector investment in institutes	Challenges/Issues
Afghanistan	Mainly government, minimal donor input. NGOs support is noteworthy	UNDP, World Bank	350 private sector institutes under MoLSA	Severe underfunding, especially for development; 94% of institutes without development budget in 2022/23
Pakistan	Government via NAVTTC, TEVTAs, Department of Technical Education and Skills Development	EU, Germany, Norway, ADB	Active; Large number of institutes under PVTC and private ownership	High donor reliance; scaling up depends on donor continuity

	(DTESD) in regional governments			
Bangladesh	Government (70% revenue), minor fees	ADB, Switzerland	Over 5000 institutes under private investment	90% of the budget spent on salaries, low development investment
Thailand	Government (via MoE), possible National Training Fund (NTF)	Not specified clearly	Not specified	Lack of detailed data on donor/private funding
Cambodia	Government via National Training Board (NTB) and MoEYS	Routed through treasury	Not specified	Dependence on donors; Limited of private sector investment
Philippines	Government (TESDA), Private sector	ADB	Over 90% institutes under Private sector investment	Only 1.8% of budget to TESDA, but wide scholarships help access

Further explanation of the data and information in Table 5.6 is presented below.

Public sector financing. All six countries primarily rely on government funding for their TVET systems. However, the adequacy and utilization of these funds vary:

- Afghanistan faces significant funding limitations, particularly in development budgets. A shown UNESCO study (2024) indicates that in 2022/23, 94% of institutions received no budget for development. Many institutions reported deficiencies for management, food, accommodation, and planning resources.
- Pakistan has a relatively structured approach to public funding through NAVTTC, provincial TEVTAs, and regional governments.
- Bangladesh government covers about 70% of public TVET institutions' income, though much of this is consumed by salaries and allowances, leaving limited funds for operational and developmental improvements (Khan 2019).
- Thailand and Cambodia fund TVET largely through national systems, including the National Training Fund (NTF) in Cambodia under DGTNET. Cambodia also integrates donor funding through government treasuries.
- In the Philippines, government funds the TVET sector through TESDA. Funding limitation is explained by the fact that only 1.8% of the education sector budget from 2012–2021 went to TESDA (ADB 2022).

Private sector financing. The degree of private sector financing varies by country. For instance, Pakistan and Bangladesh have privately funded TVET and skills development initiatives. Pakistan's Punjab Vocational Training Council (PVTC) is a significant public-private partnership initiative with large-scale funding, which is not found in other countries. With over 90% of TVET providers are in the Philippines being from the private sector, the country has significant non-government financing. Thailand, Cambodia, and Afghanistan have less documented or limited private sector participation in TVET financing.

External support. International development partners (IDPs) provide critical supplementary funding in most countries. For instance, Pakistan benefits from international development partners, particularly EU, German and Norwegian governments, providing long-term financial and technical support through TVET I to IV. ADB, World Bank, and DFID were other major donors for the country. Thailand, Bangladesh, and the Philippines also receive project-based assistance from donors such as ADB, supporting training expansion and access. Cambodia receives international support. Donors and INGOs are also engaged in Afghanistan.

5.10 Affordability of TVET system and services

Affordability in TVET systems is crucial for ensuring broad access to TVET services, especially for disadvantaged groups, including females. The extent to which TVET services are financially accessible to learners, feasible for governments to sustain, and manageable for institutions to deliver varies widely across the countries studied. This section summarises the findings on the affordability of TVET services from the six countries (Annex 2).

5.10.1 Learner-level affordability

Most countries offer free public TVET/skills training opportunities. However, indirect costs such as transport, accommodation, and opportunity costs remain a significant barrier, particularly for women, rural youth, and marginalized populations.

- Afghanistan offers fee-free public TVET, but conflict-affected populations and girls face affordability challenges due to hidden and opportunity costs.
- In Pakistan, fee-free schemes are common, and even long-term public TVET courses are low-cost (USD 7-10 per semester). CBT programs are more expensive due to high consumable costs, making affordability uneven, especially at private sector institutes. However, learners' support schemes such as scholarships and Zakat funding improve affordability for poor students.
- Bangladesh promotes affordability through stipends under projects like STEP and SEIP, especially for female and disadvantaged learners.
- In Thailand, tuition in public TVET is subsidized, but indirect costs persist as significant hurdles. Scholarships are available but remain limited.
- Cambodia offers fee-free public training and scholarships often target ethnic minorities and women.
- The Philippines provides several scholarship support schemes through TESDA (e.g., TWSP, STEP, PESFA) and low-cost or free community-based and online training (TOP/ MOOCs), which substantially reduce both direct and indirect costs.

5.10.2 Government-level affordability

Governments vary in their ability to finance and sustain TVET services.

- All the countries have domestic budget allocations but also rely on external support.
- Pakistan and Bangladesh demonstrate national investments aligned with policy frameworks (e.g., NSS 2018 in Pakistan) though international support remains critical.
- Thailand allocates public resources, but TVET funding often loses priority to higher education.
- In the Philippines, the TESDA Online Program (TOP) is seen as a cost-effective government strategy, while EBET models share costs with private sector employers, reducing the state's financial burden. But TVET budget is merely 1.8% of the education budget.

5.10.3 Institutes' affordability

Institutes often face challenges related to operational budgets, modern equipment, and staff capacity, especially in remote or underserved areas.

- Afghan institutions operate with limited budgets and outdated tools, which limit training quality.
- Pakistan's CoEs have enhanced affordability by building internal capacity and leveraging donor-funded teacher training infrastructure. However, it can not be generalized for all publicly funded government institutes.
- BTEB in Bangladesh offers its services on fee basis, such as fee-based assessment and certification.



- Thai TVET institutions depend on state funding but lack autonomy for income generation, which affects infrastructure upgrades.
- Cambodian institutes, especially private ones, struggle without subsidies, despite government efforts to promote public-private partnerships.
- Philippine institutes, especially those in enterprise-based or community-based models, leverage partnerships and TESDA Online Program (ToP) to minimize overhead costs.

5.11 Adoption-scalability

The countries examined have engaged with various TVET reforms including CBT&A models, public-private partnerships, and digital platforms. While notable progress has been made in some contexts, scalability in others continues to face challenges such as funding and capacity limitations, regional inequalities, and heavy reliance on external support. Findings on the scalability of TVET services across the six countries (Annex 2) are summarised in this section.

5.11.1 External dependency versus institutional ownership

Most countries have initiated reforms through externally supported pilot projects. However, in terms of scaling up, both Bangladesh and Pakistan demonstrate notable institutional commitment and national ownership, with reforms being integrated into formal policy structures (e.g., the NSS in Pakistan, and the PMO-led NSDA in Bangladesh). Similar provisions are noted in other countries as well.

5.11.2 Digital platforms and decentralization as scalable tools

The Philippines stands out with its TESDA Online Program (TOP), which enables wide geographic reach and low-cost scalability. Similarly, Pakistan's online accreditation mechanism offers a cost-effective way to expand recognition systems.

5.11.3 Variability in institutional and human capacity

Scalability heavily depends on institutional readiness and the availability of trained teachers/trainers. Afghanistan and Cambodia face acute shortages of trained instructors and administrators. Even in more advanced systems like Thailand, uneven levels of teacher readiness hamper effective reform rollout which is further affected by tendency to leave jobs by newly hired teachers. Pakistan, although making efforts through its CoEs, still faces challenges in ensuring the availability of well-trained human resources at the institute level.

5.11.4 Regional disparities

Even within reform-oriented systems (such as Thailand, Pakistan, and the Philippines), rural and remote areas face persistent barriers due to limited infrastructure and weak industry links.

The above evidences from individual country reports (Annex 2) clearly indicates that countries were quick to adopt interventions such as CBT and NVQF. However, their scaling up has been uneven and challenging in all countries.

5.12 Sustainability

Sustainability of TVET system achievements and successful interventions is influenced by national policy provisions, business and industry engagement, financing mechanisms, and institutional strengthening. However, countries vary significantly in terms of long-term continuity. The findings from country reports (Annex 2) are summarised in this section.

5.12.1 Policy linkage

TVET reforms of most countries— Pakistan, Bangladesh, the Philippines, Thailand, and Cambodia— have been embedded in national policies (legal frameworks, sector policy/ strategy



or plan), which is a strong indication of continuation of adopted interventions. Pakistan, Bangladesh, and the Philippines have comprehensive and multi-sectoral institutional reforms, with operational bodies such as NAVTTC (Pakistan), NSDA (Bangladesh), and TESDA (the Philippines). Afghanistan, though appears to be moving towards reforms after formation of TVET-Authority, still faces risks of sustainability due to transition in political environment. Most countries have substantial dependence on external funding, an indication of mismatch between political commitment and availing required funding for sustaining and scaling up, even of successful and widely initiated model such as CBT.

5.12.2 BIAs engagement

BIAs participation is central to sustainability. Most countries have institutional provisions for their TVET engagement. Although success varies, examples include ISCs of Bangladesh, and TIBs and RIBs of the Philippines. Except for SSCs, Pakistan's success on BIAs engagement in governing boards (federal, provincial and institute levels) is exemplary in other contexts. Pakistan has a policy to engage at all levels of governance - federal, provincial, and institute level. Thailand too has engagement through 33 industry committees. Cambodia is making progress through sectoral training councils, while Afghanistan's engagement is still evolving.

5.12.3 Funding and financial sustainability

Noticeable reliance on external resources including loan provisions is a serious threat to sustainability of achievements. This is especially evident in Afghanistan, Cambodia, and Thailand, where reforms risk being non-integrated into core government budgets. Pakistan, Bangladesh, and the Philippines, however, have achieved relatively stronger integration of TVET financing into national budgets, supported by policy mandates. However, governments increased funding, for instance in the Philippines, will be necessary to scale up and sustain the achievements.

5.12.4 Human resources, and education and training facilities

Curriculum development, teacher training, and laboratory improvements are critical for continuing the reforms started. For instance, sustaining and scaling up of CBT in Pakistan needs trained workforce and qualification packages for higher qualification levels including Levels 4 and 5. While Bangladesh and the Philippines have made notable strides in institutional capacity, substantial progress is necessary in Afghanistan and Cambodia.

5.13 TVET system strengths and weaknesses

The TVET systems in all the six countries have both strengths and weaknesses. Based on country reports (Annex 2) findings, they are summarised in this section.

5.13.1 TVET system strengths

Common strengths. As summarised in Table 5.7, following provisions are the common TVET strengths across all the countries:

- Statutory provisions. Chapter 3.3.1.1 details these provisions (TVET Acts) across the countries.
- TVET plan or strategic plan. Chapter 3.3.1.2 presents the TVET strategic/ reform plans.
- Federal bodies with TVET responsibilities. As detailed in Chapter 3.3.1.3, all these countries have such institutional structures.
- Qualification frameworks for policy coherence and recognition
- Government funding

Apart from the above common strengths, country-specific strengths are highlighted in the following paragraphs.

Afghanistan. TVET policy documents acknowledge the need for market relevance, although evidence of policy implementation remains limited.

Pakistan. Both the National ‘Skills for All’ Strategy 2018 and the TVET Policy 2018 have clear strategic guidance for demand-responsive TVET/ skills development programs. Ongoing rollout of competency-based training (CBT) and assessment models and work-based training (WBT) through OJT /internships for one to two months or cooperative vocational training (CVT) were mandatory components under TVET III. Provision of CoEs focusing on teacher training is unique to Pakistan. Engagement with BIAs through NAVTTC, TEVTAs, and IMCs has increased in areas such as curriculum development, governance participation, and quality assurance. Such concerted efforts for BIA engagement at all governance levels is not commonly found in other countries.

Bangladesh. NSDA under PMO is an indication of government determination for coordination. NSDA and Directorate of Technical Education (DTE) initiatives show systematic efforts to align training with evolving sectoral priorities, particularly in priority industries. Continued rollout of competency-based training (CBT) model is another strength. The Industry Skills Councils (ISCs) facilitate promotion of BIAs engagement in TVET operations and facilitates job placements.

Thailand. Government initiatives support regular curriculum updates based on skill forecasts and employer input. The country leverages multiple labor market surveys (e.g., Labor Force Survey, EEC Statistics, and Bank of Thailand Reports) to inform training demand. Efforts to connect TVET with Thailand 4.0 and the EEC strategy show strong alignment with future-oriented skills in digital technology, automation, and health care. Dual VET is another strength of the Thai TVET system.

Cambodia. The Pentagon Strategy’s Digital Economy Pillar sets a future-oriented framework for TVET/ skill development in digital technologies and innovation. Blended learning/ dual VET and integration of work-based learning help connect formal training with informal and industry-linked learning modes, although challenges remain.

Philippines. Evidence indicates TESDA’s strong efforts to strengthen labor market interface through EBET and industry board engagement. TESDA’s National Technical Education and Skills Development Plan (NTESDP) highlights demand-driven training, prioritizing sectors like construction, health, and information and communication technology (ICT). Continued rollout of competency-based training (CBT) model is another strength. There has been growth in dual VET implementation.

Table 5.7: Highlights of TVET system strength

Thematic Area	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Governance	TVET-Authority	NAVTTC as a federal quality assurance body and provincial TEVTAs	NSDA coordination and active BTEB	Office of the Vocational Education Commission (OVEC) as apex body	DGTVET leadership under MoLVT	TESDA as centralized authority
Policy and plans	National TVET Strategy 2020-2024	TVET Policy and strategy	NSDP 2011 and 2021 Integrated TVET Development Action Plan	Vocational Education Act 2008; 20-Year National Strategy (2018–2037)	National TVET Policy (2017)	TESDA Act of 1994; TESDP 2023-2028

Thematic Area	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Quality and Relevance	NVQF	NVQF and Centers of Excellence	Bangladesh National Qualifications framework	NVQF 2019 Curriculum aligned with ASEAN standards;	NVQF/ Curriculum aligned with ASEAN standards;	Philippines Qualification Framework
	Curriculum reform underway	Implementation of competency-based training (CBT) and assessment	CBT-based reforms scaling up; sector-specific curricula (e.g., garments)	CBT based curricula	CBT based curricula	National Competency-Based TVET;
Access, Equity, Inclusion	NGO support for vulnerable learners	Increasing female enrolment; scholarship provisions	NGO-public partnerships for inclusion (BRAC); UCEP provisions	Free education for people with disability (PWD); Equitable Education Fund, scholarships, Broad rural coverage;		Several scholarship schemes
Financing	Government funding	Government funding	Government funding	Government funding	Government funding	Government funding
	Donor support	Donor support (ADB, EU, GIZ); Germany, Norway, DFID); UNDP	Donor support (ADB, EU)	Donor support (EU, GIZ, KOICA and ADB, UN agencies)	Donor support	Donor support (ADB, EU);
	Institutes under private sector investment	Institutes under private sector investment	Institutes under private sector investment			Institutes under private sector investment
Recognition and Pathways	Qualifications Framework	Qualification framework under NAVTTC Equivalency up to L8 RPL	Bangladesh National Qualifications framework NVQF in operation RPL	NVQF 2019 and transferable qualification recognition system that connects vocational education with general education Credit transfer system	Clear certification routes through C1–C4 levels; ASEAN aligned NVQF	ladderized education system; PQF RPL

5.13.2 TVET system weaknesses

Based on country reports (Annex 2), TVET system problems are synthesized in Chapter 5 (issues and challenges). This section highlights the similarities and distinct weaknesses in TVET system.

Governance. Despite regulatory responsibility, TVET apex bodies (such as NAVTTC in Pakistan and TESDA in the Philippines) are engaged in implementation activities. The situation in Bangladesh is not too different, as MoE is directly engaged in TVET delivery, whereas it could have remained a regulatory body.

Quality. All the countries have quality related weaknesses of one or the other kind and can be distinguished in three areas – curriculum, teacher and infrastructure/ laboratory. They are summarized in Table 5.8.

Table 5.8: Key Quality related weakness by countries

Country	Thematic areas	Key Weaknesses
Afghanistan	Curriculum	Only 50% of the institutes implement full curriculum
	Teachers	Insufficiently qualified teachers is one of the major weaknesses. Teachers often lack appropriate pre-service and in-service training.
	Infrastructure	Only 16% of institutions have workshops for hands-on learning/ training.
Pakistan	Curriculum	Despite successful experience and industry preferred CBT curricula, traditional curricula continue when external funding is unavailable.
	Teachers	CoEs are established but not fully utilized for the teachers' training purposes.
	Infrastructure	CoEs and some private sector institutes have nearly state-of-the-art laboratories but are inadequately used for teacher and/or student training
Bangladesh	Curriculum	Continuation of outdated curriculum despite CBT implementation.
	Teachers	High teacher vacancy rate. Only two teachers/trainers training institutes result in around 80% of teachers lacking structured training opportunities.
Thailand	Teachers	Poorly trained teaching staff; tendency to leave job among newly hired teachers
	Infrastructure	TVET institutions face significant teaching-resource shortages.
Cambodia	Teachers	Lack of qualified teachers with industry experience.
	Infrastructure	Insufficient practical training equipment.
Philippines	Curriculum	Slow pace of standards development
	Teachers	Shortage of trainers and competent assessors
	Infrastructure	Insufficient training facilities for specialized technical fields

Relevance. All countries' TVET systems have limitations in aligning curricula with BIA needs. This could have been done through two strategies: effectively mobilizing the BIAs and conducting market assessments for identifying the currency of the education and training programs. However, evidence from the study suggests that despite presence of BIAs in governing boards in all countries except in Afghanistan, where their mobilization was insufficient until 2019, they are not productively mobilized. Workplace-based training is a proven approach to enhance learners' opportunities to be exposed to market dynamics and exchange with employers, but these tools as well are not properly institutionalized. Similarly, none of the country studies revealed systematically institutionalized market assessment and their use in course offerings.

Afghanistan suffers the most from outdated and non-standardized curricula, while Pakistan, Bangladesh, and Thailand have some positive structures in place, but they are not scaled up.

Specific evidence of relevance related weaknesses are presented in Table 5.9.

Table 5.9: Key relevance related weakness

Country		Key Weaknesses
Afghanistan	Curriculum	▪ Lack of industry collaboration leads to supply-driven courses
	Market assessment practices	▪ Lack of market assessment to identify market relevant occupations/ trades.
	Work-based training	▪ Insufficient evidences
Pakistan	Mobilizing BIAs	▪ Despite the BIAs in government boards, they are yet to be properly mobilized and have only limited influence
	Curriculum	▪ TEVTAs deciding courses for public institutes making them supply driven.

Country		Key Weaknesses
Afghanistan	Curriculum	<ul style="list-style-type: none"> Lack of industry collaboration leads to supply-driven courses Success of CBT experience not scaled up
	Market assessment practices	<ul style="list-style-type: none"> Market assessment practices are not institutionalized
	Work-based training	<ul style="list-style-type: none"> Not compulsory for conventional courses
Bangladesh	Mobilizing BIAs	<ul style="list-style-type: none"> Despite ISCs' existence, there are weak links with industry.
	Curriculum	<ul style="list-style-type: none"> Mostly supply driven courses; CBT not scaled up
	Work-based training	<ul style="list-style-type: none"> Limited evidence of systematic scaling up
Thailand	Teacher training	<ul style="list-style-type: none"> Even Dual VET system suffers from poorly trained teaching staff.
Cambodia	Curricula	<ul style="list-style-type: none"> Theory-heavy programs, weak enterprise linkages, limited practical training Curricula insufficiently aligned with industry needs. Industries demands for levels 2-4 graduates but currently the system has big investment on levels 5-6.
	Practical training	<ul style="list-style-type: none"> Inadequacy of teaching and learning materials.
	Work-based training	<ul style="list-style-type: none"> Insufficient evidence on scaling up
Philippines	Teaching learning resources	<ul style="list-style-type: none"> Slow development of standards and assessment tools, which limit timely responsiveness to industry changes.
	Work-based training	<ul style="list-style-type: none"> Limited evidence of large-scale expansion

Efficiency. Some available information on efficiency suggests the following weaknesses:

- Time consuming formative assessment in Pakistan,
- A decline in the enrollment of female students in technical education, increasing dropout, and continued staff vacancies in Bangladesh,
- Drop out in Thailand's vocational education,
- Low enrolment and dropout in Cambodia are examples of weaknesses under efficiency.

Weak mobilization of BIAs. Despite BIAs engagement in TVET system, for instance, SSCs in Pakistan, ISCs in Bangladesh and the Philippines, they are not properly mobilized (Table 5.10). As a result, skills mismatch continues, and limited WBT/ OJT opportunities are available for learners.

Table 5.10: Evidences of improper mobilization of BIAs

Country	Key Weaknesses
Pakistan	<ul style="list-style-type: none"> Despite the presence of BIAs in government boards, they are not productively mobilized. Sector Skills Councils (SSCs) almost failed
	<ul style="list-style-type: none"> Updated machinery and equipment at businesses and industries are not leveraged for practical training
	<ul style="list-style-type: none"> Despite ISCs' existence, there are weak links with industry.
Bangladesh	<ul style="list-style-type: none"> Updated machinery and equipment at businesses and industries are not utilized for practical training
	<ul style="list-style-type: none"> Updated machinery and equipment at businesses and industries are not utilized for practical training
Thailand	<ul style="list-style-type: none"> Updated machinery and equipment at businesses and industries are not utilized for practical training

Baseline data and information. All the countries have one or the other kind of TMIS and LMIS, but there is a lack of nationally agreed indicators and corresponding baseline data and information.

Chapter 6: Key TVET Actors and Partnership

The findings on key TVET actors are detailed in individual country reports in Annex 2 (Annex 2.1 to 2.6), which are summarized in Table 6.1. As shown in the table, government, the private sector/ Business and Industry Associations (BIAs), non-governmental organizations (NGOs), and international development partners (IDPs) – including donors and INGOs- are the main categories of TVET actors in all the countries.

Table 6.1: Key TVET actors and partnership

Country	Public and Public Partnership	Private	Major sectoral BIAs	International Development Partners
Afghanistan	TVET-A, MoLSA, MoE, MoF		Agriculture, construction, mining and printing	UNDP, GIZ, Mercy Corps, World Bank, UNESCO
Pakistan	NAVTTTC, Punjab Vocational Training Council, Punjab Development Fund,	TEVTAs, DTESD, Punjab Skills	Agriculture, hospitality construction	textile, leather, EU, GIZ, ADB, British Council and UNDP, UNESCO, Norway
Bangladesh	MoE, MoLE, MoEWOE, BMET		Agriculture, garment, leather, construction	ADB, EU, SDC, WB, DFID, CIDA, ILO
Thailand	OVEC, DSD, TPQI, ONESQA		Agriculture, tourism, manufacturing	GIZ, EU, ADB, UNESCO, JICA, KOICA
Cambodia	MoEYS, MoLVT, National Training Board	National	Agriculture, tourism and garment	ADB, GIZ, WB, KOICA, UNESCO
Philippines	TESDA, RIBs/TIBs, MoE, MoL		Manufacturing and agriculture	ASEAN, ADB, GIZ, ILO

Based on the information from the country reports (Annex 2) and Table 6.1, country-specific key stakeholders and their engagement are presented in the paragraphs below.

6.1 Government institutions

All the countries studied have designated government bodies responsible for TVET governance, either under education or labor ministries:

- **Afghanistan:** The TVET Authority (TVET-A), Ministry of Labor and Social Affairs (MoLSA), Ministry of Education (MoE), and Ministry of Finance (MoF) are the key government agencies.
- **Pakistan:** National Vocational and Technical Training Commission (NAVTTTC) at the federal level; Technical Education and Vocational Training Authorities (TEVTAs) at the provincial level; and Directorate of Technical Education and Skills Development (DTESD) in the Gilgit-Baltistan Government.
- **Bangladesh:** NSDA under the Prime Minister’s Office, Ministry of Education (MoE), Ministry of Labor and Employment (MoLE), Ministry of Expatriates’ Welfare and Overseas Employment (MoEWOE), and Bureau of Manpower Employment and Training (BMET). The Bangladesh Technical Education Board (BTEB) is the state TVET regulatory body.
- **Thailand:** Office of Vocational Education Commission (OVEC) under MoE, Department of Skill Development (DSD) under Ministry of Labor, and the Thailand Professional Qualification Institute (TPQI).
- **Cambodia:** Ministry of Education, Youth and Sports (MoEYS); Ministry of Labor and Vocational Training (MoLVT); and the National Training Board.
- **Philippines:** Technical Education and Skills Development Authority (TESDA), with support from regional and national tripartite boards.



Similarity. All countries feature multiple ministries or agencies involved in planning, funding, and overseeing TVET/ skills development. However, these agencies often need better coordination to ensure policy coherence.

Notable practice. The Philippines has institutionalized tripartite governance mechanisms through TESDA by integrating government, business and industry/ employers, and workers in decision-making.

6.2 Business and Industry Associations (BIAs)

Albeit with variation in engagement, partnership with BIAs is a shared objective across all the countries studied.

- **Pakistan and Bangladesh:** When the BIAs realize the benefits of their engagement in TVET systems, they continue to do so and contribute in TVET processes, such as curriculum development. While there is some success with Bangladesh's BIAs, the Pakistan's Sector Skills Councils (SSCs) have nearly failed to meet their objectives. The absence of legal base and financing for SSCs operations has been responsible for the challenges in Pakistan's SSCs.
- **Thailand:** BIA involvement is institutionalized through work-based training (WBT) in dual-training and apprenticeship models.
- **Philippines:** BIAs' play an active role in competency standard development and system governance through TESDA's board and Regional Industry Boards (RIBs).
- **Cambodia:** BIAs' engagement is through Sector Skills Committees and remains at an early stage.
- **Afghanistan:** BIAs' engagement depends on proactive initiatives from the government or IDP's.

Outstanding practices. BIA engagement at Pakistan's federal, provincial and institute levels is exemplary, particularly at the institute level and could serve as a reference for other countries. The Punjab Vocational Training Council (PVTC) is an important institution under the Public-Private-Partnership model.

6.3 Non-Governmental Organizations (NGOs)

NGOs exist in all countries and play a key role in enhancing access in underserved areas and in policy advocacy. However, their integration into the national system remains limited. Country-specific NGOs and their involvement are presented below.

- NGOs are significant actors in Pakistan, Afghanistan, Bangladesh, and the Philippines.
- **Bangladesh:** UCEP and BRAC provide large-scale skills programs targeting marginalized groups. Both these NGOs are active in policy advocacy.
- **Afghanistan:** NGOs bridge access gaps in conflict-affected and remote regions.
- **Philippines:** NGOs are involved in direct training delivery and policy advocacy.

6.4 International Development Partners (IDPs)

IDPs are key players in all countries, and their support has been pivotal in policy reform and promoting access and quality. Country-specific major IDPs are summarized below:

- GIZ, ADB, World Bank, and the EU are common across most countries, but the extent of their engagements varies.
- UNESCO, ILO, and KOICA are particularly active in Thailand and Cambodia.
- Pakistan, Bangladesh, and the Philippines have strong IDP-backed TVET reform programs, with the EU and ADB especially supporting CBT&A and work-based training.
- The World Bank and UNESCO are key players in Afghanistan.



In summary. Despite government leadership and presence of many national and international non-governmental actors, a lack of effective mechanisms for systemic and institutionalized multi-stakeholder collaboration, particularly with industry is noted in all countries.

Chapter 7: Key Issues and Challenges

Country-specific reports detailed in Annex 2 suggest that each country has its own issues and challenges impacting TVET development. However, as explained in the remaining sections of this chapter, some issues and challenges are shared across countries.

7.1 Policy and Governance Deficits.

The lack of well-implemented TVET policies and effective governance structures is a persistent issue across the countries studied.

- Afghanistan: There is no dedicated national TVET policy. The Presidential Decree of 2018 provides direction but lacks strategic clarity and effective implementation (UNESCO-UNEVOC).
- Pakistan: The country has a National TVET Policy (2018) and a National Skills for All Strategy (2018), but coordination between NAVTTC and provincial TEVTAs is challenging, which undermines TVET outcomes (Government of Pakistan, 2018). NAVTTC has a regulatory mandate but is also involved in implementation. The implementation of the Prime Minister's Youth Hunarmand Program is a notable example.
- Bangladesh: The country faces policy fragmentation due to both the MoE and NSDA managing TVET, leading to overlaps and inefficiencies (Haque et al., 2024).
- Thailand and Cambodia: Both experience fragmented governance with overlapping mandates among ministries such as MoEYS and MoLVT (MoEYS 2019; Phal et al., 2021).
- Philippines: TESDA's dual role as both regulator and implementer creates institutional conflict, hindering its regulatory transformation (TESDA, 2019; ADB, 2021). Similar to Pakistan, TESDA's overlapping roles affect effectiveness.

7.2 System Fragmentation and Delivery Gaps

All countries suffer from fragmented TVET systems, with multiple parallel providers and a lack of integration.

- Afghanistan: MoE, MoLE, TVET-A, and NGOs operate without a unified framework (UNESCO-UNEVOC, 2024).
- Bangladesh: Overlapping mandates across ministries and donor-driven initiatives, create duplication. A similar problem exists in Cambodia (MoEYS, 2019).
- Thailand: TVET involves multiple national and regional players, leading to operational confusion.
- Pakistan: NAVTTC is also engaged in implementation, contributing to conflict with provincial TEVTAs and regional governments (GB and AJK).
- Philippines: TESDA performs both provider and regulator roles (ADB, 2021).

7.3 Weak Operationalization of Qualifications Frameworks

Most countries have established national TVET/vocational/qualifications frameworks (NT/V/QFs). However, proper operationalization is challenging across all countries.

- Afghanistan's NVQF is limited to Level 4, lacking a framework for progression to higher education (UNESCO-UNEVOC, 2024).
- Pakistan: Despite the provision for Level 8, the NVQF is largely functional at Levels 2–3 (Pradhan et al., 2024) and the future of its operation beyond Level 5 is unclear. Equivalency with general education is established up to Level 5. RPL is operational, but its scale is currently limited.
- Bangladesh: Frameworks exist up to bachelor's degree level, but issues remain with curriculum alignment and the operationalization of RPL (Haque et al., 2024).

- Cambodia has framework for below bachelor's level, but issues remain with curriculum alignment (MoEYS, 2019).
- Thailand's NQF allows Bachelor's level qualification, but after that, graduates must pursue the general education stream.
- In the Philippines, the framework exists but only below Bachelor's level, and implementation in competency assessment is weak (TESDA, 2019).

7.4 Relevance and Labor Market Mismatch

A gap between TVET and labor market needs invariably exists in all the countries studied.

- Despite NSIS and NEXT program under it, Pakistan lacks institutionalized institute-level labor market data, limiting program relevance (Pradhan et al., 2024). TVET III piloted rapid market appraisal (RMA) but it was not scaled up.
- In Bangladesh, a shortage of skilled local workers forces employers to hire foreign labor (Haque et al., 2024).
- Thailand and Cambodia face high technical labor demand but low employability among TVET graduates.
- In the Philippines, high employment rates exist for EBET graduates, but this success does not extend to graduates under other training models.

Tracer studies are not institutionalized as a regular practice across all countries.

7.5 Equity and Inclusion Challenges

TVET systems struggle with inclusivity, especially for women, persons with disabilities, and rural populations.

- In Afghanistan, girls/females are barred from education including TVET beyond Grade 6, excluding them from formal TVET (UNESCO-UNEVOC, 2024).
- Gender disparity in Pakistan is indicated by low female enrolment and their confinement to traditional trades (Ashraf et al., 2024). Further, the majority of TVET institutes- both public and private - are located in large cities, focusing on the densely populated urban areas, while TVET services (Institutes) are limited in rural Pakistan.
- In Bangladesh, TVET is perceived as unsuitable for girls (Haque et al., 2024).
- Thailand and the Philippines have inclusive policies but implementation is weak, especially in rural areas (ADB, 2021).

7.6 Quality Assurance and Teacher Capacity

The quality of training and trainers is compromised by weak quality assurance systems, outdated curricula, and insufficient teachers/trainers' training.

- Afghanistan lacks formal accreditation and quality assurance structures (UNESCO-UNEVOC, 2024).
- In Pakistan, teachers/trainers lack industry experience and CoEs have yet to fully operate (Ashraf et al., 2024; Pradhan et al., 2024).
- Bangladesh and Cambodia suffer from poor standards and weak monitoring (Haque et al., 2024; MoEYS, 2019). There are only two teacher training institutes (TTTI and VTTC) in Bangladesh, which are insufficient to cater to the large number of trainers/ teachers across the country
- Thailand and the Philippines show a need for more investment in teacher training and teaching resources (TESDA, 2019).

Ensuring workplace training/ experience for teachers is a common challenge across the countries. Similarly, making productive use of OJT/workplace-based training opportunities is an issue with TVET institutes in all countries studied.



7.7 Funding and Infrastructure Gaps

Most countries suffer from underfunding, affecting infrastructure, particularly laboratories for institute-based practical training, and access.

- TESDA of the Philippines lacks capital budget for infrastructure and materials (TESDA, 2019).
- Cambodia struggles with operational deficits, limiting consumables and teaching tools (Phal et al., 2021). The situation in Pakistan is not different, except for its Centers of Excellence (CoEs) (Pradhan et al., 2024) and some NGO-operated training institutes.
- Thailand and Bangladesh depend heavily on donor funds (ADB, 2021; Haque et al., 2024).

7.8 Perception of TVET

As explained in Chapter 5.3 above, all countries, except Pakistan, do not have vocational qualification levels up to the highest Level. Bangladesh and Thailand have TVET programs up to the Bachelor's level, while it is below the Bachelor's level in the remaining three countries. This single indicator explains academic bias, reinforcing the low-image stigma in society. Even in Pakistan, the NVQF-aligned qualifications are implemented mainly at level 2 and 3, less at Level 4, and almost none in Level 5. It is not clear which agency is going to implement the remaining levels. In this situation, it is only natural to see learners and parents choosing the academic stream rather than TVET. Therefore, it is considered a second option for low-performing students and is a serious concern across all the countries.

- This stigma is widespread in all countries where families view TVET as less prestigious. Even Thailand faces low enrolment in technical streams due to social attitudes (Skills Trend Analysis, 2017).
- In Bangladesh, enrolment has declined, and dropout rates remain high, aggravated by unfilled teaching positions.
- In Cambodia, disparity exists between enrolment trends under two ministries—TVET under MLVT faces high dropout in the Certificate 3 (C3) program, while MoYES shows rising enrolment.

Chapter 8: Lessons Learned

Lessons learned in TVET operations by each country are presented in Annex 2. The lessons learned under each TVET thematic areas are summarised in Table 8.1.

Table 8.1: Lessons Learned

Countries	Thematic Area	Lessons learned
Philippines, Afghanistan, Cambodia	Policy and Governance	Decentralization and clear mandates are essential
Pakistan, Bangladesh, Philippines, Thailand	Industry Engagement particularly Sector Skills Council	Effective sectoral structures require legal backing and sustainable funding; Strong partnerships with BIAs yield better outcomes
Pakistan, Bangladesh, Thailand and Cambodia	Competency-Based Education and Training reforms	<ul style="list-style-type: none"> ▪ Expansion of NVQF packages and curriculum alignment with labor market is critical ▪ CBT&A approaches are resource-intensive and require sustained investment and effort compared to conventional education and training/ instructional methods
Thailand, Bangladesh, Afghanistan, Pakistan	Equity and Inclusion	Delivering gender-sensitive delivery and rural outreach TVET remains a challenge
Philippines, Cambodia, Pakistan, Bangladesh	Capacity and Human Resources	The presence of qualified instructors, trainers, and managers are essential; Institutionalizing continuous professional development must be a core priority
All countries	Data and MIS	Nationally agreed-upon indicators and robust MIS are essential for evidence-based policy, planning, and performance monitoring
All countries	Resilience and Distance Learning	Hybrid delivery models must be developed to ensure continuity and adaptability of training during crises
All countries	Equipment and Facilities	Investment in modern equipment and digital infrastructure significantly enhances training quality and outcomes

The summary presented in Table 8.1 is explained hereunder.

8.1 Policy and governance

- Across countries, strong policy frameworks (e.g., TVET Policy and Skills Strategy of Pakistan, the TESDA Act in the Philippines, the NSDP in Bangladesh, and the National TVET Policy in Cambodia) were found to be crucial for long-term reform sustainability. However, progress in implementation often lags behind and varies across countries.
- Dual roles - regulatory and implementation roles, entrusted to agencies such as TESDA in the Philippines and NAVTTC in Pakistan, can dilute their much-needed focus on quality assurance.
- Afghanistan recognizes the value of stakeholder consultations for sustaining national frameworks like ANQF. However, progress in implementation remains inconsistent.

8.2 Industry engagement

- Despite variation in operationalization, all countries have realized the importance of engaging Business and Industry Associations (BIAs) in standards development, curriculum design, and workplace training.
- Structured mechanisms, such as IMCs/ DBOM in Pakistan at the institute level and ISCs at the sector level in Bangladesh, have proven to be useful for TVET relevance and labor market interface. The failure of SSC in Pakistan calls for clear legal mandates, secured funding, and clarity of roles to become effective in their roles.



- Enterprise-Based Education and Training (EBET) of the Philippines shows employers' direct engagement in education and training and has a high likelihood of leading to higher graduate employment outcomes, reinforcing its value for replication and scale-up.

8.3 Qualification Frameworks and Competency-Based Reforms

- Competency-Based Training and Assessment (CBT&A) has the potential to increase labor market relevance in Pakistan, Bangladesh, Thailand and Cambodia. However, as evident from Pakistan, expanding qualification packages, especially at higher NVQF levels, is necessary to meet evolving industry demands. It can, to some extent, address the perception that TVET is second option to academically poor learners.
- Thailand's integration of its NQF and NVQF through a credit bank system has the potential to improve flexibility and promote lifelong learning, serving as a model for permeability between education and employment. The equivalency arrangement in Pakistan has facilitated recognition of TVET qualifications but may need time for its full realization.

8.4 Equity and Inclusion

- Emphasis on access to TVET for women, persons with disabilities, and rural populations remains a priority for all countries, although success varies. Thailand and Bangladesh demonstrate targeted inclusion through stipend programs and inclusive policy targets. Given the cultural context, Pakistan's arrangement of separate institutes for girls/females is also noteworthy.
- In Afghanistan, socio-cultural constraints have systematically institutionalized the limitation of women's access to education and training.

8.5 Quality of Training Facilities and Equipment

The availability of market-relevant machinery (as seen in Pakistan's CoEs) and digital training solutions (as demonstrated in the Philippines) is directly linked to the quality of training and improved labor market outcomes. Therefore, future TVET reforms should prioritize the modernization of practical training environments at the institute level to ensure alignment with industry standards.

All these lessons clearly demonstrates that TVET and skills development are multifaceted endeavours. Investment or progress in a single dimension be it infrastructure, curriculum, or governance is insufficient to achieve significant and substantial outcomes. TVET is inherently a complex and resource-intensive education system that requires coherent policy frameworks and coordinated, multisectoral efforts for effective implementation.

8.6 Capacity Building and Human Resources

As demonstrated by Bangladesh, the Philippines, Cambodia, and Pakistan, the lack of adequately qualified teachers and trainers at the institute level hampers progress in TVET development. This situation highlights the critical need for continuous professional development systems, clear career progression pathways, and well-structured incentive mechanisms. Cambodia's experience where infrastructure investment alone proved insufficient without trained personnel and updated curricula is echoed across multiple countries.

8.7 TVET sector specific research

Several Thai government institutions and Bank are engaged in labor market study and workforce needs forecast. Similar studies or tracer studies are done in other countries such as Pakistan and the Philippines. However, continued mismatches in demand and supply almost in all countries suggest the following:



- Macro level survey is not enough to address this issue;
- The research-led information has to be fed into the TVET system. It is not enough to have survey results;
- Relevance of macro survey data could be complemented by results from rapid market appraisals (RMA). Such a study needs to be regularly conducted; and
- Institutes should be given flexibility to decide the courses to offer. They know better the qualifications in demand in the market.

Therefore, TVET sector specific research should be regularly conducted, and its results should be the basis for deciding qualifications to offer.

8.8 Data and Monitoring Systems

- In absence of nationally agreed indicators (e.g., enrollment rates, cycle completion rate [CCR], survival rate [SR], employment rates) and corresponding baseline value, it becomes difficult to assess the progress and contribution made by various stakeholders. This lack of standard metrics prevents a comprehensive understanding of TVET development at the national level. Similarly, challenges exist at the subnational level due to the lack of disaggregated data. This situation is observed in nearly all countries studied. Establishing such indicators and baseline values would enable evidence-based policy formulation, strategic planning, and effective monitoring of implementation progress. In Afghanistan's case, this could help update its baseline data last collected in 2009.
- The absence of comprehensive Management Information System (MIS) at the national and ideally, subnational level limits policymakers' ability to assess impact. An effective MIS can also help address the issue of attribution, which currently remains unclear in many contexts. It is often difficult to determine which contributions, and to what extent, originate from which national or international stakeholder.

8.9 Resilience and Crisis Response

- The COVID-19 pandemic exposed significant challenges in digital access and highlighted the limitations of distance learning. Delivering the practical components of TVET through online platforms has remained problematic across all countries. Pakistan has attempted to enhance connectivity through the National Skills Information System (NSIS), but due to digital divides and limited institutional capacity, its full operationalization has yet to be achieved. Addressing technical glitches and ensuring smooth functioning requires enhanced capacity at the institute level.
- There is a growing need to adopt hybrid models – delivering theoretical instruction online while providing practical training in workplaces under strict safety protocols. Investment in digital infrastructure is essential to ensure preparedness for future crises and to build resilient TVET systems.

Chapter 9: Knowledge gap/research agenda and policy questions

Chapters Three to Eight, prepared based on the individual country reports detailed in Annex 2, indicate areas with knowledge gaps, paving the path for future research agenda. Therefore, the first part of this chapter (Chapter 9.1) begins by synthesizing the general knowledge gap in TVET sector and associated research questions. It is followed by the second part (Chapter 9.2), which summarizes the nationally identified key growth sectors and knowledge gaps leading to relevant policy questions.

9.1 General TVET sector knowledge gap and research agenda

Despite notable progress in the reform and development of TVET/ skills development across the countries studied, significant knowledge gaps remain, with implications for evidence-based planning, policy coherence, and effective program implementation. This synthesized chapter identifies common gaps, highlights cross-cutting policy questions, and outlines potential research directions to bridge these knowledge deficiencies.

These knowledge and research gaps are summarised in Table. 9.1 and further explained in the following sections of this chapter.

Table 9.1: Summary of Common Knowledge and Research Gaps in TVET

Thematic Area	Common Knowledge Gaps Identified
Policy Implementation	Limited information on: <ul style="list-style-type: none"> ▪ How far policies – TVET Acts, TVET policies and TVET strategic/reform plans – have been implemented or succeeded in achieving their targets? ▪ Why specific interventions succeed or fail
Governance and Institutional Reform	Limited knowledge on effectiveness of governance reforms and coordination mechanisms
Labor Market Relevance	Weak evidence on relevance of courses offered
Equity and Inclusion	Lack of research on reaching girls, rural learners, and the poor And how far these groups are affected by available support schemes
Curriculum and Future Skills	Lack of research on implementation and outcomes/impacts of CBT curricula Limited study on inclusion of AI, green, and digital skills in TVET curricula
Certification and Pathways	Limited information on success of NVQF operationalization Very limited knowledge on why vocational qualifications are capped at, at most, the Bachelor’s level. Why TVET graduates do not have a seamless progression path after a Diploma or Advanced Diploma? Weak evidence on recognition, credit transfer systems, and transitions across education levels
Employment, income and educational outcomes	Incomprehensive information on employment outcomes and much less on changes in post-training income and almost none on further educational outcomes
MIS and Monitoring	Insufficient data systems for planning, tracking outcomes, and labor market forecasting

9.1.1 Inadequate Evaluation of Policy Implementation and Reform Outcomes

Knowledge gap. A common issue identified across all six countries is the lack of systematic evaluation and evidence regarding the implementation and outcomes of key policy instruments and reform efforts:

- **Policy formulation and implementation.** Little is known about the effectiveness, outcomes, or impacts of policies such as TVET Acts, TVET policies, and TVET strategic/reform plans. This applies to all countries. For instance, effectiveness of the Education Act (2008) or the Presidential Decree on the operations of TVET-A (2018) remains unclear. Similarly, the performance of TVET Authority over the past seven years is largely undocumented. While



UNESCO had conducted a country-level assessment, it is not comprehensive and does not cover all aspects of the TVET system.

- **Governance and coordination/ collaboration.** The effectiveness of decentralized structures or integrated systems (e.g., coordination between TESDA and DepEd in the Philippines or the OVEC-DSD-TPQI relationship in Thailand) remains underexplored. Similarly, why there is limited collaboration between NAVTTC and TEVTAs in Pakistan has not been sufficiently examined.
- **BIAs' engagement/ contribution. While** all countries report progress in engaging Business and Industry Associations (BIAs) in governance and implementation, research has not adequately explored why such an arrangements are not equally effective across all countries. More specifically: Why is only a small proportion of governance members drawn from BIAs? Why has their engagement not been more effective or productive? What outcomes or impacts have they actually contributed?
- **Institutes' performance.** All the countries have institutes/ training centers under private sector. However, no evidence of research comparing their contributions in terms of access, inclusion, quality, relevance, efficiency and employment outcomes was found.

Key policy questions

- How have national policy frameworks translated into improved governance and service delivery at the provincial, institutional, and training center levels?
- Are TVET systems adequately preparing a workforce aligned with the governments' priority sectors? If so, are the numbers of graduates sufficient to address existing skills gaps and shortages?
- What factors and actors have influenced the success or failure of TVET interventions across the countries studied?
- What is the contribution of private sector in terms of access, inclusion, quality, relevance, efficiency and employment outcomes?

9.1.2 Weak Understanding of Labor Market Relevance and Skills Mismatch

Knowledge gap. Another widely shared gap is the insufficient empirical understanding of the extent of relevancy of TVET/skills training graduates.

- **All countries.** Which levels and occupation/sector-specific qualifications are responsive to labor market needs? If not, why? For example, why is only a small proportion of Bangladesh's HSC and SSC TVET graduates employed? Why are tools such as rapid market appraisal (RMA) not done before deciding which courses to offer?
- **In Pakistan,** provincial TEVTAs decide courses to offer in the public institutes. This system prevents schools/ institutes from offering courses relevant to the current market. For instance, in the Labor Market Assessment in Punjab (2025)², nearly half of the demand (48%) in 10 sectors studied remained unfulfilled. Why does this situation exist whereas tracer studies at national level found that at most 57% of the graduates had employment? Is it possible to change this situation? If yes, how? These are important questions but have remained unanswered.
- **Afghanistan and Cambodia** have limited data on how occupational standards and curriculum development are aligned. What role does the NVQF play role in this process? This information is not adequately available from other countries as well.
- The BIAs' role and effectiveness in defining and co-delivering TVET remains poorly studied.
- There are risks that trainees in WBT might not get proper opportunities to train on actual machines and equipment. The effectiveness of work-based training is also poorly assessed.

² HIMAT Consulting Private Ltd. GIZ. 2025. Labor Market Assessment in Punjab (2025). 28 February 2025. TVET Sector Support Program. GIZ.



Key policy questions

- What mechanism could help institutionalize labor market assessment methods, and what provision could allow institutes to decide which courses to offer rather than relying on government decisions?
- How can labor market intelligence be better integrated into the curriculum development process?
- What regulatory and institutional mechanisms are effective in ensuring business and industry participation in education and training planning?
- Why, despite so many innovations and investments/ efforts made for TVET development, are employment outcomes low? Do the countries place equal emphasis on self-employment and microenterprise development? This applies to almost all countries. Even in Cambodia and the Philippines where employment outcomes appear to be higher, it is unclear whether these are nationwide results.

9.1.3 Limited Research on Inclusion and Access

Knowledge gap. Equity and access, particularly for vulnerable and marginalized groups and those in underserved regions, are emphasized in most national policy frameworks, yet evidence on their outcomes is scarce:

- In Afghanistan, the potential of non-formal training for girls remains largely unstudied.
- The Philippines and Bangladesh lack research on whether increased public TVET provision correlates with higher enrolment in poorer or underserved areas.
- All countries: the scale and effectiveness of microenterprise development training is not known.
- All countries: Recognition of Prior Learning (RPL) is limited in scale, underutilized, and insufficiently documented.

Key policy questions

- What policies and strategies would be effective for expanding access for women and disadvantaged populations in TVET/ skills development training opportunities?
- What policies and programs exist for microenterprise development, particularly targeting females and people with disabilities?
- How can RPL and flexible learning be scaled up to open seamless pathways for informal sector learners to the informal sector?

9.1.4 Understanding on Institutional Capacity and Quality Assurance

Knowledge gap. All countries have unequivocally declared a priority for quality delivery, particularly at the institute level. However, evidence about the operational capacity of institutes to deliver high-quality TVET/skills development training is minimal:

- All countries: Very limited or no information on TVET institutes' practice of self-employment/ microenterprise development training.
- All countries: institutional capacity, including teachers/ trainers and even the institute management to implement market-relevant training remains underexplored.
- All countries lack empirical evaluations on how training infrastructure, human resources, and accreditation mechanisms affect quality outcomes.

Key policy question

- How well are teacher training systems able to cater to and cover teacher/instructor/trainer training needs within and across these countries?



- How well are practical training infrastructure/ laboratories equipped with necessary machines and equipment? How are such gaps (practical training required to be market relevant versus what is available in the institutes) addressed by education and training institutes?
- Do TVET institutes have the ability to give training to development microenterprises using an apprenticeship model?
- How effective are national accreditation systems, for instance the National Accreditation Council (NAC) of Pakistan, in assuring institutes'/ programs' standards and performance?

9.1.5 Development and implementation of CBT&A packages

Knowledge gap. Almost all countries have been developing and implementing competency-based curricula. Even the assessment methods are required to be competency-based. However, the performance of CBT&A is not often systematically researched. Even in Pakistan, where CBT rollout is better compared to other countries, the country lacks studies focused on CBT&A performance.

Key policy question

- How effective have CBT&A practices been in the countries implementing them?
- Have they been funded as emphasized by governments, or have they remained at the pilot level?

9.1.6 Education and training outcomes

Knowledge gap. Changes in employment status and income, and educational progression are the three main TVET/skills development outcomes. Some information on employment rates is available for all countries but has issues with currency, regularity and coverage. Similarly, very limited information is available on changes in post-training income and almost none on further educational outcomes.

Key policy question

- What is the contribution of TVET/ skills development at the graduate level?
- What impact has TVET/skills development had on human resources development and employment promotion?

9.1.7 Good practices

Knowledge gap. Almost all countries have good practices. For instance, MOOCs of the Philippines, Institute Management Committees, NSIS and online accreditation system/ provisions in Pakistan, Credit Banking and Transfer system in Thailand, and high employment outcomes in Cambodia. However, the actors and factors behind these good practices have not been studied and documented.

Key policy question

- What are the policy provisions, or the actors and factors behind these good practices?

Summary. The persistence of knowledge and research gaps poses a significant challenge to optimizing TVET outcomes in the region. Addressing these gaps requires the establishment of national TVET research agendas, coordinated with academic institutions, government bodies, and business and industry actors, to:

- Commission impact evaluations of major reforms (policies and plans) and interventions;
- Promote applied research on labor market trends and employer needs;
- Fund inclusion studies to understand barriers for underrepresented groups;
- Expand monitoring and evaluation systems that combine administrative data with tracer studies.

9.2 Nationally identified key growth sectors and research agenda

As presented in their national planning documents, all the countries studied have identified key growth sectors. Details are available in Annex 2 (country-specific reports). As shown in Table 9.2, agriculture is prioritized in almost all countries except Cambodia, while green economy and climate change as development themes have been identified by all countries. The discussion in Chapter 3.3 and Chapter 9.1 (above) suggests the rationale for the linkage between these growth sectors and TVET themes.

Table 9.2: Key growth areas, research agenda/theme and research questions

Key growth areas/themes	Relevant countries	Rational for linkage between the growth sectors and TVET
Agriculture	Afghanistan ³ , Pakistan ⁴ , Bangladesh ⁵ , Thailand ⁶ , and the Philippines ⁷ .	<ul style="list-style-type: none"> ▪ Matching the demand and supply ▪ Revision/ development of curriculum ▪ Managing teachers/ trainers ▪ Managing infrastructure ▪ Engaging BIAs ▪ Integrating green skills ▪ Digital readiness
Green economy and climate change	All of the above countries, including Cambodia ⁸	
Digitalization and emerging technologies	Cambodia, Philippines, Bangladesh, and Pakistan	
Infrastructure	Afghanistan, Bangladesh, Cambodia, and the Philippines	
Tourism	Thailand and the Philippines.	

Given the weaknesses, issues, challenges, and knowledge gaps explained in the foregoing chapters, and priority sectors identified in Table 9.1, research questions by TVET thematic areas are identified in Table 9.2.

Table 9.2: Common research questions across the countries

Sectors with growth	TVET theme	Research questions
All sectors	TVET graduates' (long term and short courses) preparation	Which sectors have skills gaps and shortages?
	Teacher training	What are the current gaps in teachers'/trainers' capacity in the priority sectors across the countries?
	Infrastructure	<ul style="list-style-type: none"> ▪ What are the current gaps in infrastructure capacity, particularly in the laboratories for practical training purposes in the sectors across the countries? ▪ Could there be any model of collaboration with BIAs that can address some of these gaps rather than requiring new investments?
	BIAs engagement	Which BIAs partnership models are most effective in strengthening the relevance of TVET programs to industry demands across the six countries?
Green, digital education	Curriculum reform	How can TVET curricula be effectively reformed to integrate green skills, digital competencies, and STEM education across diverse economic sectors?
Green and digital skills	Policy, human resources and infrastructure gaps	What are the key policy barriers to mainstreaming green and digital skills in TVET systems, and how do these differ across countries?
ICT and AI readiness	As above	What are the key policy barriers to ICT and AI integration in TVET systems, and how do these differ across countries?

³ Afghanistan National Peace and Development Framework II (ANPDF II) 2021–2025

⁴ Pakistan Vision 2025 in 2014⁴ and the 13th Five-Year Plan (2024-2029)⁴

⁵ Perspective Plan 2021-2041 and the 8th Five Year Plan (2020-2025)

⁶ 20-year National Strategy (2017-2036), Thailand 4.0 Strategy in 2017, and the 13th NESDP (2023-2027) in 2023

⁷ Philippines' NTESDP 2023-2028

⁸ Pentagon Strategy-Phase I for Growth, Employment, Equity, Efficiency, Sustainability in 2023 and National Strategic Development Plan 2024-2028

Based on the country-specific growth sectors as traced from the national plans and strategies, country and sector-specific research questions are also identified (Table 9.3).

Table 9.3: Country-specific research questions by country and growth sectors

Country	Growth sectors	Research agenda/theme
Afghanistan	Industry	<ul style="list-style-type: none"> ▪ How can TVET be customized to support small-scale industries? ▪ How can microenterprise development models be implemented to establish small businesses/microenterprises? ▪ How can digital skills and AI be utilized in the country's precious mining industry?
Pakistan	AI, energy and water	<ul style="list-style-type: none"> ▪ How can Pakistan's TVET curriculum be reformed to integrate AI, energy conservation, and water management?
Bangladesh	Shipbuilding and pharmaceuticals	<ul style="list-style-type: none"> ▪ How can TVET programs be customized to support shipbuilding and pharmaceutical sectors?
Thailand	Electrical Vehicle (EV) manufacturing and Bio-circular-green economy	<ul style="list-style-type: none"> ▪ What policy and program interventions could enable Thailand's TVET system to be strengthened to meet workforce demands in EV manufacturing? ▪ What policy and program interventions could enable Thailand's TVET system to operationalize the Bio-Circular-Green (BCG) economic model?
Philippines	Servicification and tourism	<ul style="list-style-type: none"> ▪ How can a multi-sectoral approach (agriculture, digital, green as common theme, and servicification and tourism only specific to the Philippines) be effectively operationalized within the Philippines' TVET system?

Chapter 10: Conclusions and recommendations

Based on the synthesized findings presented in the previous chapters - Chapter Three (Socio-Economic Context); Chapter Four (History of TVET Development); Chapter Five (TVET System Performance); Chapter Six (Key TVET Actors); Chapter Seven (Key Issues and Challenges); Chapter Eight (Lessons Learned); and Chapter Nine (Knowledge Gaps), - this chapter draws overarching conclusions and strategic recommendations. Country-specific conclusions and recommendations are detailed in Annex 2 for the six countries studied (Afghanistan, Pakistan, Bangladesh, Thailand, Cambodia, and the Philippines).

While each country operates in a distinct socio-political and economic environment shaping the direction and nature of its TVET development, the countries share several common challenges and constraints. These shared issues lead to cross-cutting conclusions and support the formulation of regionally relevant recommendations aimed at strengthening TVET systems across Asia (Table 10.1).

Table 10.1: Conclusions and Recommendations for TVET Systems

Areas for improvement	Conclusions	Recommendations
Aligning TVET development with national policies	Across all countries reviewed, TVET remains partially aligned with their broader national economic development agendas. While ambitions to achieve economic progress (e.g., moving to middle or upper-middle-income status; Bangladesh's Vision 2040, or knowledge-based economies as in Thailand and the Philippines) are reflected in policy documents, TVET systems have yet to be sufficiently strengthened and mobilized to effectively support these envisioned transformations.	Countries must establish a clear vision on human capital development and position TVET as a core pillar, ensuring its full integration into long-term development plans. This requires aligning the demand and supply of TVET/skills training graduates with the country's priority sectors, such as agriculture, construction, manufacturing, and tourism. For example, in Pakistan's Punjab province, there is a significant skills shortage in manufacturing, hospitality and agriculture sectors. The Pakistan TVET system, particularly by Punjab TEVTA, needs to address these gaps proactively.
Governance and coordination	All these countries' federal/apex TVET boards have ensured representation from relevant ministries and agencies, but TVET governance structures across the six countries suffer from fragmented and overlapping mandates. Even when such representation exists, coordination among these ministries often remains problematic. A notable example of effective coordination efforts among the countries studied is Bangladesh's NSDA under PMO. However, overlap in roles between the MoE and NSDA persists. The continued existence of two separate TVET policies and plans under these two agencies highlights ineffective coordination and collaboration.	Despite implementation challenges, the multi-ministries' engagement model of NSDA under the PMO could serve as a useful framework for other countries. However, an institution like NSDA is better suited to focus on coordination rather than direct implementation responsibilities. A similar recommendation applies to NAVTTC in Pakistan and TESDA in the Philippines, which currently combine regulatory and implementation roles, potentially diluting their effectiveness.
Business and industry in governance	Almost all countries have provision for business and industry associations (BIAs')/ employers' membership in the apex governing boards (such as NAVTTC in Pakistan and TESDA in the Philippines). However, these provisions including those in the Philippines and Thailand, remain inadequate.	Multi-stakeholder governance frameworks that promote greater BIAs engagement at national, provincial, subnational, and institute/school levels are considered beneficial. Therefore, two recommendations are proposed:



Areas for improvement	Conclusions	Recommendations
	<p>In Pakistan, despite a large share of BIAs/employers on NAVTTC and TEVTA boards, their engagement has not been productive or optimized.</p>	<p>i) As Pakistan has strived for, a minimum of 50% representation from BIAs/employers in governance bodies at all levels– federal, provincial and institute/ local level, could provide a strong foundation to mobilize BIAs’ support in addressing TVET quality and relevance challenges;</p> <p>ii) To make such participation productive and meaningful, BIAs/ employer members may require capacity building support to enable them to effectively influence board decisions in favor of enhancing TVET relevancy.</p>
<p>Quality and Relevance</p>	<p>All six countries face persistent issues related to the quality and relevance of education and training programs including:</p> <ul style="list-style-type: none"> i) poor quality assurance systems. ii) outdated curricula, with CBTs mostly remaining at pilot stage; iii) insufficient industry engagement, iv) limited workplace-based training (WBT), v) low capacity of teachers/trainers, including lack of workplace experience; and vi) qualifications and curricula developed/ implemented are not aligned with business and industry needs 	<ul style="list-style-type: none"> i) For enhancing quality, proper operationalization of accreditation system is highly desirable across all countries. Pakistan’s online platform-based NAC serves as a good example. ii) Urgent curricula revisions are needed, preferably shifting towards competency-based curricula iii) Ensuring industry relevance through continuous engagement of BIAs throughout the TVET process, beyond governance roles iv) Making WBT/ on-the-job-training compulsory components of TVET. v) Human resources and teacher training systems must be strengthened to adapt to new approaches such as CBT and incorporate workplace-based practices in teacher training. vi) Decisions on courses and qualifications offered should be evidence-based, supported by: <ul style="list-style-type: none"> ▪ institutionalization of market research, including; a) Sector feasibility studies for medium and long-term market needs and b) Rapid market appraisal for short-term needs: ▪ A system that integrates research findings into TVET decision-making processes. ▪ Empowering frontline TVET providers/ institutes to decide which courses and qualifications to offer with a focus on priority and high-growth sectors such as ICT, construction, manufacturing, hospitality, and agriculture, aligned with labor market study results. ▪ Institute level study focusing on labor market demand should be regularly conducted and the results must be regularly fed into the TVET system to facilitate decision to offer relevant qualifications.

Areas for improvement	Conclusions	Recommendations
Integration, Recognition, and Learning Pathways.	Most countries have initiated TVET/ vocational qualification frameworks but in most cases, the TVET educational career ends at level 5, and at Level 6 (Bachelor's level) only in some cases (e.g., Bangladesh and Thailand). This limitation is one reason, (alongside others such as difficulty completing the course and managing required course fees) for low enrolment and even dropout of students/ learners.	To make TVET more attractive and to assure graduates' seamless career progression, the current NVQ structure needs to be reviewed, with learning pathways extended up to Level 8 (Doctoral level). Such provisions would also facilitate better integration and recognition of TVET/ skills development qualifications. Seamless integration and recognition could significantly improve the image and employability of TVET graduates.
	Other reasons for limited success in integration and recognition could include: i) Specific curricula are not properly aligned with the requirements of NVQF level descriptors. For instance, can Level 5 graduates, who according to the NVQF level descriptor are expected to serve as specialist workers, effectively fulfill this responsibility? ii) Equivalency with general education stream either does not exist or is limited to certain levels in where courses are offered. For example, Pakistan has successfully established equivalency with general education but up to Level 5. This limitation restricts seamless movement of graduates between the two education streams beyond level 5.	Apart from restructuring of the NT/VQF frameworks, other recommendations are: i) Careful review of curricula to ensure precise alignment with NVQF level descriptor requirements. ii) Equivalency between TVET and general education streams for all qualification levels needs to be established by law.
	Except for Thailand, evidence on credit-based curricula was limited across the countries, which means learners have to spend long durations, for instance, 2 to 3 years, to complete a specific qualification. Similarly, curricula were not structured on a modular basis. This requirement is difficult for youths who face opportunity costs that constrain their continued engagement in education.	To make TVET relevant and attractive, developing competency and credit-based modular curricula will be useful. This provision could help operationalize the multi-exit and entry mechanisms for education and training. Such a system could make education and training more flexible.
Recognition of Prior Learning (RPL)	Like NVQF, countries have also started RPL, but often at a limited scale (e.g., in Pakistan) and again restricted to lower qualification levels.	Given the large scale of workers in the informal sector in all countries, RPL needs to be significantly scaled up. A comprehensive communication strategy should be developed and implemented to make relevant workers aware of the value of RPL.
Access, Equity, and Inclusion	Despite pro-poor targeting efforts, enrolment gaps persist in marginalized and remote regions, particularly in Afghanistan, Bangladesh, and the Philippines. Gender disparities remain widespread, except in the Philippines where inclusive policies have had relatively better outcomes.	<ul style="list-style-type: none"> ▪ Implement inclusive TVET outreach strategies and establish equity-based funding models, including targeted scholarships for underserved areas. ▪ Introduce subsidized fee and remuneration-based work-based training/ apprenticeship models, which could be helpful to enhance inclusivity. ▪ Promote education and training for micro-enterprise development, especially for women, to enable them to start their own home/community-based small businesses.

Areas for improvement	Conclusions	Recommendations
		<ul style="list-style-type: none"> ▪ Customize training programs to address local labor market needs, especially in rural and agricultural sectors. ▪ Strengthen disaggregated MIS to monitor equity by gender, geography, and socio-economic status, and accordingly, avail incentives such as fee waivers, reserved quotas, or scholarships.
Employment outcomes	Except for EBET graduates in the Philippines and CBT/WBT graduates in Pakistan, the employment outcomes across the studied countries remain low. One major reason for this poor performance is the continued delivery of courses without understanding the market demands. Since TVET without clear employment and income outcomes is less impactful, a regular review of TVET performance is necessary.	Establish and institutionalize labor market study mechanisms, preferably, through Rapid Market Appraisal (RMA), to identify high-demanded qualifications in the labor market. Review centralized decision-making systems such as where government agencies (e.g., Pakistan TEVTAs) unilaterally decide course offerings, to allow more responsive and localized decision-making based on market evidence. Make all forms of WBTs, including (OJT, apprenticeship, teaching factories, and full workplace-based education and training) compulsory. Such provisions increase learners' exposure to real-world environments, helping them better understand employer needs and improve employment readiness.
Adoption and scalability	Adoption of interventions such as CBT, Dual VET and Sector Skills Councils was relatively swift across the countries, but scalability remains a concern.	Governments should prioritize the expansion/scaling-up of proven country interventions/ innovations. However, it is important to check labor market demand before developing and rolling out new CBT qualifications to ensure alignment with employment needs. Countries could also learn from both the successes and shortcomings of regional peers (e.g., the limited success of Sector Skills Councils in Pakistan highlights the importance of legal frameworks and sustainable financing. Finally, IDPs could refocus efforts on scaling up effective interventions such as CBT, WBT and NVQs ensuring they are institutionalized and sustainable.
Sustainability	Sustainability of adopted interventions such as CBT, BIAs engagement, and Workplace-Based Training (WBT) including Dual-VET is also uncertain in view of sustainability.	To strengthen the long-term sustainability of these successful interventions, countries should review and, if necessary, revise existing policies to institutionalize CBT, BIAs' structured participation, and WBT within national TVET strategies and frameworks. Embedding these approaches in legally binding national policies and implementation plans will ensure they are protected from political or administrative shifts and receive consistent support and funding.
Digitalization	The digitization of TVET systems is emerging but remains uneven across the countries studied. Pakistan's NSIS for supply side data is	Pakistan's NSIS together with NVQ Registry and NEXT platforms could serve as strong reference models for other countries to

Areas for improvement	Conclusions	Recommendations
	<p>a good example. The country's NVQ Registry under NSIS is an excellent model of MIS-based TVET management. It is developed in such a way that formative assessment results are uploaded directly into the system, and based on the real-time data available in the NVQ Registry, the qualification/assessment bodies decide whether a student/ learner qualifies for final assessment.</p> <p>Similarly, the NEXT platform is a well-functioning system for demand-side information management, and application processing.</p>	<p>review and adapt based on local needs. Efforts in other countries could include:</p> <ul style="list-style-type: none"> ▪ Developing integrated digital TVET platforms that include both supply and demand-side components, such as training data, employment outcomes, and labor market trends. ▪ Establishing linkages between TVET MIS and LMIS to enable data-driven planning, decision-making, and delivery mechanisms.
Planning, Monitoring, and Financing	<p>In the absence of nationally agreed indicators and corresponding baseline values, reform and strategic plans often lack realism and measurability, making it difficult to monitor progress effectively. Without such evidence-based planning, it becomes challenging to identify and address the skills gaps and shortages particularly those misaligned with the needs of priority economic sectors and what the TVET systems are currently preparing for.</p>	<ul style="list-style-type: none"> ▪ Carry out sectoral assessments to establish nationally agreed TVET indicators and their corresponding baseline values, including disaggregated data at subnational levels. ▪ Revise or develop TVET-related legal and policy frameworks (e.g. Acts, sector policies, reform or strategic plans) based on the indicators and baseline values established as noted above. ▪ Institutionalize multi-stakeholder planning and monitoring mechanisms, that engage government, private sector/ BIAs, civil society, and international development partners, to ensure inclusive, coordinated, and accountable governance.
Performance assessment of TVET systems	<p>In the process of TVET systems development, all the countries have introduced TVET policies and plans, and established national and provincial level TVET regulatory and implementation agencies. However, their performance and contributions remain largely unassessed. Often, these agencies also assume implementation roles, either through official mandates or due to the availability of donor or public funds. In such situations, they may become distracted from their core quality assurance responsibilities. The overall impact of these dual roles remains largely unexplored area. Similar performance-related gaps are observed in teacher training systems, and in the availability and functionality of laboratories, which are essential for institute-based practical training.</p> <p>IDPs, including INGOs, are also deeply engaged in supporting TVET systems across all countries. However, there is a lack of independent and systematic studies evaluating the nature and effectiveness of their contributions.</p>	<p>To generate evidence of success or failure regarding these institutional interventions, including regulatory bodies, implementing agencies, and practical training facilities, it is important to undertake systematic and participatory performance assessments. The results from these assessments can then be used to inform policy revisions, improve institutional effectiveness, and enhance TVET system outcomes.</p>
Research and knowledge exchange	<p>This report presents some interesting findings, highlighting strengths and weaknesses, key issues and challenges, and lessons learned across the countries studied. While some</p>	<p>Investing in research and documentation in these critical TVET dimensions has the potential to significantly contribute to the development of a competent and future-</p>

Areas for improvement	Conclusions	Recommendations
	knowledge gaps are common, others are unique to individual countries.	ready workforce in Asia through stronger, more evidence-based TVET systems. In parallel with research investments, it is also essential to organize regular exchange seminars and workshops involving researchers, practitioners and policymakers from across the region. These platforms will enable peer learning, cross-country insights, and sharing of scalable solutions, thereby promoting regional collaboration and continuous system improvement.
Capacity building and policy dialogue	This study shows that TVET is complex development agenda but with power to contribute to country's development. It involves many stakeholders ranging from parents/communities to policy makers. As equivalency and recognition is major issue in TVET development, there is need for brining academia on board. However, no such mechanism exists in Asia.	With purpose to build capacity of stakeholders' (managers, practitioners, planners, and policy makers from the TVET world, universities, and relevant ministries) through cross-fertilizations of lessons learned across the countries and policy dialogue, an Asia level facility for this purpose appears to be a need.

Annexes

Annex 1. Indicative Assessment Questions (AQs)

Annex 1.1: Assessment Question (AQ) for desk review

AQ 1. What is the national socio-economic context of the countries selected for the study? What changes are impacting them from within and outside the region and the imperatives and the expectations that arise for TVET, including from the perspective of the emerging changes in technology and the future of work?

Assessment area	Indicators	Information sources
Socio-economic context	GDP, Poverty level, employment rate Emerging technologies	National database, National plan documents, labor force survey etc.

AQ 2. What is the history of TVET reforms and policy development? What policy framework and instruments currently exist? To which extent the interventions have been consistent with, and supportive of, the current policy framework, the Sustainable Development Goals (SDGs) and development policies (Vision, TVET Policy and National Skills for All Strategy).

What is the process of change, the management of change process and the internal and external factors facilitating or resisting adaptation and change? Do the national TVET policies cover emerging issues such as technological changes its influence on workforce preparation, green jobs and climate change? Does the country have capacity to undertake evidence-based policy analysis and planning?

Assessment area	Indicators	Information sources
TVET reform initiatives	TVET reform initiatives,	National database,
TVET policy development efforts,	Relevant TVET policies, plans and strategies	National policy and plan documents
Alignment between research and policies, reform plans and strategies	Policies, reform plans and strategies aligned with research	As above
	TVET interventions aligned with policies and strategies	As above
	Policies with perspectives on workforce preparation in view of the technological changes; green jobs and climate change	As above
Relevance/ alignments of interventions with policies and strategies		National database
Country capacity to undertake evidence-based policy analysis and planning	Policies developed by national expertise	National policies

AQ 3. What TVET governance structure exist? How is the private sector (referred to as business and industry associations (BIAs)) engaged in the TVET processes? What mechanism exist for facilitating transition of learners between institutes and employment?

Assessment area	Indicators	Information sources
Governance structure	Existence of governance structures at federal/ national and subnational levels	National database, legislative instruments and relevant reports
Engagement of private sector (BIAs)	Roles and responsibilities of BIAs	Legislative and policy documents
	<ul style="list-style-type: none"> ▪ Representation in governance ▪ Participation in policy and plan development process ▪ Contribution in development and operationalization of Labor market information system ▪ Engagement in On the job training (OJT)/ workplace-based training ▪ Engagement in graduates' employment placement 	National policy documents, governance instruments, reports

AQ 4. What TVET interventions and TVET services/ outputs currently exist in the countries selected? Are these interventions relevant to the employment market needs? What provisions and interventions exist for inclusion? What are the lessons learned from current and past experiences?

Assessment area	Indicators	Information sources
TVET interventions/ programs; services/ outputs (TVET effectiveness)	TVET interventions	National database
Adoption, scalability and sustainability of interventions	TVET interventions built on national policies and plans	Policies and relevant reports
Affordability of interventions	National budget allocations Share of fee-paying students	As above
Policy and implementation measures for inclusion	Policies for inclusion	National policy documents and relevant reports
Market relevance of TVET interventions	<ul style="list-style-type: none"> ▪ Engagement of BIAs in TVET implementation ▪ Graduates' employment rate 	Relevant progress reports

AQ 5. What are the concrete results achieved in terms of quality enhancement?

Assessment area	Indicators	Information sources
Quality assurance mechanism	<ul style="list-style-type: none"> ▪ Teachers' placement ▪ Teacher training provisions ▪ Provisions of market relevant laboratories ▪ Curriculum development and revision ▪ Assessment system (formative and final) 	<ul style="list-style-type: none"> ▪ National database ▪ Relevant progress reports

AQ 6. How efficiently are deliveries made in terms of time, financial and human resources? The findings against this question will be organized under the timeline and financial and human resources?

Assessment area	Indicators	Information sources
Efficiency	<ul style="list-style-type: none"> ▪ Cycle completion/ graduation rate ▪ Survival rate ▪ Drop-out rate 	<ul style="list-style-type: none"> ▪ National database ▪ Relevant progress reports
	<ul style="list-style-type: none"> ▪ Utilization of financial resources 	<ul style="list-style-type: none"> ▪ As above
	<ul style="list-style-type: none"> ▪ Utilization of human resources 	<ul style="list-style-type: none"> ▪ As above

AQ 7. Who are the key partners in TVET and skills development and what is their impact?

Assessment area	Indicators	Information sources
Key national TVET development partners	<ul style="list-style-type: none"> ▪ Name and engagement area 	<ul style="list-style-type: none"> ▪ National database ▪ Relevant progress reports
Key international development partners (IDPs) in TVET	<ul style="list-style-type: none"> ▪ Name and engagement area 	<ul style="list-style-type: none"> ▪ National database ▪ Relevant progress reports
	<ul style="list-style-type: none"> ▪ Success interventions ▪ Policies 	<ul style="list-style-type: none"> As above

AQ 8. What are lessons learned from international experience regional and national discussions? What are good practices and standards for effective TVET development, (taking from any relevant models which may include from development partners, International NGOS, and private sector TVET providers)?

Assessment area	Indicators	Information sources
Lessons learned from international experience, regional and national discussions	Lessons learned	International articles, publications
Good TVET practices	Good TVET practices	As above
Standards for effective TVET development	TVET standards	As above



Annex 1.2: Questions for KIIs/FGDs

The online interaction starts with introduction and sharing of the desk review findings as below:

- a. Sharing study objectives and methodology
- b. Sharing desk review findings [**Covering Assessment Questions**]
- c. Sharing research agenda

Then the participants will be requested to share their observations on the findings. The consultants will use the following guiding questions:

- Do you agree with the findings under assessment questions?
- If not (or additionally), what areas of improvement are under quality and relevance, access, governance, funding etc.? [**Questions to be asked by Assessment Questions**]
- What are the strengths and weaknesses of current interventions and partnerships?
- What is your perspective on national capacity on evidence-based policies and strategies development? What is your view on putting a nationally agreed and disaggregated baseline for TVET and strategic plans in place?
- Do you agree with the recommendations on the research agenda? If not (or additionally), what could be another more relevant research agenda?
- If not or additionally, what recommendations would you make for policy analyses and dialogue/consultation? In other words, where do you think further policy dialogue and research is necessary? What are recommendations for research, policy actions and strategies to improve and update TVET policies and systems (curriculum, delivery and assessment)?

Annex 2: Country Reports

Annex 2.1: Afghanistan TVET Report

2.1.1 National socio-economic context

According to the National Statistics and Information Authority (NSIA), Afghanistan's population as of 2023/24 was 35 million.⁹ The ADB Poverty Data¹⁰ showed that over half its population (54.5%) in 2016 was below the national poverty line. According to OCHA 2024¹¹, nearly half of all Afghans are living in poverty, and the poverty situation appears to remain unchanged. The UNESCO Needs Assessment Report 2024 showed that as much as 97% of the population could have been living in extreme poverty by the middle of 2022¹² citing the World Food Programme survey released in February 2022, the UNESCO Report also revealed that 80% of households had no income or significantly reduced incomes in the previous month.

By the end of January 2022, more than half a million people had lost their jobs since the shift in power in 2021, and this number was estimated to reach 900,000 by mid-2022¹³. As such, the World Bank notes the situation as 'pervasive poverty' and is impacted by high unemployment rates^{14, 15, 16, 17} and underemployment¹⁸. The lack of economic opportunities and the deterioration of economic conditions in recent years have implications for various social concerns. Therefore, many see employment as a priority need.¹⁹ This finding suggests that the employment situation has not changed since 2019, as shown by an Asia Foundation study, indicating that over 70% of the country's youth consider unemployment their biggest problem²⁰

⁹ National Statistic and Information Authority (NSIA). Statistical Year Book 2023-24. October 2024. nsia.gov.af/library. Accessed: 13 March 2025.

¹⁰ ADB. Poverty Data Afghanistan. adb.org/where-we-work/afghanistan/poverty. Accessed: 12 March 2025.

¹¹ OCHA. 2024 Afghanistan Humanitarian Needs and Response Plan 2024 Summary. unocha.org. Accessed: 12 March 2025.

¹² Chronic Poverty Advisory Network cited in UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

¹³ ILO cited in UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

¹⁴ World Bank. 2024. Afghanistan economic monitor. October. 2024. worldbank.org. Accessed: 12 March 2025.

¹⁵ World Bank. 2025. The World Bank in Afghanistan. 09 February 2025. worldbank.org/en/country/afghanistan. Accessed: 12 March 2025.

¹⁶ ADB. Poverty Data Afghanistan. adb.org/where-we-work/afghanistan/poverty. Accessed: 12 March 2025.

¹⁷ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

¹⁸ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

¹⁹ UNDP 2023. Afghanistan Socio-Economic Outlook 2023. undp.org. Accessed: 12 March 2025.

²⁰ TVET Authority, 2019 cited in Sherzad, 2017 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

The informal sector dominates (73.6% of the GDP) of the economy²¹. As shown in the Statistical Year Book 2023-24, the share of services, agriculture, and industry in the GDP was 46.5%, 34.5%, and 13.5%, respectively. However, according to UNESCO (2024), the economy is predominantly covered by agriculture and low-value services. The manufacturing sector is minimal and concentrated in rudimentary activities, such as textile and carpet weaving, where most employees are women.²² The economic hardship continues among vulnerable groups, including women, children, and displaced populations²³. Furthermore, more than 3 million out-of-school children could have been supported through a flexible TVET system, enabling the government and its partners to overcome the obstacles in the way of education for all²⁴. The World Bank's report 2022²⁵ revealed that 400,000 persons enter the labor market annually, and most of them are illiterate or possess minimal literacy, which indicates a lack of marketable skills.

The above evidences suggest that the country continues to encounter issues and challenges, including pervasive poverty, which could have been addressed to some extent through a robust technical and vocational education and training (TVET) system. This potential has been recognized by TEVT-A officials, given the country's large youth population, informal economy, and nascent education sector.²⁶ These evidences suggest demand for a skilled workforce to overcome poverty and realize the desired transformation²⁷ and therefore, sets the stage for the country's reformed TVET system.

2.1.2 History of TVET development

2.1.2.1 TVET development. The beginning of TVET dates back to 1923 (1302 Hijri Solar Calendar (HSC)). However, the sector started to get attention after the establishment of the Department for Technical and Vocational Education (DTVET) in 1947 under the Ministry of Education (MoE)²⁸. Later, the MoE established a Vocational Management Department for the management of technical and vocational schools which was upgraded to the Directorate of Vocational Teachings in 1951 (1330 HSC). In 1978 (1357 HSC), the Directorate was transferred to the Ministry of Higher Education and was renamed the Ministry of Vocational Higher Education.

²¹ Assessment Capacities Project (ACAP). 2024. Analysis Hub. Afghanistan. Mapping informal economies in informal settlements as a local integration pathway for IDPs. Thematic report 30 July 2024. acaps.org. Accessed: 19 March 2025.

²² UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

²³ World Bank. 2025. The World Bank in Afghanistan. 09 February 2025. Worldbank.org/en/afghanistan. Accessed: 12 March 2025.

²⁴ Sherzad, 2017 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

²⁵ World Bank. 2022. Implementation Completion and Results Report. The Afghanistan - Second Skills Development Project April 28, 2022. documents1.worldbank.org. Accessed: 14 March 2025.

²⁶ Kabir, M., Larsen, K. and Paksima, S. 2020. Multi-modal TVET delivery during COVID-19: Expanding access to continued learning in Afghanistan. September 02, 2020. **Education for Global Development**. logs.worldbank.org/en/education/multi-modal-tvet-delivery-during-covid-19-expanding-access-continued-learning-afghanistan. 18 March 2025.

²⁷ Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

²⁸ Hamdard, M.J. 2019. A comparative analysis of Technical Vocational Education and Training System in Afghanistan and Germany. Thesis Submitted to KDI School of Public Policy and Management In Partial Fulfillment of the Requirements For the Degree of Master of Development Policy.

Following the Presidential Decree in 2018 (1397 HSC) (Decree No.11 dated 12/1/1397), the Technical and Vocational Education and Training Authority (TVET-A) was established as an independent institution, responsible for TVET and literacy education.²⁹ TVET-A aims to support the country's transition towards a stable and economically resilient future³⁰.

The first technical, agricultural, and commercial institutes were established after World War I. They were followed by the Craft School (1923), Mechanical School (1937), Agricultural School (1944), Commercial School (1948), Technical School (1951), Belqis Vocational School for Girls (1959), Public Administration School (1959), and Hotel Management School (1963). The 1964 democratic reform permitted foreign institutions to create their schools in the country.³¹

2.1.2.2 Change management process. Drawing on the discussion in the 'governance chapter' below, the country has made efforts to manage the change process in the TVET system through policy and institutional reform, as well as engagement with international development partners (IDPs).

Policy and strategy formulation. Changes in the country's TVET system are initiated through national policy frameworks, such as the National Education Strategic Plan (NESP), National TVET Strategy, Afghanistan National Qualifications Framework (ANQF), and National Priority Program. These policies aim to modernize the system, promote TVET and skills development, and align training with labor market needs. However, as the policy development process is often supported by international development partners (IDPs), their national ownership and commitment to implementation might be questionable.

Institutional coordination. Evidences from this report suggest that the governance of TVET is fragmented, with overlapping roles among the Ministry of Education (MoE), and the Ministry of Labor and Social Affairs (MoLSA). Although efforts have been made over the years to clarify mandates and improve inter-ministerial coordination, including through the establishment of the Deputy Ministry for TVET (DM-TVET) under the MoE, political transitions interrupt these coordination efforts.

Capacity building and stakeholder engagement. The next steps in change management after policy reform and institutional coordination are teacher training, curriculum development, training facility upgradation, and business and industry engagement. There is evidence of progress in these spheres. However, continued progress on all these fronts has been challenging due to limited resources and weak BIAs' engagement.

2.1.2.3 Factors influencing the change process. The factors influencing the reform process have been briefed as enablers and disablers.

Enablers of change process. The country's TVET sector has benefited significantly from the financial and technical assistance from IDPs, who not only provide funding, but also avail technical expertise and introduce best practices. For instance, UNDP introduced public-private partnership

²⁹ TEVT-A. TVET Authority. tveta.gov.af/en. Accessed: 11 March 2025.

³⁰ The Kabul Times. 31 October 2024. TVET-A focuses on practical skills, market-driven programs. Accessed: 11 March 2025.

³¹ Sherzad, 2017 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.



strategies in 2019, focusing on the institutional level. The other factors necessitating change include the growing youth population and returnees, such as those continuing to return from Pakistan who continue to return even in recent times. Similarly, the emerging business and industry demands for making education and training relevant to them.

Factors disabling the change process. Political instability and regime changes, fragmented governance, limited institutional capacity, gender exclusion (after Grade six), and national ownership of changes previously introduced adversely affect the change process.

2.1.3 Assessment of progress in TVET development

2.1.3.1 Governance

Policy development and policy framework. The Afghanistan Constitution 1976 is the major guiding document for the country, which, through its Article 10, has revealed its commitment to expanding and developing vocational secondary education.³² Aligning with the Constitution, the government declared the Labor Law in 1999 with a specific provision of ‘on-the-job’ vocational training to unskilled and semi-skilled contractual workers, as well as to train them in a new vocation and to improve their skills.³³

As the country’s continued effort, the government prepared the National Education Strategic Plan 2006-2010 with the overall goal ‘to provide relevant and quality TVET opportunities to equip them with marketable skills that meet the market needs in both the national and international employment market.’³⁴ The Education Law 2008³⁵ has dedicated a chapter for to technical, professional, and vocational education, which includes provisions for long and short courses. The Law intends to prepare graduates relevant to the domestic and international labor market. While the law aims to provide education and training opportunities for the visually impaired and others with physical limitations, it also envisages opportunities in higher education for TVET graduates. The year 2008 is also noted for the formation of the Committee on Education and Skills Policy (CESP) to lead the development of the Afghanistan National Qualifications Authority (ANQA) and the Afghanistan National Qualifications Framework (ANQF). The year 2008 is also noted for the establishment of six regulatory boards, including the TVET Board. Accordingly, the secretariat of CESP developed the legal and operational frameworks for the establishment of the ANQA and ANQF.³⁶

The National Priority Program, started in 2017, under its ‘Human Capital’ chapter, also intended to invest in youth to equip them with skills and competencies and reduce youth unemployment. It also prioritized private sector development.³⁷ Similarly, the National Education Strategic Plan

³² Constitution of Afghanistan 1976. The Constitution of the Republican State of Afghanistan. Accessed: 12 March 2025.

³³ ISLAMIC Emirate of Afghanistan. Labor Law of Afghanistan - Official Gazette No. 790, published 1999/11/01 (1420/07/22 A.P.). asianlii.org/af/legis/laws/lloaogn790p1999110114200722a443/. Accessed: 19 March 2025.

³⁴ Ministry of Education. 2007. National Education Strategic Plan for Afghanistan 1385-1389. neqmap.bangkok.unesco.org/wp-content/uploads/2019/08/National-Education-Strategic-Plan-for-Afghanistan.pdf. Accessed: 19 March 2025.

³⁵ Ministry of Education. Education Law 2008. Decree #: 56. Date: 31/4/1387. Official Gazette: Serial # (955). planipolis.iiep.unesco.org. Accessed: 12 March 2025.

³⁶ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

³⁷ Ministry of Finance. National Priority Program. nupdb.urbanpolicyplatform.org. Accessed: 12 March 2025.



2017-2021³⁸, which also included TVET, was introduced to ensure quality and relevance, equitable access, and efficient and transparent management.

The National TVET Strategy 2020-2024 was developed to improve equitable access, strengthen quality assurance and relevancy, and reform the TVET management system.³⁹ Earlier, the government implemented the TVET strategy, entitled ‘The National TVET Strategy for Afghanistan 2013-2018’ to provide overarching policy guidelines ensuring coordination and facilitating close cooperation among all national stakeholders. It is intended to establish an outcome-based TVET system and to expect collaboration among stakeholders to align priorities and avoid duplication of efforts. The TVET Strategy envisions a national training authority to ensure sound governance and coordination of the TVET system and a quality assurance system.

Over the decades, several strategies and plans with implications for TVET development have been developed. They included the Afghanistan National Development Strategy (ANDS), TVET Strategy 2013 – 2018, National Education Strategic Plan (NESP) I, II, and III, National Education Interim Plan (NEIP), National Skills Development Program (NSDP), National Action Plan for the Women of Afghanistan (NAPWA), and the MoLSAMD 5-year Skills Development Plan. However, according to Hamdard (2019)⁴⁰, finding documents related to regulatory provisions was not possible.

The government’s commitment, revealed through these policy and plan documents, is one of the strengths of the country’s TVET system.

Capacity to undertake evidence-based policy formulation. The country has the Education Law 2008⁴¹ and implemented the National TVET strategy 2013-2018 and 2020-2024. Earlier in 2009, the government developed a report entitled ‘Baseline Data for the Quality of TVET Provision in Afghanistan under the National Skills Development Program. Although the government prepared these documents with support from the World Bank and other development partners⁴², this documentary evidence indicates the country’s capacity to develop policies. However, there are limitations to the implementation and assessment of outcomes of these instruments. Additionally, there is only limited information on the country’s capacity to align the new TVET developments, such as BIAs’ engagement in governance, sector councils, and workplace-based training.

Governance structure. The Ministry of Labour and Social Affairs (MoLSA) and the Technical and Vocational Education and Training Authority (TVET-A) are responsible for TVET policies and procedures. The MoLSA has the priority to enhance vocational and technical education systems,

³⁸ Ministry of Education. 2016. National Education Strategic Plan (2017 – 2021).

globalpartnership.org/node/document/download?file=sites/default/files/education-sector-plan-afghanistan-2017-2021.pdf. Accessed: 19 March 2025.

³⁹ Ministry of Finance. Afghanistan National Peace and Development Framework (ANPDF II) 2021 to 2025. Forging Our Transformation. um.fi/documents/35732/0/ANPDF+II-+Final+Version-English.pdf. Accessed: 11 March 2025.

⁴⁰ Hamdard, M.J. 2019. A comparative analysis of Technical Vocational Education and Training System in Afghanistan and Germany. Thesis Submitted to KDI School of Public Policy and Management In Partial Fulfillment of the Requirements For the Degree of Master of Development Policy. tveta.gov.af/en/node/4047 (English translation)

⁴¹ Ministry of Education. Education Law 2008. Decree #: 56. Date: 31/4/1387. Official Gazette: Serial # (955). planipolis.iiep.unesco.org. Accessed: 12 March 2025.

⁴² World Bank. 2022. Implementation Completion and Results Report. The Afghanistan - Second Skills Development Project April 28, 2022. documents1.worldbank.org. Accessed: 14 March 2025.



focusing on skills development that aligns with the demands of the labor market. TVET programs are offered through Vocational Training Centres (VTCs) and TVET institutions nationwide.⁴³

TVET-A, established through the Presidential Decree in 2018, is an independent institution with responsibility for the country's TVET policies and procedures.⁴⁴ The TEVT-A responsibilities also include the coordination and regulation of the TVET sector.⁴⁵ It has to deliver its duties in alignment with the ANQA and ANQF, which commenced in 2008, to put relevant policies, structures, facilities, and mechanisms in place to deliver relevant, equitable, and cost-effective education and training. The TEVT-A is also responsible for coordination with the Ministry of Labor and Social Affairs (erstwhile, Ministry of Labor and Social Affairs, Martyrs and Disabled), private enterprises, and national and international NGOs engaged in other training, including skills upgradation, reskilling, and remedial TVET⁴⁶. MoLSA is responsible for short-term training programs relevant to policies and procedures and has the priority to enhance vocational and technical education systems, focusing on skills development that aligns with the demands of the labor market.⁴⁷

2.1.3.2 Effectiveness

Qualifications and programs. According to the UNESCO UNIVOC country profile, the TVET qualifications are mostly limited to Level 4 (Grades 13-14), and for further education, they have access to Bachelor's level general education.

The TVET-A⁴⁸ informs that three types of TVET programs are in operation in the country. The first is the formal TVET provided by schools and institutes with official documents. Four types of programs fall under this category, including special education programs (classes 1-12); two-year programs (classes 13-14); three-year programs (classes 10-12); and five-year programs (classes 10-14). The total enrolment capacity under TVET was 68,202 until the recent past and was available in 160 districts across the country⁴⁹.

The TVET programs encompass ten sectors, comprising 111 fields of study.⁵⁰ However, during the desk review process, very limited information was available on the inclusion of green skills in TVET. Nevertheless, programs by IDPs such as **GIZ** and **UNESCO** have introduced basic concepts in **sustainable agriculture**. The findings around the application of digital skills were not too different from green skills. Implementation of programs with digital skills training is **limited** due to weak ICT infrastructure. While some vocational centers offer **basic computer literacy**, the majority of rural and conflict-affected areas are underserved.

⁴³ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

⁴⁴ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

⁴⁵ TEVT-A. TVET Authority. tveta.gov.af/en. Accessed: 11 March 2025.

⁴⁶ Sherzad, 2017 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁴⁷ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

⁴⁸ TEVT-A. TVET Authority. tveta.gov.af/en. Accessed: 11 March 2025.

⁴⁹ TEVT-A. TVET Authority. tveta.gov.af/en. Accessed: 11 March 2025.

⁵⁰ TOLO news. Achievements of Technical, Vocational Education Authority Published. tolonews.com/afghanistan-190742. Accessed: 12 March 2025.



Institutes and enrolment. TVET programs are offered nationwide through Vocational Training Centres (VTCs) and TVET institutions⁵¹. UNESCO 2024⁵² recorded 379 institutions in 2023, including public, private, and high schools across 34 provinces. Of these, 172 were classified as TVET high schools that offered teaching in both general education and vocational training, and the rest were engaged in skills training for a specific occupation. 207 TVET institutions were for specialized skills training for a particular occupation. The UNESCO 2024 report informs that 3353 teachers (9.2% female) were employed in TVET institutes, and 73% were under permanent contract.

According to the Head of TVET Authority, it has reached 80,000 students spread over 254 districts⁵³. It is difficult to estimate the total number of short-term training places. However, according to the Joint NGO Briefing Paper (2016), the total annual enrollment in TVET was estimated at 238,000 students⁵⁴. As reported by Pradhan 2019, the total enrolment places under the MoE and the Ministry of Labor Social Affairs (MoLSA), as cited in Afghan TVET Strategy (2013-2018) was around 130,000⁵⁵. As such, these opportunities are inadequate considering the large number of annual labor market entrants. As in other countries, these two data suggest that the short-term training opportunities vary by year.

The majority of people gain training and education from NGO-run training centers or initiatives in the non-formal sector.⁵⁶ The MoLSA is engaged through 42 public and 350 private institutes in training with a duration ranging between three and twelve months. Informal TVET is the third type and consists of apprentices in the job market.

2.1.3.3 Inclusion

16 disability-inclusive TVET institutions were offering specialized TVET programs equivalent to Grades 1-12 of general education. These institutes require additional resources to make necessary provisions such as ramps, disability-friendly toilets, and other special audio-visual aids, which is challenging. Girls are also provided with TVET education through these facilities, but only up to Grade 6.⁵⁷

⁵¹ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

⁵² UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

⁵³ TOLONews, TV Network. 15 September 2025. Achievements of Technical, Vocational Education Authority Published. tolonews.com/afghanistan-190742. Accessed: 16 March 2025.

⁵⁴ Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁵⁵ Pradhan, H. 2023. Report on Public-Private Partnership in Vocational Training Provision in Afghanistan. Report submitted to Ministry of Labour and Social Affairs (MoLSA) and UNDP Afghanistan. Kabul.

⁵⁶ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁵⁷ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

TVET Authority (TVET-A) allows the return of students below grade 9 who stopped their studies at any time as they are not counted as dropouts⁵⁸. The other findings relevant to inclusion are presented under the Chapter Weaknesses.

2.1.3.4 Quality

The Committee on Education and Skills Policy (CESP) has established ANQA and ANQF are now operational in the country and applicable to all stakeholders.⁵⁹ Additionally, the CESP has also established six regulatory boards, including the TVET Board.

According to UNESCO 2024⁶⁰, the teacher-student ratio was 16.3. Most teachers had a bachelor's degree and master's degree. Two teacher training institutes – Technical Teachers Training Institutes and Vocational Teachers Training Institutes – are in operation to train the teachers and trainers.

2.1.3.5 Efficiency

Only limited desk-review evidence on efficiency is available. As reported by the UNESCO 2024 study, some TVET institutions operate in both morning and afternoon shifts. Similarly, 172 TVET institutions, classified as high schools, offer both general education and TVET programs.

2.1.3.6 Financing

The government is the primary source of TVET financing and is supported by international development partners. The role of the private sector is also important in TVET development as it manages a large number of TVET providers. Apart from them, NGOs are also actively engaged in TVET development.⁶¹

2.1.3.7 Affordability

The affordability of the Afghan TVET system and services is assessed given learners, government, and institutions.

For learners. Due to the fee-free TVET under public programs, it might not be challenging for those who get opportunities under these schemes. However, other costs, such as transportation, education, and training supplies, and the socio-economic conditions, along with the opportunity costs of attending the programs, may continue to pose a significant barrier. These factors become significant barriers for individuals affected by conflict and girls/ women.

For the government. The country's TVET system is dependent on IDPs with limited national budgetary allocation. As a result, program continuation may remain fragile when such support disappears.

For institutions. As shown by a recent UNESCO study, many TVET institutions operate with limited operational budgets, insufficient infrastructure, and a lack of access to modern tools and

⁵⁸ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

⁵⁹ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁶⁰ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

⁶¹ Hamdard, M.J. 2019. A comparative analysis of Technical Vocational Education and Training System in Afghanistan and Germany. Thesis Submitted to KDI School of Public Policy and Management In Partial Fulfillment of the Requirements For the Degree of Master of Development Policy.



teaching materials. This makes it difficult for institutions to deliver quality and relevant training in the absence of continuous external support.

2.1.3.8 Adoption-Scalability

Pilot dependency. Several promising reforms—such as competency-based training or public-private partnership models—have been tested through donor-supported pilot projects (for instance, the UNDP-supported PPP scheme for contracting out TVET to business and industry). However, only limited evidence is available for their scaling up.

Low institutional and human capacity. Evidence on large-scale training for teachers and administrators to scale up the new developments was also limited.

Contextual barriers. The potential uncertainty due to recent regime changes and social restrictions (especially affecting female learners) may limit the ability of the government and partners to replicate or scale successful programs evenly across the provinces.

2.1.3.9 Sustainability

The analyses presented below suggest that the sustainability of the country's TVET development remains less certain.

Factors supporting sustainability. Factors such as demands for skills training by youth, returnees, and business and industry can act as a long-term push factor for the continuation and expansion of TVET initiatives, even amid instability. Similarly, community-based training models, as explained in the 'effectiveness chapter' could be another influential push factor for the sustainability of this model. In addition, when the BIAs realize benefits from their partnership with the TVET system, they will be another enabler for sustaining the relationship and contributing to the TVET development process.

Risks threatening the sustainability. Political Instability, with the possibility of discontinuing the reform efforts and erosion of institutional memory, could challenge the achievements made so far. Similarly, over-reliance on external funding, a shortage of qualified instructors, managers, and institutional fragmentation are other factors adversely affecting sustainability.

2.1.4 TVET system weaknesses - areas for improvement

2.1.4.1 Governance and coordination

Despite TEVT-A's formation in 2018, the claim that the country's TVET system suffers from a lack of proper governance and the absence of an overarching body to coordinate and manage it⁶² points out the limited progress in governance and coordination among TVET stakeholders. According to the World Bank 2022, although the MoE and MoLSA were the major agencies for TVET sector operation, other Ministries (Commerce, Civil Aviation, Women's Affairs, Rural Development, etc.) were also engaged in providing formal and informal skills training but without effective coordination. As such, the sector remained fragmented due to the absence of effective coordination between and among these agencies. Lack of coordination among service providers including private companies, and national and international NGOs engaged in TVET is another challenge adversely impacting the quality of TVET provision⁶³.

⁶² UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁶³ Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-
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2.1.4.2 Private sector engagement/ labor market interface

The current TVET situation is noted for the limited engagement of the BIAs. In general, their engagement plays a key role in all TVET processes, including research, standards, and curriculum development as mentioned above, training implementation, monitoring of training implementation, on-the-job-training/ workplace-based training, placement, and employment and income verification. However, desk review findings as well as initial consultation with the public sector suggest gaps in all the phases – pre-, during, and post-training. This explains, as informed by the TVET strategy, why getting employment placement is challenging after program completion. Based on this backdrop, the TVET labor market interface is assessed under four indicators: i) business and industry in TVET governance; ii) BIAs in institute management, iii) BIAs' engagement through independent bodies; and iv) Counseling and placement services. The findings/ limitations of these provisions are discussed below.

Business and industry in governance. The Education Law and the TEVT-A Decree do not indicate the statutory provision for business and industry engagement in TVET governing bodies. The situation has remained unchanged since 2019. As reported by Pradhan 2019, the Afghanistan Chamber of Industries and Mines, and Printing Association are two prominent business and industry associations in the country. However, they were not engaged in TVET governance. In the absence of any new information on BIAs' engagement during the desk review, the situation appears unchanged compared to 2019. This finding aligns with Hamdard's (2019) findings, which revealed the limited role of industry sectors in the policy design and implementation of TVET⁶⁴.

BIAs in institute management. Even at the implementation level, the lack of BIAs' engagement in TVET governance persists. For instance, according to UNESCO 2024⁶⁵, 66% of the TVET institutes had a school management council (Shuras), but with no representation from business and industry.

BIAs' engagement through independent bodies. In the process of making TVET relevant, engaging them in standards and curriculum development, assessments, and enhancing outcomes, sector skills councils play an important role. However, according to the World Bank 2022⁶⁶, the TVET service providers generally had no mechanisms to interact with industry or incorporate relevant technologies into their curricula to make the TVET programs market-relevant. Analogous to it was the absence of formalized placement activities. Due to the absence of these basic TVET services, it was difficult for the TVET graduates to find relevant jobs.

Counseling and placement services. Post-education and training support is also necessary to facilitate access to employment.⁶⁷ However, information on the-job-training (OJT) and employment placement as post-education and training services was rarely available during the desk review.

566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁶⁴ Hamdard, M.J. 2019. A comparative analysis of Technical Vocational Education and Training System in Afghanistan and Germany. Thesis Submitted to KDI School of Public Policy and Management In Partial Fulfillment of the Requirements For the Degree of Master of Development Policy.

⁶⁵ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

⁶⁶ World Bank. 2022. Implementation Completion and Results Report. The Afghanistan - Second Skills Development Project April 28, 2022. documents1.worldbank.org. Accessed: 14 March 2025.

⁶⁷ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.



2.1.4.3 Relevance

This section presents findings from market studies as the foundation for ensuring the relevancy of qualifications offered. No evidence of human resources projections and market assessment to identify occupations and qualifications to provide exists to support the relevancy of the courses offered. These gaps underpin the need for further strengthening partnerships between the TVET system, private sector training providers, and BIAs. Pradhan (2019)⁶⁸ noted the absence of a standard process for conducting feasibility studies and rapid market studies feeding into the process for identifying occupations with market demands. In the absence of such provisions, the occupations offered for education and training have a likelihood of being supply-driven. Then the competence standards developed as a foundation for curriculum development, followed by relevant training learning materials, also have the risk of being irrelevant to the market needs. This finding suggests that the situation after 2019 has not changed, as the TVET Authority 2019 report also noted that the curriculum did not match job market needs. The Authority also noted a lack of the required skilled trainers^{69, 70}. The findings on curriculum are also supported by Haidari and Kazemi (2023), who stated that the curriculum was out of date, which means the absence of a linkage between TVET and the market needs and requirements⁷¹. Sufficient evidence also suggests that experienced workers and employers were productively engaged during the preparation of these resources.⁷² As a result, graduates often struggle to find suitable job opportunities.⁷³ This finding is also supported by the UNESCO Needs Assessment Report 2024⁷⁴, which confirmed that despite the presence on the labor market of a large number of skilled workers, not all the workers, when hired, were able to perform their job according to the required standards.

2.1.4.4 Quality

The UNESCO study 2024⁷⁵ reported that only 50% of the surveyed TVET institutions were able to fully implement their planned curriculum. From the remaining, most were able to implement more than 50% of the curriculum. The UNESCO study also noted a lack of training materials, a

⁶⁸ Pradhan, H. 2023. Report on Public-Private Partnership in Vocational Training Provision in Afghanistan. Report submitted to Ministry of Labour and Social Affairs (MoLSA) and UNDP Afghanistan. Kabul.

⁶⁹ TVET Authority, 2019 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁷⁰ Hamdard, M.J. 2019. A comparative analysis of Technical Vocational Education and Training System in Afghanistan and Germany. Thesis Submitted to KDI School of Public Policy and Management In Partial Fulfillment of the Requirements For the Degree of Master of Development Policy.

⁷¹ Popal & Hassany, 2016 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁷² Pradhan, H. 2023. Report on Public-Private Partnership in Vocational Training Provision in Afghanistan. Report submitted to Ministry of Labour and Social Affairs (MoLSA) and UNDP Afghanistan. Kabul.

⁷³ Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁷⁵ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.



lack of time, and a lack of education and training facilities as reasons preventing the full implementation of the curriculum. Only 16% of the institutes in the country had workshops for practical training. The quality of TVET appeared to remain unchanged as the ILO's report in 2017 noted that TVET is severely hampered by the lack of adequate and properly equipped learning facilities and spaces.^{76, 77}

According to Pradhan 2019, the National Skills Development Programme (NSDP) has developed 157 national occupational skills standards (NOSS). However, in the absence of a standardized curriculum, training providers used their curriculum, and as such, the quality of TVET was poor.⁷⁸ This finding explains the quality of education and training environment at the institutes.

There was a lack of industry-relevant skills training curricula⁷⁹ and a lack of textbook reference materials and instructional materials affected the quality of the training-learning environment. Furthermore, a lack of practical training or its poor quality, due to inadequate infrastructure and skilled trainers, were other important factors adversely impacting training quality.⁸⁰

This situation is further complicated by the lack of trained and qualified teachers/instructors.⁸¹ According to Pradhan (2019), teachers/instructors were available in public/emirates training providers, but getting them on board in the NGO provisions was highly challenging. Further, making this resource competent requires both pre- and in-service training institutes, which appear to be inadequately available. This is the reason why, as shown by Haidari and Kazemi (2023), teachers lacked competencies.

Desk review findings also indicate that there are limited or no training opportunities for occupational skills upgradation (OSU) for these trainers. There appears to be little to no opportunity for sufficient exposure to the real world of work after OSU completion.

The quality of TVET service delivery largely depends on electricity supply as it is necessary for operating machines and equipment, and also ensures that a congenial learning environment is in place. However, according to UNESCO 2024, less than half (47%) of the institutes it surveyed had a 24-hour electricity supply and 30% had only a limited supply.

⁷⁶ ILO 2017 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁷⁷ Hamdard, M.J. 2019. A comparative analysis of Technical Vocational Education and Training System in Afghanistan and Germany. Thesis Submitted to KDI School of Public Policy and Management In Partial Fulfillment of the Requirements For the Degree of Master of Development Policy.

⁷⁸ Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁷⁹ ⁷⁹ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁸⁰ World Bank. 2022. Implementation Completion and Results Report. The Afghanistan - Second Skills Development Project April 28, 2022. documents1.worldbank.org. Accessed: 14 March 2025.

⁸¹ ⁸¹ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.



2.1.4.5 Inclusion and Efficiency

Since 2021, secondary and higher education have been strictly forbidden for girls and women⁸². It has affected their potential for engaging in TVET and skills development (referred to as TVET services hereunder) and pursuing employment opportunities. According to UNESCO (2024)⁸³, female students' enrolment decreased by 90% between 2021 and 2023. The national suspension on girls' education above grade 6 that occurred in 2021 was the primary reason for this situation. This restriction also contributed to the drop in the class size to 16.3 in 2022/23 compared to 19.7 in the previous year. The massive change is observed in the size of female students between these two years (4.1 girls per class in 2021/22; and 0.5 in 2022/23). The UNESCO study 2024 also reported a notable drop in TVET student attendance between 2021/22 and 2022/23. Further, marginalized and vulnerable populations, such as women and returnees, faced challenges in accessing vocational training programmes⁸⁴.

2.1.4.6 Outcomes

Although TEVT-A officials consider that both young and old people are gaining employment in the market after acquiring technical and vocational education⁸⁵, the World Bank⁸⁶, during its project appraisal 2013, had reported limited job placement for TVET, which was the result of a lack of relevant skills and competencies, resulting from poor training quality. The lack of a relevant and standardized curriculum was another contributing factor to this situation. However, despite the country's long experience in TVET, only limited evidence of tracer studies for outcomes assessment is available.

2.1.4.7 Baseline data and information

The first baseline study was conducted in 2009⁸⁷ But since then, no such comprehensive study appears to have been made.

2.1.4.8 Funding

According to UNESCO 2024⁸⁸, many TVET institutions are under-resourced in budget, infrastructure, and teaching materials. Further, 88% of the institutes received operational resources in 2022/23, while 9% did not. 94% of these institutes did not receive any development budget during the year. As such, as revealed by the UNESCO report, 'limited financial support for development leaves TVET institutions vulnerable to challenges in management systems, including a budget, food, living space, and planning'.

2.1.4.9 Perception of TVET

In the past, vocational education was considered an alternative for those who couldn't pass the national college entrance exam. Even today, if a student scores 80% or greater on average in the

⁸² UNESCO. 2024. Press Release. Afghanistan: 1.4 million girls still banned from school by de facto authorities. 15 August 2024. unesco.org. Accessed: 11 March 2025.

⁸³ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

⁸⁴ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

⁸⁵ TOLO news. Achievements of Technical, Vocational Education Authority Published. tolonews.com/afghanistan-190742. Accessed: 12 March 2025.

⁸⁶ World Bank 2022.

⁸⁷ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁸⁸ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.



school-level TVET course examination, they are allowed to join another specialized exam to continue their higher education in the universities.⁸⁹ These two evidences suggest that the perception of TVET is not favorable for its development.

2.1.5 Key TVET actors and partnerships

Key TVET actors. As presented in Annex 2.1.1, TVET-A, the Ministry of Labor and Social Affairs (MoLSA), the Ministry of Education, and the Ministry of Finance are the major government agencies working on TVET development. As indicated in the Annex, the private sector business and industry have been an important government partner in TVET development. However, as explained in the governance, relevance, and outcomes sections, the business and industry partnership has not been at the optimum level. This deficiency has resulted in a limited contribution to standards and curriculum development, on-the-job training, and employment placement.

Among the international development organizations, UNDP, GIZ, MercyCorps, and the World Bank are important stakeholders. International development partners are important, given both the funding and the TVET system development.

Other agencies in the sector include private sector-operated TVET institutes. NGOs are other major stakeholders who have played a key role in managing institutes and contributing to enhancing access.

Overall impact. Government partnerships with stakeholders have been critical for TVET progress in the country, but it is adversely affected by political instability and limited institutional capacity. As explained above, the Ministry of Labour and Social Affairs (MoLSA) and the TVET Authority (TVET-A) have partnered with IDPs to design and implement competency-based curricula, improve training quality, and enhance TVET relevance. However, the BIAs' engagement is still in progress and is yet to be effective in making TVET relevant to the labor market demands. NGOs have filled critical gaps, particularly in rural and conflict-affected areas, but their efforts, due to the nature of the funds they have, are often project-based and not fully integrated into the national system.

2.1.6 Key issues and challenges

2.1.6.1 Policy deficits

The Presidential Decree 2018 is a major government document guiding the TVET sector. However, the country lacks a specific TVET policy.

2.1.6.2 Fragmentation in the system and delivery

The government has established TVET-A with responsibility for overall TVET development across the country. However, apart from TVET-A, other ministries are also engaged in short-term training. There are also NGOs working in skills development. However, there is no specific evidence that the TVET-A was able to coordinate with these ministries and private and NGO partners. Similarly, literature suggests that there are many international development partners engaged in TVET services but there is a lack of desk-review evidence that their support is coordinated with TVET-A.

⁸⁹ Sherzad, 2017 cited in Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

2.1.6.3 Lack of NQF Operationalization

Appropriately understood, developed, and implemented NVQF could lead learners to achieve higher-level competency and recognition at par with general education. According to the UNESCO UNIVOC country profile, the TVET qualifications are mostly limited to Level 4 (Grades 13-14), and for further education, they have access to Bachelor's level general education. In the absence of clear pathways, learners might not be interested in pursuing TVET courses.

2.1.6.4 Lack of accreditation practices

Ensuring functional quality assurance mechanisms, registration, and accreditation of training providers is important.⁹⁰ Equally and even more important is the effective operationalization of the accreditation system, but such a system appears to be missing in the country's TVET system.

2.1.6.5 Inclusion

After recent political changes, female students have access to disability-inclusive TVET institutions, but are limited to only Grades 1-6. In light of the suspension of girls' education beyond grade 6, their educational opportunities beyond this grade are constrained.⁹¹ On the other hand, such limited skills might not fully prepare them to start any specific occupation.

2.1.6.6 Perceptual difference

TVET, as in many other countries, has low prestige in society⁹². Both students and parents have priority for general education, leading to higher-level qualifications. TVET-A itself realizes that changing the public perception of TVET services is one of the important challenges for itself⁹³.

2.1.7 Lessons Learned

2.1.7.1 Stakeholder consultation.

To ensure the continued implementation of ANQF, the government has realized the significance of consultation with other stakeholders.⁹⁴

2.1.7.2 TVET during times of crises

Prolonged disengagement from education and training, particularly during crises like COVID-19, could increase the risk of attrition and dropouts. To mitigate the impact, distance learning approaches emerged as one solution. However, due to the 'digital divide', most vulnerable learners may remain behind. Additionally, TVET delivery through distance learning, another possible solution during such circumstances, is challenging as hands-on training is unavoidable for TVET learning.⁹⁵ Tackling such situations may require conducting education and learning,

⁹⁰ UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁹¹ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

⁹² Haidari, F. and Kazemi, M. 2023. Review of TVET Education in Afghanistan. International Journal of Scientific Research & Engineering Trends. Volume 9, Issue 5, Sep-Oct-2023, ISSN (Online): 2395-566X. https://ijsret.com/wp-content/uploads/2023/09/IJSRET_V9_issue5_360.pdf. Accessed: 11 March 2025.

⁹³ TEVT-A. TVET Authority. tveta.gov.af/en. Accessed: 16 March 2025.

⁹⁴ CESP, 2016 cited in UNESCO/ UNESCO Institute for Lifelong Learning/European Training Foundation/European Center for the Development of the Vocational Training. 2019. Global inventory of regional and national qualifications frameworks 2019 Volume II: National and regional cases. Accessed: 18 March 2025.

⁹⁵ Kabir, M., Larsen, K. and Paksima, S. 2020. Multi-modal TVET delivery during COVID-19: Expanding access to continued learning in Afghanistan. September 02, 2020. **Education for Global**

where possible, by operating theoretical classes through digital instruments and practical training in the workplace following ‘relevant standard protocols’. This lesson applies in Afghanistan as in other countries in similar contexts.

2.1.7.3 Support system for learners

Due to the country’s socioeconomic context, few families can manage their lives without the contribution of their adolescent children to the family income, while it might be difficult for others. For females, it is even more difficult, especially for young women to learn skills or pursue a career within a patriarchal and conservative context.

2.1.8 Knowledge gap/ research agenda and policy questions

2.1.8.1 Nationally identified key growth sectors and research agenda

To boost agriculture and low-value services, the main sectors of Afghanistan’s economy, the Afghanistan National Peace and Development Framework II (ANPDF II) 2021–2025 prioritized key development sectors. These include greener agricultural development, the establishment of labor-intensive small-scale industrial units, covering primary goods, light industries, and heavy industries, the development of transportation infrastructure for urban growth, and the advancement of digitalization and telecommunications.

To align with these goals, and considering the limited integration of green and digital skills in TVET, along with the lack of ICT infrastructure highlighted in previous studies, future research on improving Afghanistan’s TVET sector could focus on the following agenda in the Table 2.1.1.

Table 2.1.1: Key growth sectors, research rationale, and relevant research agenda

Key growth sectors	Research rationale	Research Agenda
<i>Agriculture</i>	<i>Greener agriculture</i>	<ul style="list-style-type: none"> ▪ What specific green skills are required for sustainable agricultural practices in Afghanistan? ▪ How can TVET institutions integrate climate-smart agriculture into their curricula? ▪ What partnerships are needed between TVET system and agricultural business stakeholders?
<i>Industry</i>	<i>Small-scale industrial development</i>	<ul style="list-style-type: none"> ▪ What are the most demanding labor-intensive industries? ▪ How can TVET programs be designed to support entrepreneurship and small-scale industrial skills?
<i>Digitalization and ICT</i>	<i>Digitalization and ICT integration</i>	<ul style="list-style-type: none"> ▪ What are the current barriers to integrating digital skills in TVET programs in Afghanistan? ▪ How can low-cost or mobile-based ICT solutions be used to deliver digital literacy and skills?



<i>Infrastructure</i>	<i>Infrastructure and urban development</i>	<ul style="list-style-type: none"> ▪ What TVET skills are most urgently needed to support infrastructure and urban development projects? ▪ How can public-private partnerships help align training programs with market needs in the transportation infrastructure sectors?
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2.1.8.2 General knowledge gap and research agenda

A review of the literature leaves many unanswered questions. For instance, although the Education Act 2008 and Presidential Decree 2018 on TVET-A formation are the guiding documents, there is limited information such as how far these documents have been effective in guiding the TVET sector development. How far have these documents guided the sector reform? Why do the business and industry not have a space in TVET governance? How are their concerns reflected and made the TVET delivery relevant to their own needs? Girls' opportunities for further education and training are limited, but the question is, is it possible to assist them through non-formal training or any other mechanism? What is the status of consumables and work-based training provisions? How are occupations for education and training identified and relevant curricula developed? Whether curriculum include skills provisions and address concerns around climate change and the application of artificial intelligence (AI)? Further details of the knowledge gap and research agenda are presented in Annex 2.1.2.

2.1.9 Major conclusions and recommendations

2.1.9.1 Country vision and TVET development

The above evidences suggest that the country continues to encounter issues and challenges, including high unemployment rates and pervasive poverty, which to some extent, could have been addressed by capacitating TVET-Authority to streamline its work with a national vision.

2.1.9.2 Governance

TVET-A is the apex body for the system development. However, this agency appears exclusively governed by the government. However, to ensure market interface, the TVET-Authority governing board should include the business and industry representatives/ employers with a majority of its membership. This approach should also be at the institute level. Similarly, the TVET-A could be developed as a quality assurance body while leaving the implementation role at the provincial level.

2.1.9.3 Coordination

As there are several stakeholders in the TVET sector, the UNESCO Report 2024⁹⁶, has recommended establishing regional skills councils or task forces with representatives from government, industry, and educational institutions with coordination responsibilities.

2.1.9.4 Inclusion

The country has seen a decrease in female students' enrolment rate in recent years which, given the country's decisions, would not be easy to change. The disability-inclusive TVET institutions offer specialized TVET programmes including those for girls in the formal TVET subsector, but only up to Grade 6. Such training would not be sufficient for gaining the required competency. However, as there are various proven and potential models of training such as mobile training and community-based training, it will be helpful to explore the ways to extend such skills training opportunities for girls and females.

⁹⁶ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.



To promote women and returnees' access to training and job opportunities, the UNESCO study 2024⁹⁷ recommended: i) incentivize women to attract and retain them in the manufacturing and service sectors; ii) ensure that the selection process is free of gender and other forms of discrimination; iii) widely disseminate training opportunities to ensure information access to these target groups; iv) ensure accessible training centers to target groups; v) increase the frequency and number of training programs offered; and vi) adjust the training schedule to the availability of participants.

2.1.9.5 Quality

Evidence suggests that the development budget for many institutes ranges from very limited to none. Similarly, many institutions faced infrastructure challenges. Therefore, the government, in collaboration with international development partners, could address these problems to ensure a smooth teaching-learning environment at the institutional level.

The accreditation system appears to be missing in the national TVET landscape. While affiliation or registration is one way of connecting private and non-governmental providers with the national system, for quality assurance, an accreditation system is a must.

Ensuring quality TVET also requires focusing on reform in the training environment, which includes adequately availing training materials/ consumables, and machine and equipment for practical training, and opportunity for trainees to have sufficient exposure in the real world of work (WoW). But the literature review indicates gaps in all these elements. Further, the national TVET strategy has focused on introducing competency-based training which is the right approach. However, it is yet to be seen in practice. Furthermore, taking lessons from neighboring countries, collaborating with businesses and industry to improve curricula, and ensuring OJT/workplace-based training could be one option in the short term.

There are indications of TVET reform including competency-based teaching and training (CBT) in the country's TVET system. However, its development and implementation did not appear during the desk review. Therefore, government and international development partners could focus their work on starting the CBT and avail actual workplace-based training to the teachers. The next step in this process needs to be competency-based assessment.

The country has a qualification framework with eight levels. It shows that the TVET starts from Grade 10 and ends at Grade 14. However, the qualifications as well as standards and curriculum have not been developed to align with NVQF levels which need to be corrected.

2.1.9.6 Relevance and Outcomes

There is limited information about the mechanisms for ensuring the relevance of TVET programs. Therefore, the development and expansion of TVET programs focusing on highly demanded skills and providing robust support to training graduates is necessary⁹⁸. In this process, mechanisms need to be in place to extend collaboration with businesses and industry in the TVET system government. Similarly, market studies need to be practiced before deciding the courses to be offered. To get information about employment and income outcomes, the graduates' tracer study

⁹⁷ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

⁹⁸ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.



system should also be made regularly. Support for TVET institutions is necessary to provide a learning pathway for girls and boys to provide opportunities to improve their livelihoods eventually contributing to the country's economic situation⁹⁹.

2.1.9.7 Efficiency

UNESCO 2024 found that the overall dropout rate at disability-inclusive TVET institutions was slightly higher than at regular TVET institutions. It was noted particularly among girls. Economic costs, distance from the institutions, living with disabilities, and a lack of interest due to uncertain future employment opportunities were major reasons for the dropout problem. Therefore, proper counseling during education training and linkage with employers for employment placement could help reduce this problem.

2.1.9.8 TVET perception

Perception towards TVET is not favorable. Therefore, the TVET-A needs to work to change the perception by highlighting its importance and creating added value¹⁰⁰. Proper development and operationalization of NVQS, which clarifies TVET graduates' further education and recognition, could, to some extent, address this issue.

2.1.9.9 Evidence-based policy and planning

The last TVET sector baseline study was in 2009, but it was not updated until this review was in progress. It was also not possible to access the TVET sector assessment reports. Therefore, to ensure evidence-based policies and TVET development, the TVET sector baseline indicators and data need to be updated. Additionally, regular assessment of the sector's performance is necessary to implement necessary policies and plans, making them contextually relevant.

The above recommendations are also aligned with the recommendations from UNESCO Needs Assessment Report 2024¹⁰¹, which were comprehensive covering most of the problems and issues in the country's TVET sector. Specifically, the study recommended: i) conducting long-term training; ii) employing experienced trainers; iii) including practical training; iv) ensuring the relevance of training content with updated curricula; v) increasing participants' awareness of training value; vi) improving coordination and collaboration; vii) employ women teachers to train women; and viii) to enhance inclusion, and adjust the training schedule to the availability of participants.

⁹⁹ UNESCO. 2024. A Snapshot of Formal TVET in Afghanistan post-2021. unesco.org. Accessed: 11 March 2025.

¹⁰⁰ TEVT-A. TVET Authority. tveta.gov.af/en. Accessed: 11 March 2025.

¹⁰¹ UNESCO. 2024. Vocational Skills Need Assessment in Afghanistan. Final Report. UNESCO/ BEID Consulting. July 2024. Kabul.

Annex

Table 2.1.1: Key TVET Actors of Afghanistan

SN	IDPs	Province/ Regions	Area of engagement
1	National actors		
a	Ministry of Education		
b	Ministry of Labor and Social Affairs (MoLSA)		
c	Technical and Vocational Education and Training Authority		
d	Business and industry associations		
e	Non-governmental organizations		
2	International actors		
a	World Bank		Teacher training
b	GIZ		Teacher training
c	International governmental organizations		

Annex 2.1.2: Knowledge gap/ research agenda and policy questions in Afghanistan TVET

Issues	Knowledge gap/ research agenda	Policy questions
Governance and coordination		
Policies	<ul style="list-style-type: none"> ▪ How far have the TVET policies (Act, policies, and strategic plans) been effective in establishing the TVET system? What are their contributions? ▪ Are these instruments aligned with each other and international developments? 	What actions are required to make these policies?
Coordination among TVET stakeholders	<ul style="list-style-type: none"> ▪ What is the status of coordination among TVET authorities – the Ministry of Education, MoLSA, and TVET-A? ▪ Similarly, what is the relationship and coordination between government agencies and nonstate actors – private sector/ business and industry and non-governmental organizations? ▪ How can the coordination between and among such stakeholders be enhanced for establishing a robust TVET system? 	<ul style="list-style-type: none"> ▪ How can governance and regulatory instruments enhance coordination among federal and provincial TVET/ regional government authorities? ▪ What regulatory reforms are needed to enhance the efficiency of TEVT-A and other agencies?
Weak engagement of BIAs in curriculum	<ul style="list-style-type: none"> ▪ To what extent business and industry associations (BIAs) are engaged in curriculum 	<ul style="list-style-type: none"> ▪ What policy incentives (for instance, tax rebate or offering qualifications demanded by

Issues	Knowledge gap/ research agenda	Policy questions
development and decision-making process	development and governing boards' decision-making process? ▪ Why has there been a gap in such engagement?	BIAs) are necessary to put productive engagement of BIAs in curriculum development and decision-making process?
	▪ Does the country have independent industry bodies, for instance, sector skills councils?	▪ What policy provision is necessary to establish SSCs?
Access and inclusion		
Financial constraints for low-income youth to enroll in TVET programs.	What financial incentives can encourage low-income youth to engage in TVET?	What financial aid models could be useful to include low-income youths and marginalized communities?
Low female enrollment	▪ What other non/informal, home-based mechanism could be useful to avail training opportunities for females beyond Grade 6?	What policies are required to break the barriers (provision of mobile/home-based in/nonformal training influencing women/female enrolment? Would the female teachers-only training be helpful to extend this opportunity?
The issue with dropping out of the definition	▪ What is the exact situation with the dropout rate (some institutions consider the absence of 2 and above in Grade 9 and above as dropout while others do not)?	What policy measures could address the dropout problem?
Relevance and Outcomes		
Limited market relevancy of TVET	▪ What systems exist to ensure that the TVET services planned to offer are market-relevant? ▪ How far have the TVET programmes been relevant? ▪ If not, why have they not been relevant?	What policy and governance provisions could contribute to enhancing TVET relevance?
Lack of systematic and regular market study before occupation identification and curriculum development.	What occupations/ qualifications have the largest demand in the market?	What policy measures (for instance giving flexibility to institutes to make decisions on qualifications to offer) are required to make market assessment mandatory before deciding on qualifications to offer?
	To what extent do a rapid market appraisal or other employment assessment mechanisms exist?	Whether policy interventions are necessary to establish these instruments?

Issues	Knowledge gap/ research agenda	Policy questions
Workplace-based training support	<ul style="list-style-type: none"> ▪ To what extent does the WBT support exist? ▪ Has WBT been effective? 	What policy provision is necessary to establish an effective WBT?
Quality	<ul style="list-style-type: none"> ▪ 	
Limited teacher training opportunity	<ul style="list-style-type: none"> ▪ What proportion of teachers are trained in pedagogy and the real world of work? ▪ To what depth is such training necessary? 	What policy provisions could make teacher training mandatory?
Insufficiency of machines and equipment in many TVET institutes	<ul style="list-style-type: none"> ▪ The extent to which such facilities are outdated? Or to what extent do institutes lack market-relevant practical training facilities? ▪ How are institutes managing training in such a context? ▪ What is the impact of this deficiency on learning, employment, and income outcomes? 	<ul style="list-style-type: none"> ▪ What policy measure is required to ensure such facilities in TVET institutes? ▪ Any PPP policies could address this gap? ▪ What financial instrument/ mechanism could help institutes arrange these facilities?
Limited use of consumables	<ul style="list-style-type: none"> ▪ To what extent consumables are available for each learner? ▪ To what extent do learners get the opportunity to sit in the practical training? 	What financial provision would help ensure sufficient practical training consumables?
Formative assessment in CBTA is bulky and traditional training institutes practice such assessment in a limited manner	<ul style="list-style-type: none"> ▪ To what extent is formative assessment practiced? ▪ What factors and actors are responsible for weakness in the existing formative assessment and how could that be improved? 	What policy measures are required to make the formative assessment effective?
Integration		
<ul style="list-style-type: none"> ▪ Integration within the TVET stream and between the TVET and general education streams 	<ul style="list-style-type: none"> ▪ What is the status of integration within TVET and between TVET and general education streams? ▪ What is the progress with NVQ operationalization? 	<ul style="list-style-type: none"> ▪ What policy provisions and institutional mechanisms are necessary to integrate TVET with general education and open higher-level pathways for Level 5 graduates? ▪ What policy measures could help expand the RPL services across the country?
	<ul style="list-style-type: none"> ▪ What is the recognition status of TVET qualifications? ▪ Whether the equivalency between the TVET and general education streams has been established. 	<ul style="list-style-type: none"> ▪ What policy instruments are necessary to address the issues around recognition and equivalency?
Outcomes		

Issues	Knowledge gap/ research agenda	Policy questions
Employment rate of TVET graduates	<ul style="list-style-type: none"> ▪ What are the employment rates of TVET graduates? ▪ To what extent does TVET contribute to poverty reduction and employment generation? ▪ Why is the employment rate low? 	What policy provisions could enable TVET to contribute to enhancing the employment rate?
Post-training support		
Limitations with post-training support	<ul style="list-style-type: none"> ▪ What counseling, employment placement, and financial support are currently available, and what is needed for graduates to start micro/small enterprises? 	What institutional mechanisms and financial instruments could be helpful to new entrepreneurs?
Awareness and counseling		
Limited awareness and use of emerging fields like artificial intelligence (AI), robotics, and automation in learning environments.	<ul style="list-style-type: none"> ▪ What level of digital literacy among TVET trainers and students? ▪ To what extent is AI used in a learning environment? ▪ What scope remains for such a provision? ▪ What infrastructure exists and is required to facilitate online learning in institutes in remote areas? 	<ul style="list-style-type: none"> ▪ What policy provisions can enforce the inclusion of digital platforms for expanding e-learning?
	What demand exists for the use of AI and automation?	What policy measures are required to encourage the application of AI and automation?
	<ul style="list-style-type: none"> ▪ What scope exists for the integration of future tech skills in TVET? ▪ To what extent have institutes kept abreast of future tech skills? 	What policy changes/ measures are needed to integrate The future tech skills in the TVET system?
Limited awareness of green and climate change-friendly technology	<ul style="list-style-type: none"> ▪ What policies exist for the promotion of skills for green jobs and climate change-friendly technology? ▪ To what extent climate-change responsive skills/competencies are included in the curriculum? 	<ul style="list-style-type: none"> ▪ What policies exist for the promotion of skills for green jobs and climate change-friendly technology?
Management		
Staff and management capacity	<ul style="list-style-type: none"> ▪ What is the staff capacity within the TVET authorities? ▪ How can the capacity gap, if exists, be enhanced? ▪ Does the staff and management capacity development training exist? 	<ul style="list-style-type: none"> ▪ What policy and programmatic provisions could be useful to enhance the authorities' capacities?



Issues	Knowledge gap/ research agenda	Policy questions
Limited funding for quality TVET	▪ How effective is the current funding mechanism in delivering high-quality training?	▪ Would a dedicated TVET Fund can address this issue?

Annex 2.2: Pakistan TVET Report

2.2.1 National socio-economic context

With a population of approximately 236 million (2022)¹⁰² and a per capita income of US\$ 1,596¹⁰³, Pakistan is faced with multiple socio-economic challenges. According to the World Bank¹⁰⁴. The poverty rate stood at 25.3% in 2024, which is an increase of 7% points compared to 2023. It means about 13 million additional people fell into poverty. An estimated 39% of Pakistanis live in multidimensional poverty¹⁰⁵. According to the UN Report, Pakistan remains in lower income country status.¹⁰⁶

According to the government of Pakistan¹⁰⁷, the services sector constitutes the largest share (57.7%) of GDP in 2024, followed by agriculture (23.7%) and industry sector (18.7%).

National Economic Transformation Plan (NETP) 2024-2029 reveals that many, despite 60% of the population being under the age of 30, remain underemployed, particularly women who are excluded from the formal economy¹⁰⁸. According to the IMF, the unemployment rate stood at 8.5% in 2023. It is estimated to have reduced to 7.5% in 2025¹⁰⁹ which still looks high. Addressing unemployment and poverty issues requires investments in workforce development, leading to the creation of employment opportunities to drive sustainable progress. However, as mentioned by the NETP, the education system, which has the potential to change this situation, suffers from issues such as outdated curricula failing to provide the required market-relevant skills.

These evidences suggest that the country continues to encounter issues and challenges including poverty and demand for a skilled workforce to overcome poverty and realize the desired development and therefore, sets the stage for the country's reformed TVET system.

2.2.2 History of TVET Development

TVET development. The Country's TVET development traces back to 1947. However, the year 1980 is significant as the country formulated the National Training Regulations, which led to the establishment of the National Training Commission and Provincial Training Committees. In 2005, the National Vocational Technical Education Commission (NAVTEC) was established as the federal governing body to regulate TVET education in Pakistan. The National Skills Strategy (NSS) 2009-2013¹¹⁰ formulated in 2009 remarks the turning point in TVET development. In 2011, the NSS-aligned National Vocational and Technical Training Commission (NAVTTTC) was enacted, leading to the establishment of the NAVTTTC. Today, it serves as the federal quality

¹⁰² Pakistan Bureau of Statistics (2022). *Population Census Report 2022*

¹⁰³ World Bank (2022). *Pakistan Development Update: Growth and Economic Outlook*.

¹⁰⁴ The World Bank/ Poverty and Equity Global Department. 2024. Poverty Projections for Pakistan Nowcasting and Forecasting. Policy Research Working Paper 11010. World Bank Group. documents.worldbank.org. Accessed: 17 April 2025.

¹⁰⁵ United Nations Development Programme (UNDP) (2022). *Human Development Index Report*.

¹⁰⁶ UN Report cited in The Dawn. Pakistan among lower-middle income countries. 17 January 2023. [dawn.com](https://www.dawn.com). Accessed: 18 June 2025.

¹⁰⁷ Finance Division/Government of Pakistan. Highlights Pakistan Economic Survey 2023-2024. [finance.gov.pk](https://www.finance.gov.pk). Accessed: 29 March 2025.

¹⁰⁸ Ministry of Planning and Special Initiatives. 2024. National Economic Transformation Plan 2024-2029. Government of Pakistan.

¹⁰⁹ International Monetary Fund (IMF) 2024. World Economic Outlook: Policy Pivot, Rising Threat. Washington, DC. October.

¹¹⁰ Government of Pakistan. 2009. National Skills Strategy 2009-2013. Islamabad.



assurance body but also manages vocational training institutes/ centers (referred to as institutes hereafter) in the Islamabad Capital Territory (ICT). Likewise, provincial TVET Authorities (TVETAs) were established in Punjab, Sindh, Balochistan, Khyber Pakhtunkhwa (KP), and Azad Jammu Kashmir (AJK) and are operational under provincial governments. In Gilgit-Baltistan (GB), the Department of Technical Education and Skills Development (DTESD) undertakes TVET initiatives.

In collaboration with the European Union (EU) and GIZ, Pakistan TVET reform started in 2011 with a project entitled 'Support to TVET Sector in Pakistan' which is also known as TVET I and remained until 2016. The TVET development continued with the second phase of TVET 'Supporting TVET Reform in Pakistan', which was also known as TVET II. The third phase (TVET III) started in 2017 and was completed in 2022. Since 2024, the five-year-long TVET IV has been under implementation. All the past reform initiatives fell under the umbrella of the NSS framework and its priorities. They supported the reform agenda and were expected to produce a significant impact on the TVET system and related institutes, and ultimately, on the target beneficiaries. Apart from these externally collaborated reform initiatives, the government launched the 'Prime Minister's Youth Programme' with its funds in 2013 and is continuing under the auspices of the NAVTTC.

Management of change during the TVET development process. TVET reform in Pakistan involves systemic and interactive change across policies, governance, and stakeholder collaboration. For instance, the National Skills Strategy (NSS) 2009–2013 prepared groundwork for reform which laid the foundation for the design of the TVET Reform Support Programme (TRSP) (2017–2022) called the TVET III project. Based on initial experience from this nationwide initiative, a new 'Skills for All Strategy' was introduced in 2018. Similarly, the TVET III experience was used to formulate the TVET Policy 2018. In this course, the NAVTTC emerged as a national body to lead change and ensure alignment of reform actions with these policies. The issues with quality and relevance were managed through the introduction of competency-based training and assessment (CBT&A) and engagement of the business and industry associations (BIAs) at various levels of governance. The CBT&A was extended by provincial and regional governments.

Factors influencing the change process. Among the internal factors influencing the change process were the government policies and strategies, as well as its commitment to TVET development. The limitations pushing for the TVET development included relevance, quality of education and training, and the capacity of trainers and assessors. Similarly, the lack of physical and technological capacity to implement a CBT&A-based curriculum at the institute level called for improving such facilities. The provincial-level developments varied across the provinces. For instance, Punjab with its resource capacity is making progress faster than others.

The external factors influencing change included the engagement of international development partners (IDPs) such as the EU and GIZ, who provided funding but also served as a push factor through technology transfer. Similarly, demands for industry-relevant graduates by domestic and overseas employers also pushed for reform in the TVET system.

2.2.3 Progress in TVET Development

This chapter assesses progress made in TVET thematic areas including governance, effectiveness, inclusion, relevance, quality, efficiency, funding, affordability, adoption-scalability, and sustainability. By far most of the data and information for this chapter has been taken from the final evaluation 2022 and ex-post evaluation reports 2024 of the TVET III project. Where



necessary relevant data and information are taken from the NAVTTC websites¹¹¹ including updates on TVET progress and employment data.

2.2.3.1 Governance

This chapter presents the country's TVET policies and its capacity for the formulation of evidence-based policies, and governance structure.

Policy development and policy framework. As presented earlier, the government started the development and amendment of TVET Policies and strategies in 2009. National Skills Strategy (NSS) 2009 targeted for the duration covering 2009-2013 had three objectives: i) providing relevant skills for industrial and economic development; ii) improving access, equity, and employability; and iii) assuring quality to address the major issues confronting the TVET system. TVET Policy 2018¹¹² was the second policy intervention targeting reform. Drafted and finalized with the participation of various stakeholders from the public and private sectors, this policy has focused on increasing the TVET opportunity, enhancing quality, operationalization of NVQS, setting national standards, making TVET competency-based, partnerships between public and private sectors, exporting skilled labor, linking with the informal sector, and continuing reforms and revitalization of TVET.

The year 2018 is also noted for the amendment of the NSS. Building on the NSS 2009, the government also launched the National 'Skills for All' Strategy in 2018¹¹³. The strategy focuses on the same priority areas as the National TVET Policy. The Strategy addresses all the issues confronting the TVET subsector, covering major areas such as governance, enhancing capacity, quality and relevance, access and equity, operationalization of national vocational qualification framework (NVQF) and recognition of prior learning (RPL), increasing industry engagement, targeting the international labor market, and raising awareness to counter the bias against TVET.

It is important to note that, despite uneven achievements, all the TVET reform actions currently in progress are aligned with these two policy documents.

Capacity to undertake evidence-based policy formulation. The NSS 2009-2013 and its amendment in 2018 and TVET Policy 2018 are the evidence in support of Pakistan's national capacity to formulate relevant policies and strategies. These policy processes appeared comprehensive as they included contextual analyses followed by policy dialogue and interaction events involving both public and private TVET stakeholders, and IDPs. As explained above, the NSS and TVET Policy opened a path for the country's TVET sector reform. For instance, BIA engagement in the policy processes and governance, the establishment of the accreditation system, introduction and operationalization of CBT&A, and workplace-based training (WBT) were introduced through these policy documents and therefore, are the evidence supporting national capacity to formulate relevant policies.

Governance structure. Pakistan's TVET system includes NAVTTC at the federal level which works under the Ministry of Federal Education and Professional Training (MoFEPT) and is headed by a government-appointed Chairperson. TVET Authorities (TEVTAs) are established, one each in Punjab, Sindh, Balochistan, KP, and AJK provinces, and a chief operating officer takes the lead in the provincial TVET operations. Punjab Vocational Training Council (PVTC) is a private sector undertaking in Punjab, an exceptional private sector initiative in the province. No other provinces

¹¹¹ Navttc.org.np download 10 February 2025.

¹¹² Government of Pakistan. 2009. National TVET Policy 2018. Islamabad.

¹¹³ Government of Pakistan. 2009. National Skills Strategy 2018. Islamabad.



have such an institutional arrangement. Different from these provinces, the Department of Education and Skills Development, operating under the GB government, looks after TVET developments including institutes. TVET institutes in Islamabad Capital Territory (ICT) operate under NAVTTC.

Governance structure. Pakistan's TVET system includes NAVTTC at the federal level, which works under the Ministry of Federal Education and Professional Training (MoFEPT) and is headed by a government-appointed Chairperson. TVET Authorities (TEVTAs) are established, one each in Punjab, Sindh, Balochistan, KP, and AJK provinces, and headed by a chairperson with a chief operating officer for the provincial TVET operations. Punjab Vocational Training Council (PVTTC) is a Public Private Partnership by the Government of the Punjab. No other provinces have such an institutional arrangement. Different from these provinces, the Department of Education and Skills Development, operating under the GB government, looks after TVET developments including institutes. TVET institutes in Islamabad Capital Territory (ICT) operate under NAVTTC. Punjab Skills Development Authority (PSDA) was set up by the Government of the Punjab in collaboration with the Foreign, Commonwealth and Development Office (FCDO). PSDA also manages the skills training funding provided by the World Bank.

The Trade Testing Board (TTB) and the Bureau of Technical Education (BTE) serve as qualification awarding bodies (QABs). While TTB is responsible for the assessment and certification of short-term training, the BTE is responsible for long-term programs.

2.2.3.2 Effectiveness

Qualifications and programs. Although the country has NVQF up to Level 8¹¹⁴, qualifications between NVQF Levels 1 and 3 and some at Level 4 are in offer. Now, the country has been making progress towards the implementation of Level 5 qualifications. The TVET III included technical courses (such as Mechanical, Welding, Electronics, Electrical, Information Technology (IT), Textile, Motor vehicle/automobile, and Process control) as well as commercial courses (such as logistics and supply chain assistant). The TVET IV has included green skills within sectors such as agribusiness, water, and energy, and digital and high-tech training programs¹¹⁵. DigiSkills.pk offers free online courses. Over 4.0 million trainings have been imparted since 2018 to generate a skilled workforce in the future of work and to strengthen the digital economy of Pakistan. It has a focus on women's empowerment as they can participate in the training from their own homes. The training includes graphic design, digital marketing, video editing, animation, and vlogging, search engine optimization, wordpress, and e-commerce management.¹¹⁶

The country has focused on converting the traditional courses into a competency-based training and assessment (CBT&A) system.

Institutes, enrolment, and graduates. Programs and qualifications, according to skillingpakistan.org¹¹⁷, TVET is delivered through 3882 institutes across the country, of which 71% is on vocational training. Similarly, 51% of institutes are dedicated to males while 29% are exclusively for females (Table 2.2.1). The country has an enrolment capacity of 422,161 of which

¹¹⁴NAVTTTC. 2024. National Vocational Qualifications Framework (NVQF) Regulations, 2024 To produce a skilled and qualified workforce. National Vocational Qualifications Framework (NVQF) Regulations, 2024 To produce a skilled and qualified workforce. Accessed: 08 June 2025.

¹¹⁵ GIZ. TVET. Team Europe's TVET Sector Support Program. EU/GIZ/British Council. giz.de. Accessed: 18 April 2025.

¹¹⁶ digiskills.pk. Learn and Earn with DigiSkills.pk, Accessed: 20 April 2025.

¹¹⁷ skillingpakistan.org. 2025. TVET sector statics. NAVTTC. Download 13 Feb 2025.

33% is for females. The national data suggests that the enrolment opportunities are concentrated mainly in Punjab and Sindh provinces where the concentration of both the population and economic activities is higher compared to other provinces.

Table 2.2.1: Distribution of Institutes by institute types and gender

Institutes	Male	Female	Co-Ed	Total
Vocational	1497	924	324	2745
Technical	477	201	459	1137
Total	1974	1125	783	3882

Recognition and integration. The Committee of Chairmen and Directors of Technical Education (CCDT) decision on equivalency between Levels 1 to 5 and general education, and bridging requirements between Level 5 and Diploma in Engineering (DAE) which is equivalent to Level 5¹¹⁸, has facilitated recognition of TVET certificates and has opened paths for higher education to TVET graduates. These developments are guided by NSS 2018 the government intends to integrate the University into the TVET system under NVQF¹¹⁹. Currently, the country works on the revision of the equivalency of NVQF with general education to 8 levels, as the regulation has been approved by the Cabinet, the Ministry of Law, and the Ministry of Finance, according to the update from the national consultative meeting conducted on 11 June 2025.

Pakistan’s TVET system is noted for the start of the operationalization of NVQS¹²⁰ and has contributed to opening qualifications at Level 5 and beyond. The government has also started recognition of the prior learning (RPL) system which has facilitated recognition of skills learned in the informal sector and has opened a path for informal sector workers to the formal education and employment sector. This provision has contributed to integrating TVET with the general education and informal sector into the formal sector.

WBT and employment placement units. The country has also started counseling and placement units in TVET institutes under the TVET III program. The services cover counseling to students/ learners, keeping market intelligence to facilitate work-based training (WBT), and actual employment placement. This service is found effective in general but has yet to expand to institutes outside the program coverage.

Management information system. The National Skills Information System (NSIS)¹²¹ with its four components – project management system (PMS), NVQ Registry, Monitoring and Evaluation (M&E) System, and National Employment Exchange Tool (NEXT) – is continuing as an important system for managing data and information.

While the PMS maintains data and information about projects, the NVQ Registry is considered an innovation in Pakistan TVET reform. NVQ Registry was set up as a subsystem of NSIS for keeping details of programs, qualifications, institutes, and enrolments. Managing institute-level formative assessment results is one of its important functions, which is used by the Qualifications Awarding Bodies (QABs) at the TEVTA level for final assessment processes.

¹¹⁸ Punjab Board of Technical Education. Notification dated 03 November 2020.

¹¹⁹ GoP/MoFEPT. 2018. National “Skills for All” Strategy A Roadmap for Skill Development in Pakistan. Islamabad.

¹²⁰ Ministry of Federal Education and Professional Training (MoFEPT). 2018. Skills for Growth and Development. A TVET Policy for Pakistan. MoFEPT/NAVTTTC. Islamabad.

¹²¹ nsis.navttc.gov.pk. Accessed: 17 April 2025.

The digitized monitoring and evaluation (M&E) system under the NSIS is another significant progress in the TVET reform process. It is connected with approximately 1,500 TVET institutes. In the process of its operationalization, software was developed, and 1,989 staff members/officers were trained in the use of the digitized M&E system. Despite this progress, physical monitoring continues but in a limited manner due to budget and human resources limitations.

The NEXT provides real-time data and information about employment opportunities in the market and facilitates online job application processes.

2.2.3.3 Inclusion

Pakistan's TVET policy documents have special provisions for gender inclusion. For instance, both the TVET Policy 2018 and NSS 2018 have specific provisions for gender inclusion. Although there is also a co-education system in the country, the public institutes are segregated by gender. As a result, as presented in Table 2.2.1, 29% of the institutes are exclusively for females. This segregation is mainly to encourage females in the institutes. Of the total enrolment capacity, 33% is for females¹²². To encourage women, including those from marginalized communities, the TVET IV has started specialized digital and high-tech training programs¹²³.

2.2.3.4 Quality

Policy provisions. The government's emphasis on TVET quality is well covered by the policy and strategy documents. For instance, both the TVET Policy 2018 and NSS 2018 enforce the operationalization of NVQF for TVET standardization and quality enhancement. The NSS envisages establishing CoEs, capacity building of training facilities, standardization of curriculum and its periodic review, human resources development, international linkages for uplifting the national TVET system, and enforcement of NVQF. Similarly, TVET Policy 2018 also has an emphasis on TVET quality. Aligning with these policy provisions, the TVET III program stressed enhancing quality, which is now continued by the TVET IV under implementation in KP and Balochistan.

Accreditation. National Accreditation Council (NAC), which works under the NAVTTC umbrella, has been established with the responsibility to accredited programs and institutes. According to the Ex-post Evaluation 2024, it had accredited 655 institutes by 2023, and its work is continuing.

Curriculum. The development and implementation of CBT&A-based curriculum is considered a milestone in Pakistan TVET reform. Accordingly, the government has so far developed 386 CBT&A qualifications which are under implementation across the country by both the public and private institutes. According to the Ex-Post Evaluation 2024 findings, it has contributed to enhancing learners' competency and hence, the market relevance. A strict application of formative assessment is an important feature of the CBT qualifications. Emphasis on CBT is understood by the GB, AJK, and KP governments, and have been making efforts to convert the traditional course into CBT&A.

Teacher training and Center of Excellence (CoE). Training of TVET teachers/ instructors and assessors' preparation is another important initiative under quality assurance which started during TVET III. Although teachers' and assessors' preparation were organized at the federal level, with the establishment of Centers of Excellence (CoEs), this responsibility is now transferred to the provincial level. By 2024, a CoE will be established in Islamabad, Punjab, Sindh, Balochistan and

¹²² skillingpakistan.org. 2025. TVET sector statics. NAVTTC. Download 13 Feb 2025.

¹²³ GIZ. TVET. Team Europe's TVET Sector Support Program. EU/GIZ/British Council. giz.de. Accessed: 18 April 2025.



KP provinces. The CoEs have teachers and assessors training as one of the main responsibilities and are noted for, at least, some trained teachers and improved practical training workshops. Apart from the CoEs, the government is also making efforts to improve training equipment in institutes which started in Sindh and Balochistan under the TVET III initiative.

Assessment and certification. As explained under ‘The Governance Chapter’, the Bureau of Technical Education (BTE) and the Trade Testing Board (TTB) exist at the provincial level for the assessment and certification of TVET learners. The government has also improved the assessment system by making it competency-based. Hence, it is referred to as competency-based training and assessment (CBT&A). These institutional arrangements are important for controlling quality during assessment processes.

2.2.3.5 Relevance

Policy relevance. As explained under the ‘Governance’ chapter, both the ‘Skills for All’ Strategy 2018 and TVET Policy 2018 have strategic and policy directions highly relevant to Pakistan’s TVET reform. In turn, the government TVET development/ reform actions, for instance, market-relevant programs/qualifications, quality assurance, and business and industry engagement are aligned with these strategy/ policy provisions. It is also important to note that these provisions are under implementation across the country.

Labor market relevance. The government has been making efforts to make the programs/courses offered market-relevant through actions such as market research, inclusion of BIAs in three governance levels (NAVTTTC, TEVTA Boards, and IMCs), curriculum development, and implementation of workplace-based training. The TVET III even made the application of at least one form of WBT (on the-job-training, teaching factor, or cooperative vocational training) mandatory with a duration ranging between one to two months. The WBT provisions are important for learners as they get an opportunity to learn about the real employment market, and opportunity to interact with employers and customers. However, WBT is not strictly followed in institutes offering traditional courses.

2.2.3.6 Private sector engagement/ Labor market interface

The government has made efforts to engage the private sector (business and industry) in the TVET system governance which has played a key role in enhancing the movement of learners from education to employment. Such engagement is made through federal and provincial governance structures, sector skills councils (SSC), and institute management committees (IMCs).

BIAs in governance. The NAVTTTC Act has mandated 46% of the members to be from the private business and industry sector which according to Ex-post Evaluation 2024¹²⁴, was 52% during the time of evaluation. Its share in the TEVTA Boards varied from 22% in Balochistan to 66% in Punjab making it national average of 46%.

BIAs in Sector Skills Councils. To focus the industry sectors’ engagement in TVET, the government established four Sector Skills Councils (SSCs) in the hospitality and construction sectors. However, they were not successful in meeting their objectives. More details on SSCs’ failure are presented under the ‘Weaknesses’ chapter.

¹²⁴ Pradhan, H., Tahira, B. and Qayyum, A. 2024. Ex-post Evaluation of Support to the Technical and Vocational Education and Training Sector in Pakistan (TVET III). EPRD/AETS/European Union.



BIAs in Institute Management Committees. The ex-post evaluation of TVET III showed that 491 institute management committees (IMCs) were established in public schools with more than 50% of the members from the business and industry. The District Board of Management (DBOM) exists for PVTC institutes. The IMCs have demonstrated the capacity to establish a sustainable network between institutes and employers, which ultimately facilitates learners' transition from institutes to the world of work. Therefore, they were found highly influential compared to their role in the NAVTTC and TEVTA Boards.

Work-based training models. Work-based training (WBT) after completion of institute-based training is a critical mechanism to enhance the labor market interface and was started in Sindh and Balochistan. The institutes engaged in the reform initiative had to follow at least one of three models - Cooperative Vocational Training (CVT), on-the-job training (OJT), and teaching factory - under the WBT model. Although the OJT model is not new in Pakistan, according to the ex-post evaluation (EE) report, the WBT, particularly CVT, which is close to the dual-VET system, has been expanding in other provinces as well.

2.2.3.7 Outcomes

TVET development outcomes can be assessed through indicators such as institutional strengthening and operationalization of NVQS and WBT. For instance, during the TVET development process, NAVTTC has been strengthened at the national level with responsibilities such as standard-setting, quality assurance, and M&E; creation of SSCs, establishment and operationalization of the National Accreditation Council (NAC), and establishment of the National Skills Information System (NSIS). The establishment and operationalisation of TVETAs at the provincial level have been a landmark change that brought the institutes and government together.

A strong awareness of quality and relevance among stakeholders has emerged. As a result, NAVTTC developed 386 CBT curricula, which have been under implementation through provincial and regional governments. The development and operationalization of NVQF was an important achievement as the curriculum is now aligned with its levels. Similarly, a trend for establishing a strong linkage with industries for workplace-based learning has emerged and is continuing by law.

There is growing awareness of facilitation for WBT and employment placement. Tracer studies indicate better employability for CBT graduates compared to those in the traditional courses.

2.2.3.8 Efficiency

Pakistan TVET has made good progress in enhancing TVET efficiency. For evidence, most of the TVET data and information on enrolment, standards curriculum, and courses offered are available in the NSIS. It works under NAVTTC but is linked with TEVTAs and institutes. The relevant stakeholders – TEVTAs, DTESD, institutes, and even graduates – have access to relevant data and information. The QABs can access the formative assessment results through the NVQ Registry. Similarly, through the NEXT, employers can disseminate vacancy announcements and TVET graduates can make applications through this platform. Similarly, the accreditation process except for final verification is done through an online platform. The government's decision to offer both teacher and student training through CoEs is another piece of evidence showing efficiency in financial, human resources, and physical resources management.



2.2.3.9 Funding

TVET in Pakistan is primarily funded by the government through NAVTTC, five provincial TEVTAs, and DTESD of GB. The government also funds TVET through Hunarmand Pakistan and Punjab Skills Development Authority. The private sector has also been investing in TVET. PVTC is a good example of a PPP model.

Similarly, international organizations, as explained above and under the 'Key stakeholders' chapter, have played a key role in TVET development. Among them, the EU has been the largest donor who has been providing grant support for TVET development. German and Norwegian governments have collaborated with the EU to support Pakistan TVET reform since 2011 and will continue until 2027 through the TVET IV program. The Asian Development Bank (ADB) including many others, is another important development partner. For instance, ADB with Japan Fund for Prosperous and Resilient Asia and the Pacific has a US\$ 100 million project to improve skills training in Punjab province. The other stakeholders include UNDP funding hundreds of youths in digital skills and entrepreneurship. Some INGOs are working on TVET access in deep rural areas, focusing on women and youth. British Council is jointly working with GIZ in the establishment of COEs.

2.2.4.10 Affordability

According to the Ex-post Evaluation 2024 findings, the application of CBT&A-based NVQS as a reform instrument is growing in Pakistan. CBT implementation requires trained teachers, training consumables, and machine and equipment training which makes it an expensive intervention. However, its growth over the years suggests the government's capacity to continue investing in TVET reform initiatives. After the TVET III, the government has developed its technical capacity in CBT qualifications development. CoEs have institutionalized teacher training capacity. Since these developments are based on NSS 2018 and TVET Policy 2018, the government is and can be expected to continue funding for the actions it has developed and are aligned with national policies. The success of the WBT approach which is critical for world-of-work experience depends on the collaboration of BIAs. Therefore, by creating a congenial relationship between the government and BIAs, a continuation of the current practice should not be challenging.

Further, evidence from the Ex-post Evaluation 2024 report, the fee charged to learners is minimal in TEVTA-run institutes. For example, for a six-month CBT course and a semester for a DAE course, US \$ 7 to 11 (PKR 2000 to 3000) is charged for one semester which, according to the students, is affordable for them. However, sometimes it becomes challenging for them. For instance, it was reported that for CBT courses, the fee is higher compared to other courses. According to the respondents, the 80% practical training requirement under CBT demands more quantity of consumables compared to that for traditional training, making it costly. Nonetheless, poor and orphan students in most of the public institutes are provided with sponsorship and other support such as free accommodation. Such provisions facilitate affordability at the household level. PVTC, which is a public-private-partnership initiative, allocates funds for deserving students from the Zakat, Ushr, and Bait-ul-Mal Department. The Zakat funds US \$ 23 (PKR 6500) per person per month to girls and boys from low-income deserving households with the understanding that they will enroll in training at a PVTC institute. Also, CBT graduates' willingness to pay for the next level of training suggests their affordability with the income they make after they are engaged in training-led employment.

2.2.3.11 Adoption-scalability

The development and implementation of CBT&A is one of the most undisputed achievements of Pakistan TVET. Its importance is recognized by governments and BIAs. For instance, the KP, GB, and AJK governments have converted all traditional courses into CBT&A. The implementation of



reform including CBTA-based curricula was faster among the institutions supported by reform-supporting projects such as TVET III and IV. The scalability of accreditation is possible due to its operationalization through an online platform.

The scalability, however, depends on the availability of CBT-based curriculum, trained instructors and assessors, and practical training laboratories with relevant machines and equipment. For instance, the GB government wanted to implement its all programs under the CBT&A model but was unable to do so because of a lack of CBT&A curriculum for qualification levels 4 and 5, teachers capable of delivering education and training, and relevant machines and equipment for practical training. This situation discourages the scalability of the tested reform actions.

2.2.3.12 Sustainability

The TVET strategies and policies have established a guiding framework for reform. Similarly, CBTA-based curriculum which has been prepared by aligning with the NVQ levels, and the preference of employers for CBTA graduates are enablers of sustenance of achievements. Further, BIAs' engagement in governance levels and CVT has been an impetus for continuing their contribution to curriculum development, WBT opportunities, and providing real-time employment opportunities. However, continued dependence on IDPs for funding and engagement of NAVTTC in the implementation of traditional courses may pose a challenge to sustaining the achievements.

2.2.4 TVET System Strengths and Weaknesses

2.2.4.1 Strengths

As per the TVET III Year Four evaluation and Ex-post Evaluation 2024 findings, the following strengths of the TVET sector are noted:

Policies. The country's commitment to TVET reform, through the NAVTTC Act, and policy and strategies, is important evidence of TVET's strength. The provision on BIAs' engagement in TVET mentioned in these documents is one of the significant strengths.

Governance. The division of mandates between federal and provincial TVET agencies is established by TVET policy. NAVTTC, with a semi-autonomous structure, is a federal TVET body established by a parliamentary Act. The Act has provision for 46% of the BIA members. It is a well-resourced institution with the capacity to develop standards and curriculum and manage the accreditation system and the NSIS with market-relevant data and information. The NAVTTC Act's emphasis on public-private partnership (PPP) is also noteworthy. NAVTTC is actively engaged in TVET sector reform including updating the NSIS. Recently, it has started TVET institutions' census to use the updated data for policy planning and decision making¹²⁵. Although the BIA representatives in NAVTTC and TEVTA boards have not been that effective, at least, the system of mandatory representation at the federal and provincial levels has now been established.

Quality and relevance focus. The CBT&A system is another strength of the TVET system. CoEs with their human and physical resources have the potential to train teachers and prepare assessors. The presence of IMCs and their demonstrated capacity to link with employers is another important sector strength, important from the both governance and relevance perspectives.

¹²⁵ NAVTTC. TVET institutes census. 08 March 2025. LinkedIn. Accessed: 08 March 2025.



2.2.4.2 TVET system weaknesses – areas for improvement

Governance and management. While Pakistan has clear governance with federal, provincial/regional, and institute-level structures in place, the NAVTTC engagement in the implementation of traditional short-term training courses becomes an issue between it and the provinces. This is because, after the 18th Amendment of the Constitution, the implementation responsibility is devolved to the provincial level. Similarly, NAVTTC and NAC staff are often deputed from other government bodies, which may adversely affect the continuation of institutional memory necessary for future developments.

Relevance. The market research practice before offering courses or developing new qualifications is limited. On top of it, the TEVTAs decide on courses to be offered by the public institutes which creates barriers in offering courses relevant to the market. Both the NAVTTC, TEVTAs, and regional governments also keep offering traditional courses. These provisions have the possibility of limiting the relevance of the courses offered.

Quality. The lack of a CBT-based curriculum in all programs offered and at all NVQF levels, an insufficient number of trained teachers, and a scarcity of relevant machines and equipment for practical training are indications of challenges with the quality of TVET.

BIAs' engagement. According to the TVET III ex-post evaluation, the BIA members in the NAVTTC and TEVTA Boards have only limited influence. This is because these Board meetings are chaired by ministers and high-level government officers. There is only limited practice of making preparations by BIAs before attending the meetings. Although the SSCs, for instance, for the construction and hospitality sectors, were established, they did not enter into operation due to a lack of a clear legal base, a lack of commitment by the sector stakeholders, a lack of legally binding roles and responsibilities for stakeholders, and unclear financing mechanisms. As such, the SSCs were not effective and hence, are not continuing.

Outcomes. The tracer study in 2024¹²⁶ found the employment rate at 52% for even graduates under CBT programs. These findings suggest the relevance of the courses offered is in question even among the WBT-CBT model. With only 32% employment rates, it was precarious among traditional course graduates. One of the reasons for this problem was the practice of TEVTAs and DTESD making decisions on courses to offer. Therefore, such a limitation is one of the reasons for the mismatch between demand and supply, leading to limited employment outcomes.

Efficiency. Due to the time-consuming process and bulky evidence guide, formative assessment, as a requirement for CBT&A is not considered efficient. Teachers are required to invest a long time to produce a bulky evidence guide that also demands a lot of paper. This weakness needs to be addressed.

Comprehensive baseline data. Despite NAVTTC's efforts to manage the TVET data through the National Skill Information System (NSIS)¹²⁷, it is worth noting that the TVET system lacks comprehensive baseline data covering all aspects of TVET. There is also a lack of a national strategic reform plan based on nationally agreed indicators covering all aspects of TVET and corresponding baseline data.

¹²⁶ Pradhan, H., Ahmed, S., Khan, N. T., and Qayyum, A. 2023. TVET III Tracer Study Report 2023. European Union/GIZ/EPRD.

¹²⁷ census.skillingpakistan.gov.pk. NAVTTC TVET Census. LinkedIn. 31 March 2025. Accessed: 31 March 2025

2.2.5 Key TVET actors and impact of partnership

TVET Actors. Pakistan's key TVET actors are divided into national actors and international development partners. As explained earlier, while NAVTTC is the apex federal body for TVET, each province has provincial TEVTAs. In GB, TVET operates under DTESD. Among the IDPs, the EU, the governments of Germany and Norway, and the Asian Development Bank play key roles. Apart from these stakeholders and partners, international NGOs such as GIZ and the British Council are also working on developing systems and delivering TVET programs in Pakistan. The details of key stakeholders are presented in Annex Table 2.2.1

Overall impact. Pakistan has seen increasingly structured partnerships, for instance, with the GIZ and the EU, particularly since the establishment of NAVTTC. Government-industry collaboration has been strengthened through the BIAs' participation, particularly at the NAVTTC, TEVTA Boards, and IMCs. The government-industry engagement is guided by the 'Skills for All' Strategy and TVET Policy. Further, engagement with industry associations, chambers of commerce, and large employers has helped align training with sectors relevant to them.

International partners, notably the EU and GIZ have funded and influenced the reform process. Similar contributions have been initiated by ADB and the World Bank for TVET reform. Despite these gains, coordination among federal and provincial institutions still poses a challenge to coherence and implementation.

2.2.6 Key issues and challenges

As depicted by the TVET III program's Year Four evaluation and its ex-post evaluation, Pakistan's TVET reform is in progress. However, as TVET is a complex and dynamic system, it suffers from many issues, of which, the following are key:

Weak implementation of policies. National TVET Policy 2018 and Strategy 2018 are relevant policy documents for TVET reform. Although many of the provisions in these documents are initiated for implementation, some still have a long way to go. For instance, NVQS operationalization has remained mainly at Levels 2 and 3. As such, although these policy documents were approved almost a decade ago, a review of progress on NVQF performance and necessary amendments are yet to happen.

Limited coordination between NAVTTC and TEVTAs. NAVTTC's role in standards curriculum development, and accreditation appears effective. Similarly, TEVTAs have taken ownership and leadership of the TVET at the provincial level. However, effective coordination between these agencies needs to be improved for the effective implementation of policies and TVET resources. However, examples such as NAVTTC's direct implementation of the PMYSD program without proper collaboration with TEVTAs indicate limitations in collaboration. TEVTAs question on NAVTTC's engagement at the implementation level remains unanswered.

Relevance of courses offered and curriculum contents. The relevance of TVET and skills development largely relies on the study of the market situation and the offering of TVET courses accordingly. However, market study is not a common practice. Despite NEXT in operation, the practice of offering market-relevant courses by public institutes has not been fully institutionalized. This is primarily because, as presented earlier, TEVTAs decide the courses to offer, not the institutes. Also, the BIA's engagement in curriculum development is limited. Entrepreneurial skills are included only to a limited extent. Apart from CBTA implementing programs, training programs generally lack productive OJT opportunities.



Low female enrolment. As suggested by the institute number and enrolment data (Table 2.2.1), both the institute and enrolment capacity for females is low. Ashraf et al 2024¹²⁸ noted that ‘most women’s enrolment are found in traditional female courses such as cooking, beauty therapy, baking, dressmaking, and food preservation. Women’s enrolment in technical programs such as engineering is very low. Parents were unwilling to send their female children to institutes far from their homes. Monsoor (2021)¹²⁹ noted that females are encouraged by family members to pick professions that can be practiced in their own homes. The safe and secure environment was another factor mentioned by the research. Moreover, according to the Skills Trend Analyses 2017¹³⁰ report, the proportion of females in the skilled workforce supply was around 39%, while demand was only around 6%. This supply-demand gap raised an important question of utilization of 33% contributing either to the informal market or to the household economy.

Access. The majority of the TVET institutes- both public and private - are located in the large cities, focusing on the densely populated urban areas and TVET services (Institutes) are limited in rural Pakistan.

Quality. The quality of TVET is measured by indicators such as relevant CBT-based curricula, placement of qualified teachers/ trainers, training of teachers/trainers, availability of market-relevant machines and equipment for practical training, and availability of consumables essential for practical training. The evidence presented earlier suggests that Pakistan is making efforts to enhance TVET quality, but issues continue to remain. For instance, even if teachers are in place, all of them do not have all the required teacher training. The National Institute for Science and Technical Education (NISTE), responsible for teacher training no longer exist as its roles are now decentralized to provincial and regional governments. Accordingly, Staff Training Institutes (STIs) operational under TEVTAs are entrusted with this responsibility. Although some of the STIs are converted into a Center of Excellence, they are yet to be fully functional. The Ex-post Evaluation in 2024 found that teachers’ placement is an issue even in CoEs, for instance, in Sindh. Similarly, CoEs have new and often impressive machines and equipment. However, these facilities are yet to be fully used for teachers’ and students’ training. Ashraf et al 2024 revealed that teachers followed traditional methods to teach the courses and had a focus on theoretical parts, limiting students’ learning of practical skills. Due to a lack of teacher training in the actual workplace, the teachers lack the practical knowledge and competency necessary for the delivery of quality TVET. Likewise, as mentioned by NETP, the curriculum needs improvement.

NAVTTTC with support from UNESCO-UNEVOC and under TVET Sector Support Programme is undertaking a new capacity development programme for 300 TVET managers. The purpose of this initiative was to strengthen the leadership and management capacities of managers from Khyber Pakhtunkhwa, Gilgit-Baltistan, Balochistan, and Punjab.¹³¹

BIAs engagement. Despite encouraging progress in representation, BIAs’ engagement in governance and policymaking remains weak. According to the Ex-post Evaluation Report 2024,

¹²⁸ Ashraf, M. A., Xu, Q., and Xiang, L. 2024. Historical developments and current situation of technical and vocational education in Pakistan. VTE Vocation, Technology Education. Volume1. No 9. 2024.

¹²⁹ Mansoor, N. 2021 cited in Ashraf, M. A., Xu, Q., and Xiang, L. 2024. Historical developments and current situation of technical and vocational education in Pakistan. VTE Vocation, Technology Education. Volume1. No 9. 2024.

¹³⁰ Shah, S. A., and Khan, M. Z. 2017. Skills Trend Analyses. National and International. NAVTTTC/GIZ. Islamabad.

¹³¹ UNESCO-UNEVOC. 2025. Strengthening TVET leadership in Pakistan. LinkedIn.com. Accessed: 04 June 2025.



the BIA representatives in the NAVTTC and TEVTA Boards have experienced limited capacity to influence decision-making. This is mainly because these high-level bodies are often chaired by high-level political leadership and the practice of making enough preparations for the meetings hardly exists.

Limited digital literacy among TVET trainers and students. Most of the curriculum is printed materials. By far, most of the teaching and training are limited to classrooms or practical training facilities. Hence, except for information technology (IT) courses, the use of digital technology is limited. Teacher training includes online platforms, but it does not appear to be a continuation. There is a lack of infrastructure for online learning in rural areas for students and teachers/trainers.

2.2.7 Lessons Learned

Using the findings from the Four Year Evaluation of the TVET III Program 2022¹³² and its Ex-post evaluation 2024¹³³, lessons learned by Pakistan's TVET sector have been summarised below.

Focus on NVQF. The CBT&A-based NVQF operationalization has now started and helped NAVTTC and the TEVTA sustain this key element of reform. To continue the impetus to the achievements made so far, the development of qualification packages at Level 5 and their rollout is an urgent need. The curriculum must strictly comply with the NVQF level descriptors.

Private sector engagement. Mandatory provisions for BIAs' engagement in NAVTTC and TEVTA Boards and IMCs have enforced their involvement in TVET processes. Their participation has been proven to be useful for occupation identification, standards, and curriculum development, and above all in availing practical training opportunities to learners. Although a 'trust deficit' between public and private sectors continues, increasingly regular interaction through and engagement with established structures has resulted in raised awareness and created viable conditions for partnership. Compared to NAVTTC and TEVTAs, due to their direct and influential involvement in institute management, the IMC structure has been more beneficial for the institutes as well as the graduates. However, almost dysfunctional SSCs suggest legally binding provisions with clarity on roles of responsibility, and assured funding is required at least during the initial days of their operation.

Nationally agreed indicators and baseline data. The lack of nationally agreed and owned indicators such as enrolment capacity, enrolment rate, cycle completion rate and survival rate, employment rate, and funding, and their baseline values continues. Such data could guide all stakeholders to put evidence-based plans in place, monitor and evaluate their progress.

2.2.8 Knowledge gap/ research agenda and policy questions

2.2.8.1 Nationally identified key growth sectors and research agenda

¹³² Person, D., Mahmood, T. and Ayub, I. 2022. Fourth Year Evaluation: Support to the Technical and Vocational Education and Training Sector in Pakistan (TVET III). IBF/ European Union.

¹³³ Praddhan, H., Tahira, B. and Qayyum, A. 2024. Ex-post Evaluation of Support to the Technical and Vocational Education and Training Sector in Pakistan (TVET III). EPRD/AETS/European Union.

According to Pakistan Vision 2025 in 2014¹³⁴ and the 13th Five-Year Plan (2024-2029)¹³⁵, key sectors for Pakistan’s inclusive and sustainable growth include modern agriculture, water resource management, clean and alternative energy, and disruptive technology such as robotics, telecommunications, biotechnology, and ICT-based service delivery. Meanwhile, to address the gaps in digital integration and the limited digital skills of TVET instructors, TVET and skills development in Pakistan need to leverage technology and science by strengthening the linkages between the educational institutions and the productive sectors. In alignment with national plans and evolving needs of the TVET system, the following research agenda is proposed to support its development:

Key growth sectors	Research rationale	Research Agenda
Agriculture and water	Productive agriculture and water security	<ul style="list-style-type: none"> ▪ What specific technologies should be integrated into TVET curricula to enhance productivity in agriculture and ensure efficient water management? ▪ How can TVET programs build capacity for climate-resilient and precision farming practices? ▪ What role can international development partners play in supporting R&D for agricultural innovation and reducing food insecurity and water stress?
Clean and alternative energy	Energy conservation and energy efficiency	<ul style="list-style-type: none"> ▪ What training modules are needed to equip learners with knowledge of energy conservation and skills in the use of energy-efficient technologies?
Artificial intelligence (AI), robotics, and automation	Use of artificial intelligence (AI), robotics, and automation	<ul style="list-style-type: none"> ▪ What level of digital literacy among TVET trainers and students? ▪ To what extent is AI used in a learning environment, and what potentials exist? ▪ What infrastructure exists and is required to facilitate online learning in institutes in remote areas? ▪ What demand exists for the use of AI and automation? ▪ To what extent have institutes kept abreast of future tech skills? ▪ What policies and mechanisms are needed to boost the TVET institutions and private sector/BiAs partnership to leverage advanced technology the latter might have?

¹³⁴ Ministry of Planning, Development and Reform. 2014. *Pakistan 2025: One Nation - One Vision* <https://policy.asiapacificenergy.org/node/2910>; <https://policy.asiapacificenergy.org/sites/default/files/Pakistan%202025-%20One%20Nation%20-%20One%20Vision.pdf>. Accessed: 22 May 2025.

¹³⁵ Ministry of Planning, Development & Special Initiatives. 2024. *Executive Summary of the 13th Five Year Plan*. <https://uraanpakistan.pk/executive-summary/>. Accessed: 22 May 2025.

Green and climate change-friendly	Green and climate change-friendly technology	<ul style="list-style-type: none"> ▪ What policies exist for the promotion of skills for green jobs and climate change-friendly technology? ▪ To what extent are climate-change responsive skills/competencies included in the curriculum?
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2.2.8.2 General knowledge gap and research agenda

The evidence and analyses presented in the forging chapters indicate that the TVET system has made good progress but a large number of weaknesses and issues persist. However, little research appears to have delved into depth and explained the actors and factors responsible for the success or failure of specific interventions/events. In other words, the progress and the gaps in TVET services indicate the persistence of the knowledge gap. These knowledge gaps/ research agenda and relevant policy questions are presented in Annex 2.2.2 (Pakistan TVET Issues and Knowledge Gaps/Research Agendas).

2.2.9 Major conclusions and recommendations

Pakistan TVET has made notable progress in TVET reform which needs to be continued. In this regard, the major conclusions and corresponding recommendations are summarized in this chapter and are based on the TVET III ex-post evaluation report 2024.

NVQS operationalization. Due to the limitations such as the lack of machinery, equipment, and trained teachers required for offering Level 5, TEVTAs have been implementing qualifications mainly up to Level 3 and in some cases up to Level 4. There is a lack of institutional and regulatory mechanisms for TVET beyond Level 5. In addition, the project has made progress in introducing the Recognition for Prior Learning (RPL) assuring recognition of the skills learned informally. However, considering the large proportion of workers’ engagement in the informal sector, the current effort is insufficient. To boost the NVQs operationalization and its continuation, necessary preparations such as curriculum development for all levels with demands, teacher training, and laboratory improvements are recommended. Further, given the large size of the informal sector and the workers engaged therein, the RPL services should be expanded across the country.

Teacher training system and CoEs. Given the nationwide need for teacher training facilities, the current scale of delivery is insufficient. Teachers’ development training should be continuous work and scaled up to cover all the provinces and regions.

Accreditation system. Operationalization of the accreditation system is another important achievement. However, this system is also continuing with deputed staff from other organizations. Therefore, to continue with effective accreditation work, the NAC needs to reduce its reliance on deputed staff and should hire its staff.

Private sector participation. Progress in the inclusion of BIA representatives in NAVTTC, TEVTAs, and IMCs is notable. Their role in the IMCs was better compared to that in the NAVTTC and TEVTA Boards. The Sector Skills Council (SSC) as another tool to make BIA’s engagement productive largely remained unsuccessful. To make BIA engagement in governing boards effective, these members need to be capacitated by organizing training and pre-board meetings. They should be encouraged to establish a network amongst themselves. SSCs require their establishment as an autonomous body under statutory cover and with necessary funds, at least in the early days of its operations.



Evidence-based policy and planning. NSIS under NAVTTC is a strong system for data and information collection and dissemination. However, it is not comprehensive enough with indicators covering all the thematic areas of TVET and corresponding baseline data. Therefore, there is a need for a national-level TVET sector analyses and establishing sector indicators and corresponding baselines. This knowledge on the status of TVET can facilitate improve the TVET Policy 2018 and NSS 2018 and also develop evidence-based long-term reform plan.

Annex

Annex 2.2.1 Key TVET actors and their engagement

As explained in various chapters (Chapters 2.2.3.7; 2.2.3.10 and 2.2.5), governments at various levels are partnering with BIAs and domestic and international development partners in the reform of the TVET sector. They are presented in Annex Table 2.2.2.

Table 2.2.1: Key TVET Actors

SN	IDPs	Area of engagement
1	National actors	
a	Ministry of Federal Education and Professional Training (MoFEPT)	Policy and planning
b	National Vocational and Technical Training Commission (NAVTTTC)	<ul style="list-style-type: none"> ▪ Quality assurance (accreditation, standards and curriculum development) ▪ Implementation of short-term training
c	National Accreditation Council (NAC)	Program and institute accreditation
d	Provincial TEVT Authorities (TEVTAs)	Manage and operate institutes Monitoring and evaluation
e	Bureau of Technical Education (BTE)	Assessment and certification of long-term TVET programs
f	Trade Testing Board (TTB)	Assessment and certification of short-term programs
g	Punjab Skills Development Fund	Funding training
h	Punjab Vocational Training Council (PVTC)	Implementation of long and short-term training programs
i	Center of Excellence	Teacher/instructors' training and implementation of long and short-term training programs
j	Public and private training institutes	Implementation of long and short-term training programs
K	Prime Minister's Youth Skill Development Programme	Implementation of short-term training programs
l	Business and industry/ Employers Federation of Pakistan	Collaboration and exchange in TVET Participation in NAVTTTC and TEVTA boards and IMCs; Supply of labor market information to the NSIS; Collaboration in standards and curriculum development; and Facilitation for WBT opportunities and employment placement
2	International actors	
a	European Union	Progress in TVET reform – CBT&A development and implementation, CoEs and teacher training, work-based training, participation of business and industry
b	Government of Germany	Collaboration with the EU to implement TVET reform projects
c	Royal Norwegian Embassy	Collaborative funding with the EU on TVET reform
d	Asian Development Bank	Demand-driven and gender-focused training
e	China	Skills training related to CPEC initiatives Skills development focusing on 15 key fields including automation, textile, big data, and engineering
	British Council	Skills for Employability program has so far contributed to developing five partnerships between the Pakistani and UK technical and vocational training (TVET) institutes/colleges.

(Sources: NAVTTTC.org.Pk; eeas.europa.eu; ADB.org; britishcouncil.pk; .pakistantoday.com.pk. Download 11 Feb 2025).

Annex 2.2.2: Knowledge gap/ research agenda and policy questions in Pakistan TVET

Issues	Knowledge gap/ research agenda	Policy questions
Weak coordination among TVET stakeholders	<ul style="list-style-type: none"> ▪ Why is coordination between NAVTTC and provincial and regional governments weak? ▪ What coordination of relevant lessons can Pakistan learn from other international TVET models? ▪ How can NSIS contribute to coordination and TVET governance? 	<ul style="list-style-type: none"> ▪ What policy provision could address this problem? ▪ What regulatory reforms are needed to enhance the efficiency of NAVTTC and TEVTA?
NAVTTC engaged in delivery	<ul style="list-style-type: none"> ▪ What makes NAVTTC engaged in delivery while training at the provinces and region is provincial and regional governments' responsibility? 	<ul style="list-style-type: none"> ▪ What regulatory provisions could relieve NAVTTC from this responsibility?
Low female enrollment due to societal barriers.	<ul style="list-style-type: none"> ▪ What gender-specific barriers are responsible for low female enrolment? ▪ How does the community perceive women's engagement in TVET programs? 	What policies are required to break the barriers influencing women/female enrolment?
Low employment rate of TVET graduates	<ul style="list-style-type: none"> ▪ To what extent TVET contributes to poverty reduction and employment generation? ▪ Why is employment rate low? 	What policy provisions could enable TVET to contribute to enhancing employment rate?
TVET facilities concentrated in urban areas, limiting rural access.	How can access to rural and remote communities be enhanced?	What decentralization model of accessibility in TVET initiatives exists in other countries?
Financial constraints for low-income youth to enroll in TVET programs.	What financial incentives can encourage low-income youth to engage in TVET?	What financial aid models could be useful to include low-income youths and marginalized communities?
Limited teacher training opportunity	<ul style="list-style-type: none"> ▪ What proportion of teachers are trained in pedagogy and real world-of-work? ▪ In what depth such training is necessary? 	What policy provisions could make teacher training mandatory?
Outdated and insufficient machine and equipment in many TVET institutes	<ul style="list-style-type: none"> ▪ The extent to which such facilities are outdated? Or to what extent institutes lack market relevant practical training facilities? ▪ How are institutes managing training in such a context? ▪ What is impact of this deficiency on learning, and employment and income outcomes? 	<ul style="list-style-type: none"> ▪ What policy measure is required to ensure such facilities in TVET institutes? ▪ Any PPP policies could address this gap? ▪ What financial instrument/mechanism could help institutes arrange these facilities?

Limited use of consumables	<ul style="list-style-type: none"> ▪ To what extent are consumables available for each learner? ▪ To what extent do learners get opportunity to sit in the practical training? 	What financial provision would help ensure sufficient practical training consumables?
Formative assessment in CBTA is bulky and traditional training institutes practice such assessment in limited manner	<ul style="list-style-type: none"> ▪ To what extent is formative assessment practiced? ▪ What factors and actors are responsible for weakness in the existing formative assessment and how that could be improved? 	What policy measures are required to make the formative assessment effective?
Lack of systematic and regular market study before occupations identification and curriculum development.	What occupations/ qualifications have the largest demand in the market?	What policy measures (for instance giving flexibility to institutes to take decision on qualifications to offer) are required to make market assessment mandatory before deciding qualifications to offer?
Post-training support	<ul style="list-style-type: none"> ▪ What counseling, financial and institutional support is currently available and what is needed for graduates to start micro/small enterprises? 	What institutional mechanism and financial instruments could be helpful to help new entrepreneurs?
Weak engagement of BIAs in curriculum development and decision-making process	<ul style="list-style-type: none"> ▪ To what extent business and industry associations (BIAs) are engaged in curriculum development and governing boards' decision-making process? ▪ Why has there been gap in such engagement? 	<ul style="list-style-type: none"> ▪ What policy incentives (for instance, tax rebate or offering qualifications demanded by BIAs) are necessary to put productive engagement of BIAs in curriculum development and decision-making process? ▪ What policy provisions are required for sustaining SSCs?
<ul style="list-style-type: none"> ▪ TVET and general education not well integrated ▪ TVET is mainly at Level 2 and 3 and limited to L5 ▪ RPL services is limited 	<ul style="list-style-type: none"> ▪ Why are the TVET qualifications limited to Level 5? ▪ Why are the demands mainly in Level 2 and 3? ▪ Which agencies are responsible for implementation of qualifications beyond Level 5? ▪ Why has the RPL not been expanded? 	<ul style="list-style-type: none"> ▪ What policy provisions and institutional mechanism are necessary to integrate TVET with general education and open higher-level pathways for Level 5 graduates? ▪ What policy measures could help expand the RPL services across the country?
Limited awareness and use of emerging fields like artificial intelligence (AI), robotics, and automation in learning environment.	<ul style="list-style-type: none"> ▪ What level of digital literacy among TVET trainers and students? ▪ To what extent is AI used in a learning environment? ▪ What scope remains for such provision? 	<ul style="list-style-type: none"> ▪ What policy provisions can enforce inclusion of digital platforms for expanding e-learning?



	<ul style="list-style-type: none"> What infrastructure exists and is required to facilitate online learning in institutes in remote areas? 	
	<p>What demand exists for use of AI and automation?</p>	<p>What policy measures are required to encourage application of AI and automation?</p>
	<ul style="list-style-type: none"> What scope exists for integration of future tech skills in TVET? To what extent have institutes kept abreast of future tech skills? 	<p>What policy changes/ measures are needed to integrate the future tech skills in TVET system?</p>
<p>Limited awareness of green and climate change-friendly technology</p>	<ul style="list-style-type: none"> What policies exist for the promotion of skills for green jobs and climate change-friendly technology? To what extent are climate-change responsive skills/competencies included in the curriculum? 	<ul style="list-style-type: none"> What policies exist for the promotion of skills for green jobs and climate change-friendly technology?
<p>Limited funding for quality TVET</p>	<ul style="list-style-type: none"> How effective is the current funding mechanism in delivering high-quality training? 	<ul style="list-style-type: none"> Would a dedicated TVET Fund address this issue?

Annex 2.3: Bangladesh TVET Report

2.3.1 National socio-economic context

According to the Bangladesh Labor Force Survey (BLFS) 2022¹³⁶, the country's population stood at 169.87 million, with a working-age population of approximately 119.37 million (60.28 million females)¹³⁷. Of the total working-age population, 59.03% were employed or engaged in economic activity. Each year, an estimated 2.2 million people enter the labor force¹³⁸.

The service sector is the largest contributor to the GDP (51.24%), followed by industry (37.65%) and agriculture (11.2%)¹³⁹. The BLFS also estimates that around 2.82 million individuals (4.01%) were underemployed with most residing in rural areas. Among the employed population, 31.98 million were engaged in the agriculture sector, 11.97 million in the industry, and 26.52 million in the services.

Informality remains a significant feature of the labor market—84.9% of the employed population (59.8 million) were engaged in informal employment. The unemployment rate was 3.51%¹⁴⁰, which, according to World Bank estimates, rose to 4.5% in 2023¹⁴¹. Youth unemployment stood at 10.6%, and youth accounted for 79.6% of the total unemployed.¹⁴² Moreover, 9.65 million young people (22%) were categorized as Not in Education, Employment, or Training (NEET). While female labor force participation is gradually increasing, it still falls short of national targets¹⁴³. According to the Directorate of Technical Education (DTE) Study 2020¹⁴⁴, the number of unemployed educated youths stood at 2.7 million.

As in some other South Asian nations, people practice migration to a foreign country in search of better employment and income. According to the Financial Express¹⁴⁵, of the total migrant workers, 17.56% were semi-skilled and 54.23% were unskilled. Despite Bangladesh's economic progress, the International Labour Organization reports that skills mismatch and a shortage of skilled workers persist constraining economic growth¹⁴⁶.

The World Bank (2025)¹⁴⁷ notes that Bangladesh has experienced robust economic growth and significant poverty reduction since independence in 1971, achieving lower-middle-income status in 2015. Poverty levels declined from 11.8% in 2010 to 5.0% in 2022. However, these macroeconomic gains have not been evenly distributed. Many Bangladeshis continue to struggle

¹³⁶ Bangladesh Bureau of Statistics/Ministry of Planning/ Government of Bangladesh (GoB). 2023. Labor Force Survey 2022. GoB. Dhaka.

¹³⁷ Khan, A.T. 2024. Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

¹³⁸ Ulandssekretariatet.dk. Laor Market Profile Bangladesh. 2024/25. Accessed: 27 February 2025.

¹³⁹ Bangladesh Economic Profile. bcgdubai.gov.bd. Accessed: 29 March 2025.

¹⁴⁰ Bangladesh Economic Profile. bcgdubai.gov.bd. Accessed: 29 March 2025.

¹⁴¹ data.worldbank.org. Unemployment – Bangladesh 2023. Unemployment, total (% of total workforce) (modelled ILO estimate). Accessed 17 February 2025.

¹⁴² Aziz. S.A. 2023. TVET@Asia (Issue 20, January 2023), [Reframing Governance for Improving Quality of Technical Vocational Education and Training \(TVET\) in Bangladesh](#). Jan 31, 2023 | Issue 20. Centre for Occupational Research and Education (CORE). tvet-online.asia. Accessed: 22 February 2025.

¹⁴³ UNESCO-UNEVOC. (2018). *TVET in Bangladesh: Policy, Challenges, and Prospects*. UNESCO-UNEVOC.

¹⁴⁴ dte.bangladesh.za.net. 2020. TVET graduate study 2020. DTE. Dhaka.

¹⁴⁵ [thefinancialexpress.com.bd](#). 29 January 2025. Unskilled workers still dominate manpower exports. Accessed: 16 February 2025.

¹⁴⁶ ILO. 2019. State of Skills. ilo.org. Accessed: 13 April 2025.

¹⁴⁷ www.worldbank.org. The World Bank in Bangladesh. Accessed: 17 February 2025.

due to limited opportunities, high youth unemployment, and rising inflation—factors that have contributed to social unrest¹⁴⁸ and a political shift in 2024.

In response to these challenges, Bangladesh has laid out an ambitious vision in the Perspective Plan 2041 (PP2041)¹⁴⁹ and the 8th Five-Year Plan¹⁵⁰, aiming to eliminate extreme poverty and attain Upper Middle-Income Country status by 2031, with a long-term goal of becoming a High-Income Country by 2041. PP2041 places strong emphasis on mainstreaming Technical and Vocational Education and Training (TVET) to prepare the workforce for the Fourth Industrial Revolution (Industry 4.0). The plan sets TVET enrollment targets at 30% by 2031 and 41% by 2041.

As emphasized in the DTE Report (2020), Bangladesh urgently needs a competitive and skilled workforce to meet the evolving demands of the labor market. This calls for comprehensive reform of the TVET system, with a focus on equipping individuals with relevant technical and vocational skills to drive human capital development and national growth.

2.3.2 History of TVET development

TVET development. The TVET system in Bangladesh is at a critical crossroads. Over the past two decades, it has gradually gained policy attention and substantial donor support. The development of Bangladesh’s TVET system can be broadly viewed in three phases: i) a supply-driven approach from the 1960s until the early 2000s; ii) a reform-oriented phase from the early 2000s to 2015; and iii) a period of mainstreaming and system expansion since 2015.

As discussed in the following Chapter, the second phase was marked by substantial policy and institutional developments, such as the National Skills Development Policy (NSDP) in 2011, the establishment of the National Skills Development Council (NSDC), and the adoption of the National Technical and Vocational Qualifications Framework (NTVQF), Competency-Based Training and Assessment (CBT&A), and Recognition of Prior Learning (RPL). These reforms gained momentum with the implementation of several donor-supported programs, especially the Skills and Training Enhancement Project (STEP) and the Skills for Employment Investment Program (SEIP). Since 2015, several legal and institutional arrangements have aimed to integrate skills development within the mainstream education framework and improve its industry relevance. The NSDC was restructured and renamed as the National Skills Development Authority (NSDA). The Technical and Madrasah Education Division (TMED) was established under the Ministry of Education, and the NSDP was revised in 2022. The policy interventions have driven major reforms in curriculum, training quality, and industry linkages during the last one and a half decades.¹⁵¹

Based on the evidence presented in various chapters of this report, many of these reforms are still at their early stages and have yet to be fully institutionalized and operationalized.

Management of change during the TVET development process. The country has made efforts to manage the change process in the TVET system through policy and institutional reform, as well as engagement of international development partners (IDPs).

¹⁴⁸ theconversation.com. 06 August 2024. Bangladesh’s protests explained: What led to PM’s ouster and the challenges that lie ahead. The conversation. Dhaka. Accessed: 22 February 2025.

¹⁴⁹ Ministry of Planning/ GoB. 2020. Making Vision 2041 a Reality. Perspective Plan of Bangladesh 2021-2041. GoB. Dhaka. Accessed: 22 February 2025.

¹⁵⁰ Bangladesh Planning Commission (BPC). 2020. 8th Five Year Plan. July 2020 – June 2025. Promoting prosperity and fostering inclusiveness. BPC/Government of Bangladesh. Dhaka

¹⁵¹ UNESCO-UNEVOC. (2018). *TVET in Bangladesh: Policy, Challenges, and Prospects*. UNESCO-UNEVOC.



Policy Reforms. As discussed in the ‘Governance’ chapter, the government has undertaken several significant policy reforms aimed at transforming TVET from a supply-driven to a demand-driven system. Promotion of public-private partnership (PPP) through, for instance, the Industry Sector Council (ISC) is an important policy shift in bringing Business and Industry to various functions of the TVET system and encouraging market-relevant TVET.

Institutional Reforms. To better manage and coordinate TVET development, Bangladesh has established specialized institutions like the National Skills Development Authority (NSDA) under the Prime Minister’s Office. NSDA works to harmonize skills development efforts across ministries and stakeholders. The Bangladesh Technical Education Board (BTEB) has also been strengthened to regulate and standardize technical education, including curriculum design, assessment, and certification.

Development Partner Support. The government sought international support for funding the reform process. Among the IDPs, the Asian Development Bank (ADB), World Bank, and ILO have played crucial roles in providing financial assistance, technical expertise, and piloting innovative models like competency-based training. The Skills for Employment Investment Program (SEIP) is one such initiative helping increase access, quality, and relevance of skills training.

Factors influencing the change process. The factors influencing the reform process have been briefed as internal and external factors.

Internal factors. Among the internal factors, government commitment expressed through a strong policy focus on skills development and its recognition as a tool for poverty reduction and employment generation is important. Institutional development, for instance, the formation of NSDA and strengthened roles for BTEB have improved the planning, monitoring, and regulation of TVET. NASDA has been making efforts to coordinate among ministries. Despite the low perception of TVET, growing interest in TVET is reflected through a steady rise in enrollment particularly in short-term training programs which also indicates increasing awareness and acceptance of the TVET pathways.

Factors such as institutional fragmentation leading to duplication of efforts; shortage of qualified trainers adversely affecting the quality and relevance of training delivery; rigid curriculum often with limitations to meet the labor market needs and its limited flexibility in adapting to emerging technologies and occupations; and low social perception of TVET discouraging much-talented youth from pursuing TVET pathways, resist the positive change.

External Factors. Among the external factors influencing TVET development include: demographic dividend (more than 60% of the population under 35) indicating a large youth base that can benefit from skills training; demand for skilled workers in industry sectors (such as Ready-Made Garments, construction, and information technology sectors); need for competitiveness for securing better jobs in the overseas employment market; and international support (ensuring both funding and technology transfer) is significant. Similarly, the resisting external factors include economic constraints (budgetary limitations that affect the scale and sustainability of TVET reform initiatives and continuation of outdated equipment and insufficient funds); technological disruption (demanding rapid technological change and automation transforming the nature of work and skills requirement); strong preference for general academic and university education; and potential external shocks (such as in foreign labor/ employment policies including preference for domestic workforce, global recessions or pandemics) can disrupt the training and employment trends.

2.3.3 Assessment of TVET performance

This chapter presents achievements and progress made under themes including governance and effectiveness. The areas of improvement under each theme are presented in the ‘Weaknesses’ chapter.

2.3.3.1 Governance

Policy development and policy framework. Bangladesh TVET is guided by its Constitution and other statutory and planning documents¹⁵². They include Bangladesh Constitution, National Education Policy (NEP) 2010, National Skills Development Policy (NSDP) 2011, Bangladesh Labor Law 2015 (Apprenticeship), National Skills Development Authority (NSDA) Act 2018, Bangladesh Technical Education Board (BTEB) 2018, NSDA Rules 2020, and National Skills Development Policy (NSDP) 2021. The other planning documents relevant to TVET are: the Sustainable Development Goals (SDG) 2030; Perspective Plan (2021-2041); Vision 2041; and the 8th Five-Year Plan.

The NEP 2010 has three objectives and 25 strategies on TVET and skills development (referred to as TVET services hereafter). The NSDP 2011 under the Ministry of Education (MoE)¹⁵³ exists as the second policy with an exclusive focus on TVET services. It aims to: increase the competent workforce in diverse sectors; build up a skilled workforce; create wide-ranging employment opportunities through the export of skilled workforce; and enhance foreign currency earnings. The policy is supported by strategies including: giving access to eligible graduates to the Bachelor program; maintaining the teacher-student ratio; ensuring competency; apprenticeship; inclusion; work-based training; teacher training; textbooks, expansion; managing TVET institutions; public and private partnership; and review of curricula. It also has the intention to establish a technical university.

The third policy entitled ‘NSDP 2020 (Draft)’¹⁵⁴ is under NASDA^{155, 156} and its objectives have focused on demand-driven, flexible, and responsive training provisions; quality assurance through a framework of qualifications; unified skills certification system; improved coordination of and access to skills development training; industry- institute linkage for demand-driven training and job placement; mutual recognition agreement for skills development and job placement; Recognition of Prior Learning (RPL) mechanism for formal recognition of skills gained in the informal sector; skills data system; and an efficient monitoring and evaluation system. It has provisions for emerging technologies including Industrial Revolution 4.0, digital skills, and climate change initiatives which make it a forward-looking document. Among the other important provisions are the implementation of CBT&A and the inclusion of women, people with disabilities, and facilities for communities in rural and less developed areas. The policy also aims to ‘align it with other relevant national economic, employment, and social policies to support the country on its goal of achieving a developed country status by 2041’. Therefore, it is a comprehensive policy document.

¹⁵² NSDA/ GoB. National Action Plan 2022-2027 for Skills Development. Prime Minister’s Office. Government of Bangladesh. nsda.portal.gov.bd. Download: 23 February 2025.

¹⁵³ Ministry of Education/ GoB. National Skills Development Policy, 2011. ilo.org. Download: 23 February 2025.

¹⁵⁴ NSDA. 2020. National Skills Development Policy, 2020 (NSDP 2020). Prime Minister’s Office. Government of Bangladesh. nsda.portal.gov.bd. Download: 23 February 2025.

¹⁵⁵ This policy is referred to as ‘National Skills Development Policy (NSDP) 2021’ in the National Action Plan 2022-2027

¹⁵⁶ NSDA/ GoB. National Action Plan 2022-2027 for Skills Development. Prime Minister’s Office. Government of Bangladesh. nsda.portal.gov.bd. Download: 23 February 2025.

The Technical and Madrassa Education Division (TMED) under the MOE developed the 'Integrated TVET Development Action Plan (ITDAP) 2016-2030' to improve the quality of TVET in achieving the government's SDGs. Similarly, the NSDA-prepared 'National Action Plan (NAP) 2022-2027 for Skills Development in Bangladesh'¹⁵⁷ is in place and has focused on areas including demand-driven, flexible, and responsive skills training. Quality, access and outreach, industry engagement, outcomes, governance, and research are other areas with emphasis.

Capacity to undertake evidence-based policy formulation. The policy framework and provisions presented in the section above suggest that the government can prepare a comprehensive policy document. For instance, the NSDP 2020 provisions¹⁵⁸ described above are a comprehensive document. Almost similar to it, the NEP 2010 and NSDP 2011 also cover these areas. Although these two documents appear to overlap, MoE mandates on SSC, HSC, and Diploma level qualifications and other ministries on short-term training broadly separate their working areas.

The comprehensiveness of these documents and their subsequent implementation plan, and their linkages with national plans and vision documents clearly explain the country's technical capacity for preparing policies and plans. However, despite some information in the Bangladesh Education Statistics 2023 and the Bangladesh Labor Force Survey, they do not include all necessary baseline data and information. For instance, of the over 150 indicators used in the NAP 2022-2027, approximately 67% (101) do not have baseline values. Therefore, the policies and plans developed might not necessarily be evidence-based.

Governance structure. The TVET system remains highly fragmented in terms of oversight and delivery.

The important institutions with a role in TVET governance are the Ministry of Education, the Ministry of Labor and Employment (MoLE), and the Ministry of Expatriate Welfare and Overseas Employment (MoEWOE) along with other 20 ministries¹⁵⁹.

The Ministry of Education (MoE), through its Technical and Madrasah Education Division (TMED), is the main public provider and regulator of TVET with the mandate to formulate acts, policies, and legislative orders to ensure quality education and training¹⁶⁰. Key institutions under the MoE include the Directorate of Technical Education (DTE), which oversees the administration and management of public technical institutions; and the Bangladesh Technical Education Board (BTEB). The BTEB was established under the BTEB Act 2018 and is responsible for maintaining the TVET qualification framework and the sector quality, recognition, and registration and renewal of the TVET institutions, accreditation of institutions and courses, student registration, setting training standards, students' assessment and certification of results. The BTEB Act reveals that TVET qualifications and certifications are categorized into six groups which include diplomas, certificates, trade courses, National Technical Vocational Qualification Framework (NTVQF) certifications, professional and in-service programs, and TVET teacher training programs¹⁶¹.

¹⁵⁷ NSDA/ GoB. National Action Plan 2022-2027 for Skills Development. Prime Minister's Office. Government of Bangladesh. nsda.portal.gov.bd. Download: 23 February 2025.

¹⁵⁸ Kashem, A., Chowdhury, K. A. and Shears, A.E. Shears. opportunities-insight.britishcouncil.org. TVET developments in Bangladesh. Accessed: 16 February 2025.

¹⁵⁹ Aziz, S.A. 2023 cited in unevoc.unesco.org. Accessed: 16 February 2025.

¹⁶⁰ Aziz, S.A. 2023 cited in unevoc.unesco.org. Accessed: 16 February 2025.

¹⁶¹ Aziz, S.A. 2023. TVET@Asia (Issue 20, January 2023), [Reframing Governance for Improving Quality of Technical Vocational Education and Training \(TVET\) in Bangladesh](#). Jan 31, 2023 | Issue 20. Centre for Occupational Research and Education (CORE). tvet-online.asia. Accessed: 22 February 2025.



The Bureau of Manpower, Employment, and Training (BMET) under the Ministry of Expatriates' Welfare and Overseas Employment (MEWOE) also plays a key role, mainly in skills development for overseas employment. Several other ministries, including the Ministry of Youth and Sports (MoYS), the Ministry of Industries (MoI), the Ministry of Women and Children Affairs (MoWCA), and the Ministry of Labour and Employment (MoLE) also offer TVET programs. MoLE's responsibilities include the development of human resources to make them competent¹⁶².

Established under the NSDA Act 2018, the NASDA operates under the Prime Minister's Office and has been in service since 2019. Its key responsibilities¹⁶³ are to develop policy and action plans, strategies, and guidelines; forecast demand of skilled labor for domestic and foreign country employment markets; identify skills gap; develop demand-based training curricula; register skills training providers; monitor the quality of skills development training and programs; assess and certify the trainees; and strengthen Industry Skills Council (ISC). The National Skills Portal (NSP) aims to systematically collect, organize, analyze, and publish data on all indicators related to the skills development ecosystem.

Apart from the ministries mentioned above, over fifteen other ministries are engaged in skills training. Specific agencies under them include the Department of Agriculture Extension, the Department of Textile, the Department of Women Affairs, the Department of Social Services, and the Department of Youth Development.

The private sector and stakeholders in the governance include Industry Skills Councils (ISCs) with the responsibility to ensure voices of business and industry are incorporated in decision-making, curriculum development, and accreditation processes¹⁶⁴.

2.3.3.2 Effectiveness

Qualifications and programs. The Bangladesh NQF (BNQF) has 10 levels with Level 6 as the Diploma qualification and the remaining (levels 1 to 5) as National Skill Certificates (NSC). The TVET qualifications end at Level 6 and further education for these graduates is available at Bachelor's qualification in general education.¹⁶⁵

With regards to integration, as explained on the UNESCO-UNIVOC website¹⁶⁶, the BNQF defines pathways and equivalencies providing access to qualifications and assisting people to move easily and readily between the different education streams and to the labor market. The RPL system exists to recognize the skills learned outside the formal system and facilitates access to the formal sector.

Bangladesh has expanded its TVET network significantly across the country offering a mix of short-term skills courses and diploma programs with long duration. According to the 8th Five-Year Plan of Bangladesh, formal TVET consists of Diploma, Higher Secondary Certificate (HSC), and Secondary School Certificate (SSC) levels. The TVET courses are time-bound, institution-based, and graded with formal certification. These programs are offered by engineering colleges, polytechnic institutes, technical schools and colleges, business management colleges, and other technical and vocational institutes¹⁶⁷.

¹⁶² Mole.gov.bd. Accessed: 18 February 2025.

¹⁶³ skillsportal.gov.bd. Accessed: 18 February 2025.

¹⁶⁴ UNESCO-UNEVOC. (2018). *TVET in Bangladesh: Policy, Challenges, and Prospects*. UNESCO-UNEVOC.

¹⁶⁵ unevoc.unesco.org. UNESCO-UNEVOC. Country Profile - Bangladesh. Accessed 20 April 2023.

¹⁶⁶ unevoc.unesco.org. UNESCO-UNEVOC. Country Profile - Bangladesh. Accessed 17 February 2023.

¹⁶⁷ Bangladesh Planning Commission (BPC). 2020. 8th Fiver Year Plan. July 2020 – June 2025. Promoting prosperity and fostering inclusiveness. BPC/Government of Bangladesh. Dhaka

Institutes and enrollments. TVET institutions are managed at both central and regional levels. Regional Training Centers (RTCs) and district-level institutes have responsibility for education and training delivery. According to Bangladesh Education Statistics (BES) 2023¹⁶⁸, merely 3,290 TVET institutes were in operation in 2009, with an almost three-fold increase, reaching 10,595 in 2023 and giving access to 1,818,522 learners nationwide.

Of the total enrollment in 2023, 394,273 were in Diploma (post-secondary, non-tertiary). It was 556,655 and 517,520 for HSC and SSC levels, respectively¹⁶⁹. Currently, there are 190 government and about 5,000 private technical education institutes under the TMED.¹⁷⁰ According to the UNESCO-UNIVOC Profile dated 17 February 2025, 429 polytechnics and 172 technical colleges and schools are under the MoE. The other TVET programs were provided by various other public and private training providers. The non-formal TVET or short skills training courses with a duration between 1–12 months are not affiliated/ accredited by the BTEB. According to Aziz 2023, TVET offers 317 technology/ trades under 33 programs. Under the NTQF, 190 occupations and 415 competency standards have been developed.

Apart from the long-term programs, short-term training which is generally of 3 months duration is provided outside the formal school system where a large number of ministries including the DTE, as well as private providers and NGOs are engaged. Beneficiaries of these courses include youth who left school early and are currently working or unemployed individuals¹⁷¹. According to the NAP 2022-2027, short-term skills training was provided to 16,99,309 in 2019/20 alone which according to the BES 2023, dropped to 350,074 (32.61% females) in 2023¹⁷².

Private institutions are actively involved in providing non-formal training to specific target groups selected by overseas employment agencies for jobs abroad¹⁷³. As such, enrollment capacity has grown (DTE 2020).

There are two teacher training institutes, one each for technical and vocational teachers.

2.3.3.3 Inclusion

NEP 2010 has a strategy to ensure the participation of students with disabilities in TVET¹⁷⁴. The ITDAP intends to promote and strengthen the TVET activities for Madrasah students. Although the NAP 2022-2027 informs share of females in short-term training was 40% in 2019/20 alone, the Bangladesh Bureau of Educational Information and Statistics (BANBEIS) Report 2023 informs that, of the total 536,923 enrollments, the share of female students was only 29.53%. This figure means the gender parity index of 0.41 (37%) was much less than the national target of 100%.

2.3.3.4 Quality

The policy and planning documents – NSDP 2011, NSDP 2020, and ITDAP 2016-2030 have provisions and emphasis on the quality of TVET services. Apart from the quality assurance initiatives such as curriculum development, accreditation, and teacher training, the National

¹⁶⁸ Bangladesh Bureau of Educational Information and Statistics (BANBEIS). 2024. Bangladesh Education Statistics 2023. Ministry of Education. Dhaka

¹⁶⁹ Bangladesh Bureau of Educational Information and Statistics (BANBEIS). 2024. Bangladesh Education Statistics 2023. Ministry of Education. Dhaka

¹⁷⁰ tmed.gov.bd. Accessed: 19 February 2025.

¹⁷¹ adb.org/sites/default/files/linked-documents/LD-G-Education-Operations-Assessment.pdf

¹⁷² Bangladesh Bureau of Educational Information and Statistics (BANBEIS). 2024. Bangladesh Education Statistics 2023. Ministry of Education. Dhaka

¹⁷³ unevoc.unesco.org. UNESCO-UNEVOC. Country Profile - Bangladesh. Accessed 17 February 2023.

¹⁷⁴ MoE/GoB. 2010. National Education Policy 2010. MoE. Dhaka.

Technical and Vocational Qualifications Framework (NTVQF) is in place as a TVET policy instrument for consistency of nationally recognized qualifications and to improve the quality. It is linked with BNQF which has integrated the TVET with general education. An accreditation system, another quality assurance mechanism, is also in place. BTEB as a quality assurance body has an examination and certification authority. Accordingly, it conducts approximately 76 different course examinations for the qualifications/ programs of the institutions registered with it. In the process of reform, competency-based training and assessment (CBT&A) approach and modernization of curricula have been initiated. Similarly, Recognition of Prior Learning (RPL) was started to integrate informal skills into formal certification processes.

According to the skillsportal.gov.bd (Accessed: 19 February 2025), 290 competency standards are in place. The Enrollment Analyses Report (2016)¹⁷⁵ informs that BTEB has developed 28 different curricula also covering trades such as engineering trade and technology. As the BTEB approves TVET courses (in only 42.3%) of the institutions registered with it, a larger share of the non-BTEB institutions have either their curricula or Ministry/Department/other organizations-sponsored curricula.¹⁷⁶

Technical Teachers' Training College (TTC) and Vocational Teachers' Training Institute (VTTI) avail teacher training opportunities to the teachers in the sector. ADB has started the TVET Teachers for Future program. This initiative is aligned with the ITDAP, Bangladesh Vision 2041, the PP2041, and the 8th Five-Year Plan. All these policy documents intend to improve the equitable availability of qualified TVET teachers, especially outside of Dhaka¹⁷⁷.

2.3.3.5 Relevance

As informed by the MoE 2018, a strong partnership with industry has proven beneficial in creating real work placements and job opportunities, but the ministry considers it a moderate success in improving employment outcomes. To enhance the labor market interface and graduates' relevance, 16 ISCs are registered with NSDA¹⁷⁸ following the Company Act 1994. According to the DTE Report 2020, employers prefer TVET graduates.

2.3.3.6 Private sector engagement/ Labor market interface

BIAs in governance. The role of the private sector (referred to as Business and Industry Associations (BIAs) hereafter) in TVET development and employment cannot be overstated. Accordingly, government policies have provisions for their engagement in governance and at the delivery level. Of the over 25 members of the NSDA board, two - one each from FBCCI and ISCs (nominated representative) - are from the BIAs¹⁷⁹.

BIAs in Industry Sector Councils. ISCs are important provisions in this context and were established with the objective of monitoring and reviewing skill development practices in industry sectors; supporting the delivery of industry-relevant training and/or professional development programs for instructors and trainers; and improving partnerships between industry, public, and private training organizations. The eleven sectors covered by ISCs include agro-food processing,

¹⁷⁵ BTEB 2016. Report on Enrollment Analyses in TVET under BTEB. BTEB. Dhaka.

¹⁷⁶ Bangladesh Institute of Development Studies (BIDS). 2022. Stocktaking of Technical and Vocational Education and Training (TVET) Institutions in Bangladesh. BIDS. Dhaka.

¹⁷⁷ adb.org/projects. Bangladesh : TVET Teachers for the Future. Accessed: 19 February 2025.

¹⁷⁸ [Skillsportal.gov.bd](http://skillsportal.gov.bd). Accessed: 19 February 2025.

¹⁷⁹ unb.com.bd. National Skill Development Authority Bill placed. United News of Bangladesh (10 September 2018). Accessed: 19 February 2025.

transport equipment, leather and leather goods, hospitality and tourism, RMG; furniture, ceramics, pharmaceuticals, construction, light engineering, and information technology.¹⁸⁰

The other BIAs collaborating with the TVET system include: the Association of Export-Oriented Shipbuilding Industries of Bangladesh (AEOSIB); Bangladesh Association of Construction Industry (BACI); Bangladesh Association of Call Centers and Outsourcing (BACCO); Bangladesh Agro-food Processors Association (BAPA); Bangladesh Association of Software and Information Services (BASIS); Bangladesh Engineering Industry Owners Association (BEIOA); Bangladesh Garment Manufacturers and Exporters Association (BGMEA); Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA); Bangladesh Textile Mills Association (BTMA); Bangladesh Women Chamber of Commerce and Industry (BWCCI); Leather Goods And Footwear Manufacturers' & Exporters' Association, Bangladesh (LFMEAB); Real Estate and Housing Association of Bangladesh (REHAB); and Kumudini Welfare Trust of Bengal (BD) Ltd.

Up until 2018, ILO connected five public technical institutes with five private companies under the public-private-partnership (PPP) model¹⁸¹. Through these partnerships, students get the opportunity for practical training along with theoretical education. These learners also get the opportunity to use the machines and resources of these private enterprises.

The private sector in institute operations. The private sector has significant engagement in TVET institutes. According to the Bureau of Bangladesh, Statistics 2020 cited in Ali et al, there were 'about 220 private polytechnic institutes, 64 technical training institutes (TTCs), 35 technical schools and colleges, and over 900 other vocational training organizations.¹⁸²

BIAs in workplace-based training. The ILO 2019 report informs that the recent TVET reform initiatives on quality enhancement include industry-specific curricula, work-based training (WBT), and apprenticeship models to enhance practical learning outcomes. According to Swisscontact¹⁸³, industry / work-based training with the ready-made garment (RMG) sector proved to be particularly successful and has been implemented in 194 factories across the country. However, evidence of its wider use is not sufficiently available.

2.3.3.7 Outcomes

Despite the efforts presented above, the DTE Tracer Study 2021¹⁸⁴, conducted covering 1,792 Diploma, HSC, and SSC graduates of diploma-the 2018 and 2019 batches, found that only 39% of the surveyed diploma-level graduates were employed or self-employed. This result showed an improvement over previous tracer study findings of a 30% employment rate (in wage or self-employment and casual work), among course completers.¹⁸⁵ However, this data applies only to polytechnics and is referred here only for an indication. The DTE Report 2021 also informed that employers need a large number of skilled workers¹⁸⁶ indicating better employment outcomes, provided the graduates are competent to start jobs.

¹⁸⁰ Skillsportal.gov.bd. dated 19 February 2025.

¹⁸¹ ILO 2018. GOOD PRACTICES, REPLICATION STEPS AND WAY FORWARD. Public-private partnerships benefit TVET institutes and industry alike. GoB/Canada/ILO. Dhaka. Ilo.org. Accessed: 13 April 2025.

¹⁸² Bureau of Bangladesh Statistics, 2020 cited in Ali, M. Y., and Hossain, M. S. Linking TVET Institutions and Industry in Bangladesh. academia.edu. Accessed: 13 April 2025.

¹⁸³ swisscontact.org/en/projects/sudokkho. Accessed: 20 February 2025.

¹⁸⁴ Directorate of Technical Education. 2021. Report of TVET Graduate Tracer Study 2020. EU/ Technical Assistance To Support The Human Capital Development Programme For Bangladesh 2021 (HCDP-21). Dhaka

¹⁸⁵ Worldbank 2015 cited in Education sector analyses. Bangladesh. 2020. globalpartnership.org. Accessed: 19 February 2025.

¹⁸⁶ dte.bangladesh.za.net. 2020. TVET graduate study 2020. DTE. Dhaka

2.3.3.8 Efficiency

To enhance access, institutes operate in double shifts.¹⁸⁷ However, the TVET system is noted for efficiency-related issues such as reduction in enrollment, dropout, and pass-out rates, and fulfillment of staff vacant positions. These weaknesses and issues are explained in the respective chapters in the following sections.

2.3.3.9 Financing

The TVET sector analyses report (2019) informs that government grants cover about 70% of the public institutions' revenue. Therefore, the government becomes a major source of finance for the majority of public training institutions. However, this report informs that students contribute through tuition and examination fees, which, however, are minimal and do not become a major funding source for public institutions. About two-thirds of TVET students receive stipends, and many receive free hostel accommodations. Institutions are not encouraged to engage in cost-recovery activities.

According to Khan 2019¹⁸⁸, TVET institutions spend nearly 90% of their government subsidies on teacher salaries and allowances while several polytechnics remain without a budget for their recurrent expenditures. The ADB Report 2015¹⁸⁹ finds that 'training was virtually free in public institutions'.

2.3.3.10 Affordability

The country's affordability of the TVET system and services is assessed by learners, government, and institutions.

For learners: The TVET system has taken measures to reduce financial barriers to learners through stipends, especially for females and disadvantaged youths. For instance, SEIP and STEP have helped improve affordability and enrollment rates.

For the government: As revealed in policy documents, the government's recognition of TVET's role in the country's development through workforce preparation is important. Therefore, despite its reliance on IDPs for TVET financing, public investment is also gradually increasing.

For institutions: Public Institutions such as BTEB are working towards diversifying funding sources through cost-recovery models. For instance, the major source of BTEB income was fees for the assessment and certification of students. There is also the practice of offering paid short courses through institutions.

2.3.3.11 Adoption-scalability

Systemic uptake of reform initiatives. Bangladesh has mainstreamed several key reform initiatives nationally, such as CBT&A, NQF, and RPL. These reforms stem from policies and are taken further by NSDA, BTEB, and TVET institutions nationwide which also demonstrate the political commitment to scaling up the reform initiatives.

Enabling environment. A relatively stable political environment, NASDA operations under the Prime Minister's Office, and growing collaboration between the TVET system and BIAs help scale

¹⁸⁷ Directorate of Technical Education. 2021. Report of TVET Graduate Tracer Study 2020. EU/ Technical Assistance To Support The Human Capital Development Programme For Bangladesh 2021 (HCDP-21). Dhaka

¹⁸⁸ Khan, M.A. 2019. Khan, M. A. 2019. Situation Analysis of Bangladesh TVET Sector: A background work for TVET SWAp.

¹⁸⁹ ADB. 2015. Innovative strategies in technical and vocational education and training for accelerated human resource development in South Asia. Philippines: Asian Development Bank.

up the innovations. The efforts for alignment of TVET services with labor market demands also can exert pressure for scaling up.

2.3.3.12 Sustainability

Strong Policy Framework and Strategic Alignment. There is a consistent national commitment to TVET development embedded in major policy instruments such as the National Skills Development Policy (NSDP) in 2011, the 8th Five-Year Plan (2020–2025), and the establishment of the National Skills Development Authority (NSDA) in 2018.

Industry Engagement and Market Relevance. Establishment of more than 13 Industry Skill Councils (ISCs) for key economic sectors like RMG, construction, ICT, and tourism to develop occupational standards and curricula and shifting of traditional curriculum towards CBT&A with over 130 qualifications developed based on the National Technical and Vocational Qualification Framework (NTVQF) contribute to the productive and sustained engagement of business and industries which indicate TVET moving towards being more demand-responsive and industry-aligned.

Institutional Strengthening and Governance Reform. TVET institutions are getting stronger. For instance, the Bangladesh Technical Education Board (BTEB) is involved in quality assurance, assessment, and curriculum development. Similarly, NASDA has been making efforts to integrate over 23 ministries and other stakeholders involved in skills development.

Focus on Access, Equity, and Inclusion. TVET system has a target on women (target: 30% of female participation), persons with disabilities, and economically disadvantaged groups. Government stipends to marginalized trainees are other examples. The NTVQF-connected Recognition of Prior Learning (RPL) is another mechanism facilitating the recognition and certification of informal workers allowing them to enter into the formal sector.

Alignment with Global Agendas and Sustainability Goals. The Country's TVET goals are aligned with SDG 4.4 and SDG 8 which may help to tap into international best practices and technical resources.

2.3.4 Strengths and weaknesses

2.3.4.1 Strengths

As discussed in the chapter on Policy Development, one of the key strengths of Bangladesh's TVET system lies in its comprehensive policy framework. This includes the country's long-term development visions and strategies such as Vision 2041, Perspective Plan 2041 (PP2041), the 8th Five-Year Plan, as well as specific TVET-focused strategies like the National Skills Development Policy (NSDP) 2011 and its updated version in 2020, and the Implementation and Delivery Action Plan (IDAP).

At the institutional level, a governance framework exists for TVET development. The National Skills Development Authority (NSDA), operating directly under the Prime Minister's Office, plays a central coordinating role, alongside key ministries such as the Ministry of Education (MoE), with its sub-agencies DTE, TMED, and BTEB; the Ministry of Labour and Employment (MoLE); and the Ministry of Expatriates' Welfare and Overseas Employment (MoEWOE).

Significant progress has been made in teacher training provisions and the engagement of Business and Industry Associations (BIAs). Additionally, the growing engagement of Industry Skills Councils (ISCs) and the active collaboration of numerous BIAs in the delivery of TVET services stand out as important strengths that contribute to the system's relevance and responsiveness to labor market needs.

System-level strengths also include the establishment—though with modest progress—of specialized teacher training institutions such as the Technical Teachers’ Training College (TTTC) and Vocational Teachers’ Training College (VTTC). Furthermore, the operationalization of the National Qualifications Framework (NQF/NTQF), Recognition of Prior Learning (RPL), a formal accreditation system, and the gradual implementation of Competency-Based Training and Assessment (CBT&A) and Work-Based Training (WBT) reflect a forward-looking reform agenda.

Support of international development partners (IDPs), notably the EU and ADB is another important strength of the country’s TVET system.

2.3.4.2 Weaknesses – areas for improvement

Fragmentation in governance. 23 ministries established under different Acts and policies are engaged in TVET. This situation conveys fragmentation in the sector. For instance, NSDA and BTEB are established under the NSDA and BTEB Acts, respectively. Similarly, MoE through DTE/ TMED, MoLE, and MoEWOE are ministries engaged in the sector. All these institutions have their mandates.

Further, the sector is guided by the three policies: Education Policy 2010 and NSDP 2011 (under the MoE), and NSDP 2021 (under NASDA). These evidences suggest that even if NQF/ NTVQF has been in existence for some time now, possibilities of disarray in standards curricula, certificates, and certification process. This situation, as also pointed out by Aziz (2023), indicates a degree of overlap in the functions and mandates of these two skills policies (NSDP-2011 and NSDP-2021) and authorities (NSDA and BTEB) that continues. The ILO also indicates the existence of fragmentation and duplication in skills development in the TVET landscape¹⁹⁰. Also, as explained in the ADB sector assessment report¹⁹¹, in the absence of strong management and coordination, short-term training tends to be fragmented, with weak monitoring, and the lack of clear training standards means that the quality of training is variable.

Private sector engagement/ Labor market interface. According to Haque et al. (2024), there are hardly any industry-academia collaborations in the country in the truest sense¹⁹². Earlier, Khan (2019) also opined similarly that Bangladesh has little experience of strong PPP in the TVET sector.¹⁹³ These claims are also supported by the desk review findings. As explained earlier, their engagement in the governance body is poorly provisioned. For instance, with over 25 members on the NSDA board, only two are from the business and industry.¹⁹⁴ The social networks and association linkages with the institutions and the employers have very poor effectiveness. Hence, this evidence suggests the limited capacity of BIAs to influence government decision-making.

As noted earlier, government recognition of BIAs’ engagement in statutory provisions is not only insufficient, but according to Aziz (2023), such engagement is poor. This implies that the situation has not significantly improved since 2015, and this finding is aligned with Islam¹⁹⁵, the adoption of market-responsive TVET is still an ongoing process in Bangladesh.

¹⁹⁰ Ilo. Sector-Wide Integrated Framework for TVET (SWIFT): Synergies in Skills Development. Accessed: 19 February 2025.

¹⁹¹ ADB sector assessment report

¹⁹² Haque, M.R., Akhtar, A., and Alam, M.E. 2024. The state of Industry-Academia Collaboration through Industrial Attachment Programme of Polytechnic in Kushtia District. Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

¹⁹³ Khan, M. A. 2019. Situation Analysis of Bangladesh TVET Sector: A background work for TVET SWAp.

¹⁹⁴ unb.com.bd. National Skill Development Authority Bill placed. United News of Bangladesh (10 September 2018). Accessed: 19 February 2025.

¹⁹⁵ Islam, M.N. Brief on Linkage between TVET institutions and industries. old.bmet.gov.bd. Accessed: 10 April 2025.



Expansion and access. As presented earlier, 10,595 institutes provide access to 1,818,522 learners across the country. 55,338 (24.53% female) teachers are engaged in the TVET sector. NEP 2010 has a strategy to avail hands-on training to all teachers at all levels. However, according to a survey by Haque et al. (2024), none of the teachers were sent to industries for training in the actual world of work. Expansion of the programs without putting efforts into enhancing teachers' competency and work experience may not help realize the purposes of TVET expansion.¹⁹⁶

Relevance. In principle, TVET institutes need flexibility to respond to address the labor market gaps in terms of number and competency. However, it has not happened in the country because the public institutes operate under TMED and therefore, are affected by administrative bureaucracy and lengthy training programs. For instance, technical colleges operate directly under TMED, which means that the possibility of BIAs' engagement in TMED processes ranges from limited to none. Further, as informed by the ADB report, this could also be due to the fact that public providers 'lack the initiative to consult employers in preparing and updating standards, and regular mechanisms for labor market analyses'. In the absence of BIAs, the scope for ensuring the relevancy of the programs offered and enhancing opportunities for students' workplace-based training (OJT) and graduates' placement may remain. This is because the use of a curriculum prepared by academics with little or no understanding of the industry¹⁹⁷ raises the question of the relevance of these materials.

According to the ILO 2019 report, despite efforts to improve curricula, some traditional, theory-heavy programs persist in the country. Therefore, challenges remain in ensuring that courses are consistently aligned with rapidly evolving labor market demands. Similarly, the TMED study conducted in 2023 highlighted the inadequacy of market-relevant curriculum, weak linkage with the industries, and weak focus on green jobs and technology.

Outcomes. As shown in the DTE tracer study in 2022, a large share of SSC graduates pursue higher education and this tendency remains even in the HSC and diploma-level graduates as well. This evidence suggests that TVET graduates have limited interest in employment or face difficulties in securing employment opportunities. This situation also means government policies are insufficient to orient graduates towards engagement in post-graduation employment. The ADB sector assessment report¹⁹⁸ noted that the ministries generally have limited capacity to analyze and predict labor market developments. The TVET courses have too little focus on practical skills and on-the-job training, and the courses have only limited collaboration with industry. As a result, low employment outcomes, as found by DTE 2022 and earlier World Bank studies are not that surprising.

Moreover, the DTE Tracer Study 2021 showed that 11% of the respondents were pursuing higher education while half of them were under the 'not in education, employment and training' (NEET) status. On the other hand, of the HSC graduates, only 23% were self/employed while 37% were the NEET, leaving 40% higher education pursuers. With only 11% employed or self-employed, the employment outcome of the SSC graduates was the poorest compared to others. Of them, 73% were in higher education. However, the employment rate of 71% among engineering

¹⁹⁶ globalpartnership.org. Education Sector Analysis (Esa) For Bangladesh. Approved Version. 13 April 2020. Accessed: 19 February 2025.

¹⁹⁷ Islam, M. N. old.bmet.gov.bd/BMET/resources. Accessed: 19 February 2025.

¹⁹⁸ Adb.org. 2020. Sector Assessment report: Education. ADB. Manila. Accessed: 27 February 2025.



graduates, as found by Rubel et al. (2024)¹⁹⁹, suggests that the employment outcomes depend on the subject of study. The poor employment outcomes suggest the need for assessing the market relevance of the courses before offering any specific course. The DTE Report 2020 also informed that employers need a large number of skilled workforce²⁰⁰ which indicates unmet demands in the market.

Quality. A variety of factors have influenced the country's TVET quality. For instance, the TVET system is faced with quality-related problems²⁰¹ such as outdated curricula, poorly equipped workshops, and inadequate links with industry. The high vacancy rate (50%) of teachers' positions in public training institutions, which has a massive adverse effect on quality, was noted by ADB in 2015. This situation did not appear to have improved until 2020 as DTE Tracer Study 2020 informed that half the approved posts remained vacant.

Teacher training is another area with weaknesses. According to Aziz (2023), 80% of teachers lacked proper training opportunities. The report further notes that ineffective teaching methods compromise the quality of delivery due to an overemphasis on testing theoretical knowledge and little attention to practical (competency-based) instruction and the situation was exacerbated by inadequate facilities, equipment, and teaching-learning materials. These findings are also supported by the TMED study conducted in 2023²⁰², which reveals that the quality of teaching/training is hampered by weaknesses such as inadequacy in the number and training of teachers; limited in-service training opportunities; high vacancy rate of teaching positions in public training institutions; theory-based teaching and assessment practices; and inadequate and old-fashioned machines and equipment for practical training. The ADB Sector Assessment Report 2020²⁰³ also pointed to similar problems. In addition, it noted a lack of industry-trained teachers and only limited collaboration with industry. Although ADB has started work on the development of a teacher training facility (TTF), it may take time to address these issues and realize the outcomes.

Further, the TMED 2023 study informs that TVET teachers' selection and recruitment are based on academic credentials. Pedagogical training and certification are not a compulsory criterion for selection. Almost obsolete teacher's qualification framework and variation in teachers' training with training institutes is another weakness. According to Hasan (2018)²⁰⁴, lack of supportive learning environments, limited access to academic resources, inadequate teaching quality, and insufficient teaching facilities contribute to students' academic failure and subsequent dropout.

Efficiency. The TVET system is noted for efficiency-related issues such as a reduction in enrollment and pass-out rates, increasing dropout, and continued staff vacant positions. A decline in the enrollment of female students in technical education, particularly in polytechnics (Hasan et

¹⁹⁹ Rubel, M.M.H., Hossain, M.F. and Chakrabarty, S. 2024. Employment Status, Challenges, Opportunity for Diploma in Survey Engineering Graduate. Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

²⁰⁰ dte.bangladesh.za.net. 2020. TVET graduate study 2020. DTE. Dhaka

²⁰¹ Aziz, S.A. 2023 cited in unevoc.unesco.org. Accessed: 16 February 2025.

²⁰² Hussain, M.T., Uddin, M.K. and Alam, M.N. 2023. *Quality TVET: Opportunities, Challenges and Policy Options for Bangladesh*. Directorate of Technical Education. Technical and Madrasah Education Division. Dhaka.

²⁰³ Adb.org. 2020. Sector Assessment report: Education. ADB. Manila. Accessed: 27 February 2025.

²⁰⁴ Hasan, 2018 cited in Amin, R., Kabir, H., and Durjoy, S.M. 2024. Dropout of Diploma in Engineering Students from polytechnic institutes in Bangladesh: causes, consequences, and countermeasures. Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.



al., 2024)²⁰⁵ is a notable problem. As noted by Durjoy et al. (2024)²⁰⁶, a high dropout rate exists in polytechnics, resulting in a waste of resources, and is therefore, a matter of concern.

The ADB education sector analysis report (2020) also showed that, on average, 80% of the students appearing for the SSC (vocational) examination and 83% of the HSC (vocational) passed between 2009 and 2018. However, there is a decline in pass rates, which according to this report, needs to be further studied to identify the reasons behind it. The efficiency-related problem was also revealed in the ADB report 2015²⁰⁷ which conveyed that the TVET sector wastes many resources through, for instance, lengthy courses, low teacher-student ratio, high actual cost, and high drop-out rates. These weaknesses adversely impact the sector's efficiency.

The TVET system operations are also affected by the placement of human resources in the BTEB. Although it is responsible for regulating a large number of private TVET programs, it is not fully staffed²⁰⁸.

Outcome assessments. Expansion of TVET programs has been through the vocational courses at SSC and HSC levels. However, due to a lack of systematic and comprehensive evaluation/tracer studies, only limited information is available on the results of such investments to ensure employment and then on poverty reduction.²⁰⁹ During the desk review, no evidence of systemic institutionalization of market research was available while developing curricula and deciding on courses to offer.

Baseline data and information. The country lacks comprehensive indicator-based baseline data and information. In the absence of such a nationally agreed database, policies and plans might risk being ineffective.

2.3.5 Key TVET actors, partnerships, and their impacts/outcomes

Key Actors. Multi-stakeholder partnerships have been central to TVET reform in the country. MoE, MoLE, and MoEWOE, **BMET** have collaborated with BIAs and Industry **Skills Councils**. Among the IDPs, SDC and ADB are important. The UCEP and BRAC are NGOs with long involvement in TVET. Further details of key actors are presented in Annex Table 2.3.1.

Overall impact. As explained in the foregoing chapters, major government agencies such as MoE, MoLE, and MoEWOE have been delivering TVET services through governance and TVET programs of various durations. Even the ISCs, BIAs, and NGOs are engaged in delivering short-term training. Apart from the national agencies explained under the 'Governance' chapter, many international development partners (IDPs) such as the European Union (EU) have been collaborating with the government for the sector development. Through the Human Capital Development Programme 2021 (HCDP-21), the EU has a partnership with the government to promote the implementation of education policies towards a lifelong learning approach and bring

²⁰⁵ Hasan, M.R., Parvin, A., and Sadi, S.M.t. 2024. Why the Student Enrollment in Women's Polytechnic Institutes Declining? An Exploratory Study. Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

²⁰⁶ Amin, R., Kabir, H., and Durjoy, S.M. 2024. Dropout of Diploma in Engineering Students from polytechnic institutes in Bangladesh: causes, consequences, and countermeasures. Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

²⁰⁷ Khan, M.A. 2019. Situation Analysis of Bangladesh TVET Sector: A background work for TVET SWAp.

²⁰⁸ ADB

²⁰⁹ globalpartnership.org. Education Sector Analysis (ESA) For Bangladesh. Approved Version. 13 April 2020. Accessed: 19 February 2025.



together primary education and TVET²¹⁰ which ends in 2027²¹¹. ADB's collaboration with the government through the Skills for Employment Investment Program (SEIP) under the Ministry of Finance was another significant initiative on vocational training. Similarly, the Swiss Agency for Development and Cooperation (SDC) and the Department for International Development (DFID) have important contributions to the Sector.

Among the NGOs, the Underprivileged Children's Education Program (UCEP) is an important partner. International NGOs such as Swisscontact and the British Council are also working in the delivery of skills training.

The International Labor Organization (ILO) has notable contributions through its collaboration with the government. Before the HCDP-21 project, together with ILO, the EU supported the 'Skills 21 Empowering Citizens for Inclusive and Sustainable Growth' project with objectives to improve the quality of the TVET services; improve access to and equity within the TVET/skills development system through TVET model institutions; and create an enabled environment through improved governance and management. Other TVET projects aligned with Bangladesh's country strategies to support skill development include the Skill Development Project (SDP) supported by ADB and SDC, the Skill and Training Enhancement Project (STEP) funded by the World Bank and Canada, Bangladesh Skill for Employment and Productivity (B-SEP) funded by Canada, Skills for Employment Investment Program (SEIP) funded by ADB and Skill for Employment of Bangladesh (SEP-B) funded by DFID are noteworthy.

The ongoing projects collaborating with the government include 'Accelerating and Strengthening Skills for Economic Transformation (ASSET) (2021-2026)'; 'Improvement of Technical Education for Industrial Human Resources Development'; 'Project for the Improvement of Equipment for Technical Education'; and 'Promoting Gender Responsive Enterprise Development and TVET Systems (ProGRESS)'²¹².

Through such partnerships, the government is making efforts on TVET reform including movement towards competency-based training and assessment (CBT&A) and enhancing work-based training (WBT). As explained in the foregoing chapters, collaboration with BIAs such as the Bangladesh Garment Manufacturers and Exporters Association (BGMEA) through technical training centers and Bangladesh Textile Mills Association with the National Institute of Textile Training, Research, and Design are noteworthy²¹³ as these partnerships have been useful for promoting WBT.

2.3.6 Key issues

Fragmentation in the system and delivery. A large number of stakeholders including ministries, private providers, businesses, and industries are engaged in TVET delivery. While MoE is engaged in long-term TVET programs, other ministries are engaged in or manage short-term training. These stakeholders provide education and training of various durations and quality, but lack effective coordination among the major players. This fragmentation leads to continued issues in the system and its delivery.

²¹⁰ eeas.europa.eu. 2019. New EU programme of EUR 205 million to strengthen the Education sector in Bangladesh. 05 February 2019. Accessed: 18 February 2025.

²¹¹ datastore.iatistandard.org. Accessed: 19 February 2025.

²¹² tmed.portal.gov.bd. Accessed: 19 February 2025.

²¹³ ADB. 2015. Innovative strategies in technical and vocational education and training for accelerated human resource development in South Asia. Philippines: Asian Development Bank.



Wrong perception and lack of NQF operationalization. TVET and skills development is generally considered that it is for those who may not be able to continue or pursue the level of general education²¹⁴. Despite TVET's capacity for further education and potential for better employment, most middle-income families prioritize general education for their children²¹⁵. As shown by the DTE tracer study, this perception has encouraged a significant proportion of SSC and HSC graduates to pursue further education in the general stream. This finding suggests that many people still do not know or recognize the TVET's strength. This also means the TVET policies are not influential enough to convince potential learners and parents to choose TVET. This problem could have been solved to some extent through proper operationalization of NQF but it too remains effective.

Relevance and outcomes. The mismatch between skills in demand and supply is the major issue in the system. For instance, the 8th Five-Year Plan noted that manufacturing firms and high-end service enterprises continued to face skill constraints. In other words, the skills demanded at the workplace are not always provided by the education and training system. As a result, employers are forced to hire a foreign workforce to address the gap. Haque et al. (2024) revealed challenges that hinder preparing industry-based curriculum development for Diploma programs. They include a lack of industry representatives devoting time to curriculum development, insufficient fees for industry representatives, and a lack of training for curriculum development professionals.

2.3.7 Lessons Learned

CBT and relevance. The shift to competency-based training has enhanced the credibility and market relevance of TVET. However, according to ILO (2019), there is an urgent need to expand qualification packages beyond current levels to meet evolving industry standards.

Enhancing private sector engagement. Representation of industry stakeholders in governance bodies has shown the potential to put improved curricula in place and facilitate practical training opportunities in the real world of work. Yet, further efforts are needed to build mutual trust and clarify roles and responsibilities, particularly within ISCs (UNESCO-UNEVOC, 2018).

Establishing robust data systems. A reliable, nationally agreed set of indicators (e.g., enrollment rates, cycle completion rates, survival rates, employment outcomes) is essential for target-oriented planning and progress measurement. The current MIS needs to include these baseline indicators for more effective monitoring and evidence-based planning.

Addressing geographic disparities. Efforts to extend TVET services into rural and remote areas have shown promise. However, a more targeted approach is required to ensure equitable access to quality training across all regions (ADB, 2020).

2.3.8 Knowledge gap/ research agenda and policy questions

The evidence and analyses presented in the forging chapters indicate that the TVET system has made progress, but a large number of weaknesses and issues persist. However, little research appears to have delved into depth and explained the actors and factors responsible for the success or failure of specific interventions/events. In other words, the lack of research on the progress and the gaps in TVET services indicates the persistence of the knowledge gap. Based on the findings of this report, these knowledge gaps and research agendas/ relevant policy

²¹⁴ globalpartnership.org. Education Sector Analysis (ESA) For Bangladesh. Approved Version. 13 April 2020.
Accessed: 19 February 2025.

²¹⁵ The finanicalexpress.com

questions are presented in Annex 2.3.2 (Bangladesh TVET Issues and Knowledge Gaps/Research Agendas).

2.3.9 Major conclusions and recommendations

Country vision and TVET development. Bangladesh has aspirations of becoming an upper-middle-income country by 2031. Attaining this target requires improving school-to-work transition and producing higher-skilled professionals toward a green and sustainable economy, which, however, remains a challenge²¹⁶. Further, to achieve this vision, the country needs to increase competent human capital²¹⁷. Resolving the deficiency in the skills gap will require careful and timely intervention²¹⁸. It will also need revision of policies. At least, NSDP 2011 (under MoE) needs to be reviewed and together with it, the NASDA Act 2018 should have been assessed given Vision 2041, PP2041, and NSDP 2021 (under NSDA).

Governance – The TVET sector is split between MoE and NASDA suggesting a dual governance structure and policies. This issue could be addressed by establishing a single TVET apex body. If it is not possible in the short run, at least, variation in standards and curriculum can be addressed by following the BNQF/ BNTQF.

The share of BIAs in governance is only 8% (2 out of 25 Board members). This is one of the reasons why BIAs' engagement appears weak, resulting in a weak labor market interface. The ISCs are BIA institutions, but they do not have a direct role in the decision-making at the NASDA and DTE. Efforts made in Pakistan suggest that it is important to ensure that at least 50% of the members of each level of governance – federal, provincial, local, and/or institute-level management committees - should be from the BIAs.

Limited information on institutional effectiveness and results. A large number of stakeholders – government, private NGOs, and IDPs are engaged in TVET and skills development. However, an aggregated picture, with relationships, purposes, and extent of services of different actors is unavailable, at least, on the internet. Even if such studies exist with relevant recommendations, evidence of results from such recommendations is not accessible. In the absence of such documentation, it is difficult to understand how the diverse initiatives and projects operating under many different organizations are coordinated and directed toward addressing the persistent skills gap. The question has remained even how far the MoE and NASDA with a mandate to address these challenges are successful in their objectives.²¹⁹ This situation calls for studies such as the effectiveness of the TVET stakeholders including NSDA in delivering their contribution to a reformed TVET system.

Relevance and outcome. Expansion of TVET services has been a priority for the government and with the expansion, the need for an assessment of the effectiveness of TVET services given employment outcomes is also high (DTE 2020). However, to ensure these expansions are outcome-oriented, regular labor market demands must be assessed. The private sector institutes could carry out a rapid market appraisal (RMA) before deciding on the courses to offer. However, the public institutions might have limitations in changing the courses in the short run, such institutions could do a feasibility study keeping several years in perspective, and identify the current and upcoming courses in demand.

²¹⁶ www.worldbank.org. Accessed: 17 February 2025.

²¹⁷ www.worldbank.org. The World Bank in Bangladesh. Accessed: 17 February 2025.

²¹⁸ Bangladesh Planning Commission (BPC). 2020. 8th Five Year Plan. July 2020 – June 2025. Promoting prosperity and fostering inclusiveness. BPC/Government of Bangladesh. Dhaka

²¹⁹ globalpartnership.org. Education Sector Analysis (Esa) For Bangladesh. Approved Version. 13 April 2020. Accessed: 19 February 2025.



Ensuring the curriculum is market-relevant is another important step in this regard which needs to be made right by working with the business and industry. Similarly, the quality of the teaching-learning environment is equally important for the relevance of the courses offered.

The relevance of TVET programs could also be enhanced through climate-change-friendly courses and green technology-based teaching-learning environments. Further, to enhance relevance and ensure outcomes, WBT/ OJT may be made compulsory for the TVET students.²²⁰ Similarly, emerging fields such as artificial intelligence (AI), robotics, and green technologies are not yet fully integrated into TVET curricula²²¹. These gaps need to be addressed during the curriculum development or revision process. One of the weaknesses revealed during the desk review was the lengthy nature of the curriculum, which can be addressed by following NVQF levels while developing the curriculum.

The ADB education sector analysis report (2020) showed a decline in pass rates. Data also show that TVET graduates are inclined to further studies rather than engage in employment. As suggested by the ADB report, further research is required to identify the reasons behind the decline in pass rates as well as the tendency to further education.

Upgrading accreditation and quality assurance. The decline in students' pass rates questions, among others, the quality of education and training. The accreditation system has started to encourage putting quality education and training environment but evidence of its performance was not accessible or available during this study. Therefore, strengthening the accreditation system by hiring dedicated staff and standardizing quality assurance processes nationwide is necessary. Meanwhile, in this context, it is important that the teachers' qualification framework must also be put in place²²². Similarly, the TMED Report pointed out the shortage of qualified teaching staff as a cause for incompetence in teaching methods. Therefore, teacher training must be prioritized and must be a reform agenda. Efforts are also necessary to provide high-quality training to teachers²²³ including workplace-based training.

Operationalization of NTVQF. The NQF/ NTVQF system has been approved and its implementation is in progress. However, the fragmentation of TVET services continues with various durations and qualities. Questions such as its application system across the board remain. Proper operationalization of this system could address these issues. Putting the NTVQF-aligned programs could not only enhance graduates' employability, but it could also open up graduates' career prospects²²⁴. Further, the BNQF provisions are limited to Level 6 (Diploma). Therefore, given PP2041 and the 8th Five-Year Plan vision, the educational pathways need to be expanded beyond this level. Also, enhancing the recognition of prior learning (RPL) to better serve the large informal sector is another necessary and urgent action.

²²⁰ Nurul, A.

²²¹ ILO, 2019

²²² Aziz, S.A. 2023. TVET@Asia (Issue 20, January 2023). [Reframing Governance for Improving Quality of Technical Vocational Education and Training \(TVET\) in Bangladesh](#). Jan 31, 2023 | Issue 20. Centre for Occupational Research and Education (CORE). tvvet-online.asia. Accessed: 22 February 2025.

²²³ Rubel, M.M.H., Hossain, M.F. and Chakrabarty, S. 2024. [Employment Status, Challenges, Opportunity for Diploma in Survey Engineering Graduate](#). Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

²²⁴ Rubel, M.M.H., Hossain, M.F. and Chakrabarty, S. 2024. [Employment Status, Challenges, Opportunity for Diploma in Survey Engineering Graduate](#). Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.



Enhancing teacher training and resource development. The current teacher training system is insufficient to meet the demands of modern TVET, and digital literacy remains low²²⁵. Therefore, addressing this gap will require making continuous professional development mandatory for all TVET instructors, improving coordination among regional training centers, and investing in upgrading digital infrastructure.

Boosting BIAs' engagement. Although industry representation in governance bodies has increased, its impact on curriculum development and program relevance remains limited²²⁶. Therefore, there is a need to build capacity among industry representatives through regular pre-meeting sessions, formalizing the roles of ISCs, and creating incentives for their active participation. Further, to ensure better growth of institute-industry relationships, more active institute management committees and operationalizing institute-level Job placement Cells are necessary. Similarly, the involvement of ISCs and BIAs in TVET processes is important. Further, the exchange of expertise between industry and institutions could also facilitate the process of industry linkage.²²⁷ Similarly, a thorough review and update of existing policies and institutional mechanisms on the TVET system, BIA-industry linkages and effective methods for building collaborations between them, and clearly defined roles and responsibilities for employers are necessary²²⁸.

Studies have also recommended conducting regular skills gap assessments, collaborating with industries to identify emerging job requirements, aligning curriculum with industry demands, encouraging institutions to offer flexible, industry-relevant courses, and fostering strong ties with local businesses for OJT and job placement²²⁹.

Improving access and equity. Urban-rural disparities and financial constraints continue to restrict access to TVET for marginalized groups²³⁰. Therefore, the adoption of decentralization models to extend quality TVET to rural areas, and explore innovative funding and scholarship schemes to support low-income and female students is necessary. In a country with almost 50% female population, women must have good access to TVET and skill development opportunities for equitable growth of the country²³¹. Addressing the relevant gaps, at both the policy level and, appropriate incentives for girls/females at the operational level are necessary to attract and retain them in the learning processes.

Fostering innovation and future technologies. Initiation of targeted research and policy measures to incorporate green, digital, and future tech skills appears necessary to ensure that TVET graduates remain competitive in a rapidly evolving labor market.

²²⁵ UNESCO-UNEVOC. (2018). *TVET in Bangladesh: Policy, Challenges, and Prospects*. UNESCO-UNEVOC.

²²⁶ MoE 2018.

²²⁷ Nurul, AM.

²²⁸ Haque, M.R., Akhtar, A., and Alam, M.E. 2024. The state of Industry-Academia Collaboration through Industrial Attachment Programme of Polytechnic in Kushtia District. Khan, A.T. 2024. (Ed.) Bangladesh TVET. State, Approach and Challenges. DTE. Dhaka.

²²⁹ Bhattacharya, D. 2025. Focus should be on export market expansion, to avoid middle-income trap. Media briefing: a media briefing on "Civil Agenda for Inclusive Development and Equity: Agriculture, Employment, Unplanned Urbanisation, Public Services, and Clean and Affordable Energy," tbsnews.net/economy/focus-should-be-export-market-expansion-avoid-middle-income-trap-debapriya-721810. Accessed: 25 February 2025.

²³⁰ ADB, 2020.

²³¹ DET 2020.

Perception toward TVET. The TMED Report 2023²³² noted that many negative perceptions have grown and influenced students' motivation in choosing TVET. Besides, deficient career counseling from institute counselors adversely affects their interest in TVET. Therefore, policy interventions such as the operationalization of NQF to spread the message that general education and TVET do not have only similar recognition, the latter is even better as it provides an opportunity for flexible learning space and better employment opportunities.

Evidence-based policy and planning. Although Bangladesh has a framework for data collection, the TVET sector still lacks comprehensive and nationally agreed indicators, and their baseline value is essential for evidence-based policy and planning formulation and effective performance assessment. Therefore, a national TVET sector analysis to define key indicators and ascertain the corresponding baseline values is necessary. Such data and information will be helpful to revise policy documents to make them evidence-based. Further, these indicators and baseline values will help develop a long-term reform plan and their progress measurement²³³.

Similarly, a TVET strategic reform plan to transform existing and future workforce into skilled workers, classified as per the BNQF (Aziz 2023) is necessary and needs to be aligned with all the relevant Acts and policies such as PP2041 and 8th Plan Vision 2041. This is possible through, as mentioned above, deciding relevant indicators and identifying the corresponding baseline values.

Annex

Table 2.3.1: Key TVET Actors of Bangladesh

SN	IDPs	Province/ Regions	Area of engagement
1	National actors		
	National Skills Development Authority (NSDA)		Coordination, quality assurance, and certification
a	Ministry of Education with DTE and TMED	National agency	
	TMED		<ul style="list-style-type: none"> ▪ acts, policy, and legislative orders to ensure quality education and training ▪ meeting the national targets
b	Bangladesh Technical Education Board		<ul style="list-style-type: none"> ▪ Quality assurance ▪ Accreditation, standards and curriculum development, affiliation, and assessment and certification
c	Ministry of Labor and Employment		
d	Ministry of Expatriate Workers and Overseas Employment		
e	Other ministries		providing skills training
f	Industry Skills Councils		<ul style="list-style-type: none"> ▪ Ensure industry collaboration in skills development. ▪ Strengthen industry linkage, apprenticeship program, workers' up-skilling and re-skilling, RPL, development of standard and curriculum, assessment of trainees, trainers, and assessors

²³² Hussain, M.T., Uddin, M.K. and Alam, M.N. 2023. *Quality TVET: Opportunities, Challenges and Policy Options for Bangladesh*. Directorate of Technical Education. Technical and Madrasah Education Division. Dhaka.

²³³ Government of Bangladesh, 2011.

SN	IDPs	Province/ Regions	Area of engagement
g	Business and industry associations/ NGOs		Skills training
h	Private training providers		Education and training
2	International actors		
a	European Union		
d	Asian Development Bank	Punjab	Teacher training
	SDC/ Swisscontact		Skills training
	British Council	National level	Skills training

Annex 2.3.2: Knowledge gap/ research agenda and policy questions in Bangladesh TVET

Issues	Knowledge Gaps/Research Agenda	Policy Questions
Week coordination among stakeholders leading to fragmentation of services and their qualities	<ul style="list-style-type: none"> ▪ What are the key factors hindering effective coordination between and among stakeholders? Which policy and strategic provisions have contributed to this problem? ▪ How can Bangladesh learn from international TVET governance models? ▪ How has the relationship been between NSDA, DTE/TMED, and BTEB, and what are its implications on overall TVET system operations, particularly in ensuring cooperation from the private sector? 	<ul style="list-style-type: none"> ▪ What regulatory reforms and coordination mechanisms can enhance synergy at least among government agencies? ▪ How can a system be put in place to develop and implement evidence-based policies and plans?
Delivery of key players	<ul style="list-style-type: none"> ▪ How far major players such as NSDA and MoE have been successful in achieving its objectives? 	<ul style="list-style-type: none"> ▪ What changes/ amendments could make these agencies effective and contribute to TVET development?
Large share of SSC and HSC graduates pursuing higher level general education	<ul style="list-style-type: none"> ▪ Why are graduates attracted to higher level general education? ▪ Why are TVET qualifications considered inferior to general education? ▪ Why has the NQF not been effective in mitigating this problem? 	<ul style="list-style-type: none"> ▪ What policy provisions could contribute to addressing this problem? ▪ How can the NQF be effectively operationalized by integrating both the TVET and general education?
Employment outcomes of TVET graduates	<ul style="list-style-type: none"> ▪ To what extent are current TVET programs contributing to employment and poverty reduction? ▪ What factors are impeding higher employment rates among graduates? 	<ul style="list-style-type: none"> ▪ What targeted interventions could boost employment outcomes and better align training with labor market needs?
Limited work based training opportunity for teachers and students	<ul style="list-style-type: none"> ▪ Why despite many ISCs and large-scale BIAs in the country, is teacher training at the workplace limited? ▪ Why do students have limited opportunity for workplace-based training? ▪ What is the outcome/ impact of industrial attachment programme on the skills development, employability, and productivity? (Haque et al 2024). 	<ul style="list-style-type: none"> ▪ What policy and mandatory partnership provisions could address this problem? ▪ What incentives could encourage BIAs to avail such opportunity?
Teacher training and digital literacy	<ul style="list-style-type: none"> ▪ What proportion of TVET instructors are proficient in both pedagogy and modern digital tools? ▪ What is the current status of digital infrastructure in TVET institutions? 	<ul style="list-style-type: none"> ▪ What policy interventions can ensure continuous professional development and enhance digital literacy among trainers?
Integration of emerging	<ul style="list-style-type: none"> ▪ What is the current level of integration of emerging technologies in TVET curricula? 	<ul style="list-style-type: none"> ▪ What policy measures can promote the inclusion of advanced technologies and digital platforms in TVET programs?

Issues	Knowledge Gaps/Research Agenda	Policy Questions
technologies (AI, robotics)	<ul style="list-style-type: none"> ▪ What digital skills gaps exist among students and instructors? 	
BIAs' engagement	<ul style="list-style-type: none"> ▪ Why the partnership with BIAs have not been effective? 	<ul style="list-style-type: none"> ▪ What policies should establish legal frameworks and principles to govern the operation and development of industry-academia collaborations (Haque et al., 2024)?
Outdated equipment and consumable shortages	<ul style="list-style-type: none"> ▪ How widespread is the lack of modern equipment and consumables across TVET institutes? ▪ What impact do these deficiencies have on training outcomes? 	<ul style="list-style-type: none"> ▪ What public-private partnership models could facilitate the upgrade of facilities and ensure sustainable resource supply?
Curriculum relevance and labor market alignment	<ul style="list-style-type: none"> ▪ How frequently are market studies conducted to inform curriculum updates? ▪ What role do employers play in current curriculum development processes? ▪ How can the market assessment system be institutionalized? ▪ How far has the curriculum been revised according to the NQF framework? 	<ul style="list-style-type: none"> ▪ What regulatory changes can empower local institutes to adapt course offerings to current market demands?
RPL	<ul style="list-style-type: none"> ▪ What percentage of existing workers/ aspiring workers have access to RPL services? ▪ How far has it been successful to open pathways for informal sector workers or people with skills earned from the informal sector? 	<ul style="list-style-type: none"> ▪ What policy provisions and programs could help expand this important service across the country?
Post-training support and entrepreneurship	<ul style="list-style-type: none"> ▪ What forms of post-training support (counseling, mentoring, financial aid) are most needed by graduates? ▪ What gaps exist in current support mechanisms? 	<ul style="list-style-type: none"> ▪ How can an integrated support system be developed to foster entrepreneurship and smoother transitions to employment?
Sustainable funding for quality TVET	<ul style="list-style-type: none"> ▪ How effective are current funding mechanisms in ensuring high-quality training? ▪ What financial models could be explored to establish a dedicated TVET fund? 	<ul style="list-style-type: none"> ▪ Would the creation of a dedicated TVET fund address existing financial constraints and boost overall quality?

Annex 2.4: Thailand TVET Report

2.4.1 National socio-economic context

The Kingdom of Thailand, a newly industrialized country with a population of 66.95 million, has experienced a declining population growth rate since peaking in 2019.²³⁴ As of 2024, Thailand had 59.30 million people aged 15 and over.²³⁵ Among them, 40.42 million people were in the workforce.

Thailand's economy was severely affected by COVID-19 between 2019 and 2020, whereas it gradually recovered, achieving a steady growth rate, with a GDP per capita of USD 7,780²³⁶ and an annual GDP growth of 1.9% in 2023.²³⁷ The largest contribution to the GDP came from the Service Sector (58.65%), with manufacturing (27.05%) as the primary sub-sector, followed by wholesale, and retail trade; repair of motor vehicles and motorcycles (15.42%), and agriculture, forestry, and fishing (8.72%).²³⁸

Thailand was classified as an upper-middle-income economy in 2011. Driven by high growth rates and structural transformation, it has made remarkable progress in reducing poverty from 58 percent in 1990 to 6.8 percent in 2020, with the poverty rate of 5.4% in urban areas and 8.6% in rural areas.^{239, 240}

According to the Thai Labor Force Survey in 2024, the service and trade, agricultural, and manufacturing sectors employed 48.62%, 29.64%, and 21.74% of the total workforce, respectively.²⁴¹ Regarding the employment percentage in each sub-sector, the agriculture sector continues to employ 31.30% of the total workforce, making it the largest sub-sector. Other labor-concentrated sub-sectors were wholesale and retail trade (16.90%), production/manufacturing (16.23%), and accommodation and food services (8.19%).²⁴² Thailand had a comparatively low unemployment rate of 0.9% in 2024, with 0.12% seasonally awaiting work²⁴³. However, 64% of Thai workers were employed in the informal sector, leading to limited career development opportunities.²⁴⁴

²³⁴ Official Statistics Registration Systems. 2025. *Population Announcement*.

stat.bora.dopa.go.th/stat/statnew/statMenu/newStat/sumyear.php. Accessed: 1 March 2025.

²³⁵ National Statistical Office, Ministry of Digital Economy and Society. 2024. *Report of the Labor Force Survey*. nso.go.th/nsoweb/storage/survey_detail/2025/20250123143959_55038.pdf.

²³⁶ Office of the National Economic and Social Development Council.

nesdc.go.th/nesdb_en/main.php?filename=index. Accessed: 1 March 2025.

²³⁷ World Bank. 2023. *GDP growth (annual %) - Thailand*. data.

worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=TH. Accessed: 1 March 2025.

²³⁸ Office of the National Economic and Social Development Council. 2022. *National Income of Thailand 2022 Chain Volume Measures*. nesdc.go.th/nesdb_en/main.php?filename=national_account.

²³⁹ World Bank. 2025. *The World Bank In Thailand*. worldbank.org/en/country/thailand/overview. Accessed: 1 March 2025.

²⁴⁰ World Bank. 2022. *Rural Thailand Faces the Largest Poverty Challenges with High Income Inequality*.

worldbank.org/en/news/press-release/2022/10/21/rural-thailand-faces-the-largest-poverty-challenges-with-high-income-inequality

²⁴¹ National Statistical Office Thailand. 2024. *Thailand Labor Force Survey, Summary Report in Quarter 4*.

nso.go.th/nsoweb/storage/survey_detail/2025/20250131082057_95431.pdf.

²⁴² Department of Employment, Thailand. 2024. *Thai Labour Market Journal*.

doe.go.th/prd/assets/upload/files/lmia_en/97a699241f50691721833a90c1b0a235.pdf.

²⁴³ Ibid.

²⁴⁴ International Labour Organization, 2019. *ILOSTAT database*. ilostat.ilo.org/data. Accessed: 1 March 2025.



Considering the structural mismatch with labor market demands, the high level of informal employment, and the regional disparities in poverty, Thailand TVET requires stronger industry linkage, informal sector upskilling, expanded rural TVET access, and modernized training to ensure sustainable economic growth and workforce resilience.

2.4.2 History of TVET Development Initiatives

TVET development. Vocational education in Thailand systematically started in 1898²⁴⁵ and it gradually developed as a comprehensive and well-qualified system covering a range of subjects and qualifications, as well as including an integrated management and qualifications framework.

The Ministry of Education Administration Act was promulgated in 2003, followed by the establishment of the Office of the Vocational Education Commission (OVEC).^{246, 247} Later in 2008, the Thai parliament promulgated the first Vocational Education Act 2008, which defined the OVEC's duties and responsibilities, TVET structures, and qualifications. It specified the qualifications and modalities of TVET education, and that public institutions fell under the umbrella of OVEC, while private institutions fell under the authority of the Office of the Private Education Commission (OPEC), headed by the Permanent Secretary for Education.

From 2012 to 2016, there was a trend of amalgamation between vocational institutes and the governing authorities to ensure efficient and appropriate management as well as quality assurance for the TVET system. 23 vocational institutes were established by merging hundreds of vocational institutions, in accordance with the Ministerial Regulation on the Amalgamation of Vocational Education Institutions for the Establishment of Vocational Institutes (2012). In addition, in 2016, the leader of the National Council for Peace and Order issued an order titled "General Management of Public and Private Vocational Institutes", shifting the responsibilities for supervising private TVET institutions from the OPEC to OVCE for effective management.²⁴⁸

Management of change during the TVET development process. As briefed below, Thailand's approach to managing change in TVET includes national development goals, policies, stakeholders' engagement, and capacity building.

Strategic Vision and Policy Alignment. Efforts appear to have been made to align the TVET development with the country's TVET vision/ provisions on Thailand 4.0, the 20-Year National Strategy (2018–2037), the Education Strategic Plan, and the Eastern Economic Corridor (EEC) initiative. All these documents emphasize skills development for competitiveness and inclusion.

Stakeholder Engagement and Governance. BIAs are engaged through Public-private partnerships, especially in dual training models. Similarly, regional administrative offices and IDPs such as GIZ, ADB are engaged in supporting pilot programs and institutional capacity building.

Capacity Building. Upgrading facilities, digital platforms, and learning materials, and investing in teacher training have helped capacity building of institutions and teachers. Modular and competency-based curricula are also instruments for managing TVET reform.

Factors influencing the change process.

²⁴⁵ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁴⁶ SEA-VET. net. *Thailand TVET Country Profile*. sea-vet.net/thailand. Accessed: March 2025.

²⁴⁷ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁴⁸ Ibid.

Internal factors. Among the internal factors, institutional capacity, teacher quality and training (many teachers still lack industry experience or modern pedagogy training), curriculum and instruction methods (shift toward competency-based training) and delivery methods and facilities (for instance, some institutions still rely heavily on theoretical delivery due to lack of equipment or partnerships) are important in view of influencing the change process.

External Factors. External factors including labor market demands (for instance, demands for industry-ready graduates in sectors such as mechatronics, automation, logistics which help shape the curriculum development, training standards, and partnership models), demographic shifts (for instance, with change in technology in the workplace, reskilling and upskilling of older workers is becoming more relevant; technological change (demands for adoption of digital technologies, online learning, and AI tools); societal perception and cultural norms (that the TVET is ‘second-choice’ and preference for university education, especially in middle- and upper-income households) have an influence on change process. Similarly, IDPs support has been important for shaping standards, piloting innovations, and improving quality assurance frameworks, and therefore, has been a driving factor for the acceleration of the reform process.

2.4.3 Assessment of Progress in TVET Development

Taking the reference OVEC Annual Report 2024 and the Thai TVET Evaluation Report 2022 and OECD TVET Reviews in 2021, this chapter maps effectiveness, inclusion, relevance, quality, efficiency, affordability, adoption-scalability, funding, and partnerships (and their impacts) of TVET interventions.

2.4.3.1 Governance

Policy development, policy framework, and instruments. To improve quality assurance, the Skill Development Promotion Act 2002 envisaged the establishment of the Skill Development Promotion Committee, responsible for setting the National Skills Standards, and the Department of Skill Development (DSD) for skills standards tests. The Vocational Education Act 2008 stressed the importance of collaboration between the National Economic and Social Development Board (NESDB) and the Ministry of Education (MOE).^{249, 250} As noted during consultation, Thailand TVET policy aligns with the national development strategy.

In 2011, the government established the Thailand Professional Qualification Institute (TPQI), which is responsible for standards development and qualifications’ accreditation. Approved in January 2013, the National Qualifications Framework (NQF) came into effect in November 2014 and was taken care of by the Office of the Education Council (OEC), which stipulated that the Ministry of Education provided national information, coordination, management, and monitoring of the NQF. In 2015, Thailand developed the NQF, which stressed the importance of improving the quality of the educational system and occupational training to strengthen lifelong learning and build manpower capacity for national socio-economic development.²⁵¹ Additionally, the Thai government also took endeavors to improve its quality assurance through regulation development and institution establishment. In 2019, the National Vocational Qualification Framework (NVQF)

²⁴⁹ Burapharat, Chitrlada, and Supat Chupradit, 2009. *Chapter 3. Vocational and Cooperative Education in Thailand: A Presentation*. Education, Economy and Identity, edited by Supat Chupradit and Audrey Baron-Gutty, Institut de recherche sur l’Asie du Sud-Est contemporaine, <https://doi.org/10.4000/books.irasec.744>.

²⁵⁰ Pasawano, T., 2019. Vocational education and training in Thailand—Current status and future development. *Vocational Education and Training in ASEAN Member States: Current Status and Future Development*, pp.207-228.

²⁵¹ Office of The Education Council. 2017. *National Qualification Framework (Revised Edition)* <https://backoffice.onec.go.th/uploads/Book/1552-file.pdf?>

2019 was implemented, addressing levels of qualifications, the delivery system, and the quality of graduates in alignment with the NQF and ASEAN Qualifications Reference Framework (AQRF).²⁵²

Since 2017, the development of TVET policies has been highlighted in national policies, including the 20-year National Strategy (2017-2036), Thailand 4.0 Strategy 2017, National Education Strategy (2017-2036), 12th National Economic and Social Development Plan (NESDP) 2017, and 13th NESDP 2023. These documents highlighted the advanced innovations and technologies in TVET and quality assurance to boost the country's economic prosperity.²⁵³ Specifically, the Thailand 4.0 Strategy 2017 prioritized TVET and STEM education to foster technology-driven creativity and progress.²⁵⁴ In 2023, the 13th NESDP emphasized the necessity of promoting the role of development partners in education programs and learning in diverse forms, such as dual vocational and cooperative education, developing labor market-driven competency-based TVET, enabling continuation to higher diploma levels, and raising standards and developing curriculum. Additionally, the drafting work for the Apprenticeship Act is ongoing. It aims to provide social support for students.

Capacity to undertake evidence-based policy formulation. The policy plans, educational acts, and the qualifications framework presented in the earlier section demonstrated the Thai government's capacity in preparing comprehensive evidence-based policy. The Skills Development Promotion Act 2002, Vocational Education Act 2008, and NQF 2014 clearly specified the governance, arrangement, qualifications, standards, and accreditation of TVET. Furthermore, by closely coordinating with regional and provincial offices and institutes, OVEC produced national annual reports and formulated TVET agendas and strategic plans based on the economic development trends and identified challenges.²⁵⁵

Even though there was a regular and detailed update through the Thai Labor Force Survey and Thailand, the report from the National Statistical Office, and the OVEC annual report, there still lacks comprehensive baseline indicators and corresponding data and information, which leads to the inconsistency and ineffectiveness in long-term policy formulation.

Governance Structure. The governance of TVET in Thailand is centralized. At the national level, the OVEC, the DSD, and TPQI play complementary roles in ensuring service provision and quality assurance. Among them, the OVEC is the primary authority and manages formal TVET in public and private sector institutes.²⁵⁶ DSD manages occupational skills training for (potential) employees.²⁵⁷

²⁵² UNESCO UNEVOC. 2024. *Thailand TVET Country Profile*. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: March 2 2025.

²⁵³ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*. p.14

²⁵⁴ UNESCO UNEVOC. 2024. *Thailand TVET Country Profile*. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: March 2 2025.

²⁵⁵ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁵⁶ OVEC. *Vision and Mission of the Office of Vocational Education Commission*. vec.go.th/en-us/aboutvec/visionandmission.aspx. Accessed: 3 March 2025.

²⁵⁷ UNESCO UNEVOC. 2024. *Thailand TVET Country Profile*. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: March 2 2025.

The Ministry of Education (MOE) of Thailand oversees TVET policies and curriculum, which were authorized since the enactment of the Vocational Education Act of 2008. Under its chair, the OVEC is responsible for managing and promoting the quality of vocational and professional training, as well as professional excellence, in both the public and private formal TVET systems. It administers and manages TVET institutes, formulates long-term plans and major policies, and mobilizes the NQF and AQRIF referencing process under the National NQF Committee.²⁵⁸ As of 2024, it is responsible for the 77 Vocational Education Offices at the provincial level, and supervises 433 public vocational educational institutes and 444 private vocational education institutions. Additionally, in 2025, 30 Center of Vocational Manpower Networking Management was set to be established, with 70 already in place.²⁵⁹

The TVET shorter programs for current and potential employees are taken care of by the DSD under the Ministry of Labor²⁶⁰, including short training programs, group vocational courses, vocational certificate programs equivalent to lower secondary school, and non-formal occupational certificate programs.²⁶¹ Additionally, DSD is responsible for developing national occupational skill standards and providing skill testing by closely collaborating with OVEC and the business sector.²⁶²

TPQI was officially established in 2011 under the supervision of the Prime Minister. It develops the professional qualifications system and supports various professional groups to set up occupational standards, certifies international standards, accredits certification bodies or organizations, and acts as an information center for professional qualifications systems and occupational standards.²⁶³

2.4.4.2 Effectiveness

Stipulated by the Vocational Education Act 2008, Thai TVET is divided into formal education, non-formal education, and dual vocational training (DVT). In the formal education, the programs include the 3-year Certificate of Vocational Education Program (PorWorChor), which is taken during the upper secondary period; the Diploma of Vocational Education Program (PorWorSor) for a minimum of two years, and the Bachelor's Degree of Technology with two years duration.²⁶⁴

²⁵⁸ Burapharat, Chitrlada, and Supat Chupradit, 2009. *Chapter 3. Vocational and Cooperative Education in Thailand: A Presentation*. Education, Economy and Identity, edited by Supat Chupradit and Audrey Baron-Gutty, Institut de recherche sur l'Asie du Sud-Est contemporaine, <https://doi.org/10.4000/books.irasec.744>.

²⁵⁹ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁶⁰ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*. p.11.

²⁶¹ Pasawano, T. 2019. Vocational education and training in Thailand—Current status and future development. *Vocational Education and Training in ASEAN Member States: Current Status and Future Development*, pp.207-228.

²⁶² ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*. p.11.

²⁶³ TPQI. *Objective*. tpqi.go.th/en/objective. Accessed: 2 March 2025.

²⁶⁴ Burapharat, Chitrlada, and Supat Chupradit, 2009. *Chapter 3. Vocational and Cooperative Education in Thailand: A Presentation*. Education, Economy and Identity, edited by Supat Chupradit and

As informed during the consultation, Thailand has more than 103 TVET programs in private and public schools.

According to the data updated in 2023, there were 433 public and 444 private formal TVET institutions under the OVEC's administration, enrolling 963,310 TVET students through formal TVET systems in both public and private sectors. Among them, 62% of students were at the certificate level, 36% at the diploma level, and 2% at the bachelor level, within both public and private institutions. The number of students who completed the program in the same year was 269,994 people, with 51% from certificate program (137,646 graduates), 48% from diplomas (128,306 graduates), and 1% from bachelor's degrees (4,042 graduates), which was significantly lower than the number of admissions. Additionally, in 2024, 16.40% of TVET students were enrolled in the DVT system, representing a 1.29% increase from 2023.²⁶⁵

For the training under the DSD, during 2014 and 2017, 818,892 individuals were trained in the DSD skills training centers each year since 2014 and until 2017. There were 84 DSD skills training centers established across the country to provide workforce training and certification.²⁶⁶

Thailand has a comprehensive and transferable qualification recognition system that connects vocational education with general education, transfers non-formal education to formal, and integrates work experience with educational and professional qualifications. This is done through the NVQF 2019, which facilitates a pathway for TVET secondary graduates to pursue a Bachelor's Degree in Technology (level 6) and beyond.

According to the consultation inputs, the Thailand TVET Qualification Framework is more than 70% linked with the National Qualification Framework, occupational standard, and international qualification. Firstly, NQF is linked with the level of vocational education. Additionally, it also links with the ASEAN Qualification Framework (Only Thailand, Indonesia, Malaysia, and the Philippines are able to link the NQF with the ASEAN Qualification Framework). Meanwhile, OVEC also works to link ASEAN qualifications with the EU and other regions, such as Japan, Korea, China, and Myanmar.

The National Education Act 1999 established a credit transfer system to be implemented across formal, non-formal, and informal education, providing opportunities for students in the non-formal and informal education sectors to earn qualifications. Moreover, workers can also transfer and validate occupational qualifications, skills acquired, or evidence of work experience into educational qualifications.²⁶⁷

Audrey Baron-Gutty, Institut de recherche sur l'Asie du Sud-Est contemporaine,
<https://doi.org/10.4000/books.irasec.744>.

²⁶⁵ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁶⁶ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*.

²⁶⁷ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*. p.21-22.

In 2024, OVEC prioritized a professional standard certification measurement system (Skill Certificate) as one of its development agendas, enabling workers to utilize the accumulated credits from skills learning to certify their professional standards.²⁶⁸

Two main exams are held by different institutions: Vocational National Educational Test is administered by the National Institute of Educational Testing Service (NIETS) annually, mainly examining academic competency²⁶⁹; and Vocational Education Standards Testing is under the OVEC, examining professional knowledge,²⁷⁰ held by the TVET school, with an assessor from the provincial committee.²⁷¹ In 2024, OVEC promoted the establishment of provincial-level testing centers and assessment centers in 77 provinces to ensure the quality of certification issuance and learning outcomes.²⁷²

Efforts were also made to improve market information and placement services for the TVET/skills training graduates. In this process, OVEC established the national TVET information system: the Vocational Education Workforce Network Center (<https://v-cop.go.th/>), which is an integrated system that serves as a central information database, registration platform, and graduates' evaluation. It monitors the employment status and further education needs of the students, as well as facilitates direct connections among employers and employees.²⁷³

2.4.4.3 Inclusion

Thailand's TVET system gets financial support from the government. With the implementation of the 15-year Free Education Program, and under the Equitable Education Act 2018, financial support is provided for students who are in greatest need.^{274,275} The provision of free education to people with disabilities was entitled by the Education for Persons with Disabilities Act in 2008.²⁷⁶ In addition, to accelerate the Thailand 4.0 strategy, the government has operated the Equitable Education Fund (EEF) since 2018, supporting 9,427 scholarships for disadvantaged students in higher vocational education.²⁷⁷ Apart from financial support, in 2024, OVEC implemented programs focusing on distance learning, anti-drug campaigns, and southern border areas

²⁶⁸ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁶⁹ National Institute of Educational Testing Service. *V-NET*. niets.or.th/th/catalog/view/252. Accessed: 3 March 2025.

²⁷⁰ ILO. 2016. *Compilation of assessment studies technical vocational education and training (TVET)*. ilo.org/sites/default/files/wcmsp5/groups/public/@asia/@ro-bangkok/documents/publication/wcms_458131.pdf. ILO DWT for East and South-East Asia and the Pacific, Bangkok.

²⁷¹ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*.

²⁷² Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁷³ OVEC. *Vocational Manpower center*. v-cop.go.th. Accessed: March 5 2025.

²⁷⁴ UNICEF and Ministry of Education, Thailand. 2011. *Public Expenditure Tracking Survey (PETS) on the 15-Year Free Education Program: Kingdom of Thailand*. unicef.org/thailand/sites/unicef.org.thailand/files/2018-06/PETS_ENG_web.pdf

²⁷⁵ UNESCO UNEVOC. 2024. *Thailand TVET Country Profile*. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: March 2 2025.

²⁷⁶ Chinengundu, T. and Hondonga, J., 2024. Inclusive education practices in TVET institutions in Botswana, South Africa and Thailand: A systematic review. *TVET@asia*, Issue 23. tvet-online.asia/23/inclusive-education-practices-in-tvet-institutions-in-botswana-south-africa-and-thailand-a-systematic-review/.

²⁷⁷ EEF. *High Vocational Innovation Scholarship*. en.eef.or.th/portfolio-items/high-vocational-innovation-scholarship/. Accessed: 4 March 2025.

targeting vulnerable groups, including people with disabilities, drugs, and indigenous women and youth, respectively.²⁷⁸

According to the consultation inputs, students in employment could continue their education and training in the evenings and on weekends.

Through learning from Australia, Thailand developed a credit bank/micro-credentials system, as many students were dropping out of school. Through this program, schools and universities provide occupational learning experiences and validate the experience for students to help them find jobs. Since not all students can get the scholarships, OVEC Thailand provides open entry, open exit, credit bank, and micro-credentials to ensure students can continue learning while working. This is one effective way of integrating/ including the learners who had likelihoods of leaving education and training.

2.4.4.4 Quality

The government has highlighted the enhancement of the quality of TVET through a series of policies, including the Skill Development Promotion Act 2002²⁷⁹, the NQF 2015²⁸⁰, the NVQF 2019²⁸¹. Besides, in 2018, the government announced the National Education Reform to enhance the Dual Vocational Education System and reform of pre-service and in-service development system for TVET personnel.²⁸²

Meanwhile, several quality control mechanisms for TVETs have been established, including Vocational Education Standards Testing, Internal Quality Assurance System (IQAS), External Quality Assurance System (EQAS), National Education Testing for Vocational Education (V-NET), and Professional Qualification Standard/Skill Standard Testing.²⁸³ Specifically, the IQA requests a Self-Assessment Report (SAR) from TVET colleges annually, which contains six standards and 34 indicators for the institute and vocational education standards. The six standards include students and graduates, curriculum and teaching–learning resources, student activity development, innovation and research, social services, and leadership.²⁸⁴ Meanwhile, the EQAS updates the TVET’s output and the outcomes from the Office for National Education Standards and Quality Assessment (ONESQA) every 5 years.²⁸⁵ During 2019-2020, 30 Vocational Educational Institutes were undertaken EQA by ONESQA in terms of quality of graduates, education management, and creating an innovative learning society, with a positive rating outcome.²⁸⁶ After the IQA and EQA, the TVET providers are awarded the accreditation and a quality certificate.

²⁷⁸ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

²⁷⁹ ThaiLaw. 2002. *Skill Development Promotion Act 2002*. asean.org/wp-content/uploads/2016/08/Doc-17_Thailand181.pdf

²⁸⁰ Office of The Education Council. 2017. *National Qualification Framework (Revised Edition)*. <https://backoffice.onec.go.th/uploads/Book/1552-file.pdf?>

²⁸¹ OVEC. *Vocational Qualification Standards 2019 & 2024*. bsq.vec.go.th/th-th/B2.aspx. Accessed: 5 March 2025.

²⁸² SEA-VET. net. *Thailand TVET Country Profile*. sea-vet.net/thailand. Accessed: March 2025.

²⁸³ OVEC. 2019. *Quality Development of TVET Teachers in Thailand*. https://sea-vet.net/images/events/10RPD/10th_RPD_Presentation_3B_Dr._Athippatai_OVEC.pdf?

²⁸⁴ Pasawano, T. 2019. Vocational education and training in Thailand—Current status and future development. *Vocational Education and Training in ASEAN Member States: Current Status and Future Development*, pp.207-228.

²⁸⁵ Ibid.

²⁸⁶ ONESQA. 2020. *Summary of Results of External Quality Assessment of Vocational Education Institutions for Fiscal Year 2020*. onesqa.or.th/upload/download/202202211806208.pdf. Accessed: 6 March 2025.

According to the OVEC information database,²⁸⁷ 11 vocational certificates are in place, containing 12 subject types, 156 fields of study, and 301 branches of work. To adapt to the changing labor market, OVEC demonstrated its ability to update its curriculum annually. In 2024, OVEC developed 24 subjects, 74 occupational groups, and 171 disciplines for the Vocational Certificate Program and the Higher Vocational Certificate/Technical Certificate/Diploma.

The infrastructure improvement was also one of the OVEC's goals as it aims to improve the ICT system in the school, including advancing the hardware and promoting the use of learning materials/media via media/online media contests, and the establishment of a pilot-scale college using ICT in learning and teaching.²⁸⁸ 4,296 buildings, 177 gyms, four football fields, and 143,082 computers for studying were provided for TVET students.²⁸⁹

In 2024, the number of registered teachers and educational personnel in the OVEC system reached 36,816, including 14,828 government teachers and 10,007 private teachers. The teacher-student ratio was 26.27 in 2024,²⁹⁰ which was higher than that in general education.²⁹¹ To enhance the skill development of teachers, the Thai government has offered financial support, especially for those in rural areas. TVET educators are required to participate in teacher training programs at the tertiary education level. There is a specific two-year program organized by OVEC, and by 2024, more than 15,000 TVET practitioners are expected to have completed training in personnel development programs.²⁹² OVEC also works directly with industry to develop competency-based programs. OVEC develops new curricula that link with the occupational standards of TPQI through close collaboration with industry. Some are based on international occupational standards, while most are in-country standards. Also, it is important to note that the basic standards of the curriculum are flexible and depend on the company that OVEC works with.

2.4.4.5 Relevance

Thailand has comprehensive surveys and research on skill demand and skill supply to identify the current workforce situation and project main areas of improvement, including the Thailand Labor Force Survey Report, Survey from the Bank of Thailand (unemployment, employment by sector and wage), and the Eastern Economic Corridor (EEC) Statistics. The EEC Statistics forecast labor demand in the 10 priority sectors, while a survey implemented by the Board of Investment identifies the future needs and quality of the workforce.²⁹³

²⁸⁷ OVEC. *Basic information of the Vocational Education Commission*.

https://lookerstudio.google.com/reporting/145a3f16-912e-4027-be5b-c713803b75f0/page/p_1rkfvmead. Accessed: 6 March 2025.

²⁸⁸ OVEC. *Vision and Mission*. vec.go.th/en-us/englishpage/visionandmission.aspx. Accessed: 6 March 2025.

²⁸⁹ OVEC. *Basic information of the Vocational Education Commission*.

https://lookerstudio.google.com/reporting/145a3f16-912e-4027-be5b-c713803b75f0/page/p_1rkfvmead. Accessed: 6 March 2025.

²⁹⁰ Ibid.

²⁹¹ OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>.

²⁹² UNESCO UNEVOC. 2024. *Thailand TVET Country Profile*.

unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: March 2 2025.

²⁹³ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*.



2.4.4.6 Private sector engagement/ Labor market interface

The engagement of the private sector in TVET can be categorized across three levels: national (macro), institutional (meso), and operational (micro).²⁹⁴

BIAs in governance. To strengthen the Business and Industry interface in TVET governance, the Ministry of Education Administration Act 2003 stipulated that the Vocational Education Commission (VEC) Board would have three persons representing BIAs among 32 members. These BIA members are invited to attend decision and advisory meetings on TVET policy making, strategy planning, qualification approval, specialized skill standards setting for each field, curriculum improvement, and collaboration with TVET educational institutions on Dual Vocational Training or Work-Integrated Learning Program.²⁹⁵ Furthermore, the Skill Development Funds, supervised by DSD, operated a financial mechanism that provided tax exemption to companies offering employee skill development training.²⁹⁶

BIAS in Industrial Sector Committees. At the sectoral level by industry or occupation, sectoral bodies, such as the industrial sectors committee coordinated by the Federation of Thai Industry, were organized to participate in advisory meetings to review and develop guidelines for curriculum improvement, competency requirements, work-based learning management, and job opportunities of the graduates.

There are 33 public and private committees on TVET under OVEC. It works closely with 33 groups of industries in different fields such as logistics and automation. These committees are chaired by Thailand sector representatives in each area and hold meetings every three months and develop policy in a participatory approach. OVEC works mostly with medium and large-sized BIAs. This collaboration allows OVEC to understand the type and level of workforce necessary for the next five years.

BIAs in training school/institute management. The special economic development zones, including the Eastern Economic Corridor (EEC), and the Southern Border Committee, play an advisory role on quality manpower investment through regular meetings and collaboration with TVET institutions. For instance, the EEC office established a Working Committee on TVET manpower demand and supply for EEC, which is responsible for encouraging employers to set up their own training institutes and providing TVET institutions with the required standards in the facilitation of strategies and development guidelines.²⁹⁷

One of the exemplary evidence from Thailand is that over 100,000 BIA members provide apprenticeship opportunities in their institutions.

2.4.4.7 Outcomes

According to the latest data from the Vocational Education Workforce Network Center in 2023, the employment rate of TVET graduates in Thailand was 30.4%. The majority of graduates

²⁹⁴ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand.*

²⁹⁵ Ibid., p. 35.

²⁹⁶ UNESCO UNEVOC. 2024. *Thailand TVET Country Profile.*
unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: March 2 2025.

²⁹⁷ Ibid., p. 36.

(47.58%) are continuing their studies, whereas 10.21% are still waiting for work or are unemployed.²⁹⁸

2.4.4.8 Efficiency

To address the identified challenges, in 2024, OVEC enhanced administrative efficiency by implementing information technology, optimizing budget allocation through strategic performance-based budgeting, decentralizing procurement, and ensuring adequate funding for infrastructure and teacher salaries. It also focused on improving personnel administration by establishing a network for teacher associations, fostering cooperation both internally and internationally, and collaborating with organizations such as the Federation of Thai Industries, Thai Chamber of Commerce, and the Ministry of Labor.²⁹⁹

The TVET system in Thailand is mainly financed by the Ministry of Education (MoE) and OVEC defines the criteria and allocation of the budget.³⁰⁰ The annual expenditure budget of OVEC was

2.4.4.9 Financing USD 708.5 million in 2024. The personnel budget constituted the largest share (39.9%), followed by the subsidy (37.6%).³⁰¹ The budget allocated to TVET education is relatively small compared to that for general education, as the TVET budget accounts for 5.68% of the overall education budget of 12.47 billion USD in 2024.^{302, 303}

2.4.4.10 Affordability

For learners. The tuition fees at private institutes are higher than those in the public TVET sector, primarily because public TVET institutions receive significant government subsidies. Data collected in 2018 from Nakhon Pathom province in Thailand revealed that the private TVET education costs for vocational certificates, advanced vocational certificates, and bachelor's degree programs, ranging from USD 3,133 to 27,429 per person. In contrast, the costs in the public sector are significantly lower, ranging from USD 589 to USD 737 per person at the secondary level and USD 2,281 for a TVET bachelor's degree education.³⁰⁴ This finding implies that the education and training in public sector institutes are affordable to learners. However, students still face indirect costs—including transportation, textbooks, tools for practical learning, and living expenses. These can be significant barriers, especially for learners from rural areas or low-income families. To address this, the OVEC has introduced scholarships and stipends, but coverage remains insufficient.

For the government. Although government funds are available for infrastructure upgrades, teacher training, and curriculum development, budget allocations are at risk of being insufficient

²⁹⁸ OVEC. *Vocational Manpower center*. v-cop.go.th. Accessed: March 5 2025.

²⁹⁹ OVEC Vision and Mission. vec.go.th/Englishpage/VisionandMission.aspx. Accessed: 5 March 2025.

³⁰⁰ UNESCO UNEVOC. 2024. *Thailand TVET Country Profile*. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=THA. Accessed: 2 March 2025.

³⁰¹ Office of the Vocational Education Commission. 2024. *Annual Report 2024*.

³⁰² Equitable Education Fund. December 2024. *Rallying for Education Transformation in Thailand: The "All for Education" Strategy*. <https://en.eef.or.th/2024/12/27/rallying-for-education-transformation/>. Accessed: 27 April 2025.

³⁰³ Budget Bureau, 2024. *Thailand Budget in Brief Fiscal Year 2024*. <https://aced-content.nacc.go.th/upload/Book/10284/Book.pdf>. Accessed: 27 April 2025.

³⁰⁴ ต้นทุนเอกชนและต้นทุนทางสังคมของการศึกษาสาขาเทคโนโลยีจนจบการศึกษาระดับปริญญาตรี ในประเทศไทย. 2021. so01.tci-thaijo.org/index.php/econswu/article/view/255261.



compared to competing priorities such as higher education and health sectors. Funds may not be equally available across provinces and in remote regions.

For TVET Institutions. Most public TVET colleges depend on state budgets, with only limited autonomous fundraising mechanisms (such as fee-based short-term courses). As a result, many institutions struggle to upgrade their machine and equipment.

2.4.4.11 Adoption-scalability

Thailand's dual vocational training system has been successful in sectors such as automotive, hospitality, and manufacturing. However, in provinces and regions with rural or less industrialized settings, the adoption of this model is more challenging. Similarly, adoption-scalability depends on institutional capacity, but it varies greatly by institutes in terms of availability of the staff and resources to coordinate partnerships and implement reforms. Uneven teacher preparedness is another factor hindering the process as not all instructors become sufficiently familiar with competency-based approaches or industry standards. The EEC Human Capital Development Program demonstrated being a successful scalable model, but it relies on high-level coordination and sustained funding which is not always possible.

2.4.4.12 Sustainability

Policy commitment (reflected through relevant Acts, national strategies like the 20-Year National Strategy **and** Education Strategic Plan) is an example of how the TVET reform is embedded in the national policies and plans. This provision enhanced opportunity to give continuation to the reform initiatives. However, the factors that can threaten sustainability include financial sustainability (as many reforms are project-based and implemented under external funding which could be disincentive for integration into the regular system) and the social perception in that the TVET is still perceived as being in lower status compared to academic tracks. This adversely affects enrollment and public support.

2.4.5 TVET system strengths and weaknesses

2.4.5.1 Strength

With a unified and state-led vocational training system, structural governance, comprehensive provisions, central supportive finance, and an advanced qualification system established in an early period, Thailand was evaluated as the best practice in TVET amongst Association of South East Asian Nations (ASEAN) countries in 2022.³⁰⁵ The close integration of qualifications and occupational standards³⁰⁶, competency-based curriculum, comprehensive labor surveys for skill supply and demand, online information platforms, and BIAs' engagement feature the country's strength in TVET. Furthermore, the Thai TVET system features inclusive accessibility, with specific support for persons with disabilities, underprivileged students and girls to receive governmental funds and affirmative support, as well as the commitment to improving the capacity of TVET educators.

Flexibility to learners/students to continue education and training during evenings or weekends is one of the salient features of the Thai TVET system.

³⁰⁵ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand.* p.84.

³⁰⁶ Ibid., p.17.



Similarly, the provision allowing a 20% tax deduction of their income to the industry that provides training to students is another important feature of Thai TVET.

2.4.5.2 Weakness

Governance. The TVET system in Thailand is characterized by complexity, as multiple stakeholders operate under different ministries, agencies, and training providers. This leads to overlapping TVET program and a lack of coordination among stakeholders, which confuses students when choosing a program. Moreover, the state-led TVET system restricts the local TVET institutes' flexibility to develop curriculum design and programs based on their specific needs.³⁰⁷

Inclusion. Gender disparities exist in the TVET enrollment and subject choice, with 60% of male students and fewer female students in TVET programs. Additionally, 75% of male students were enrolled in industry-related programs while 66% of female students in business administration or commerce programs.³⁰⁸ Besides, the physical barriers still exist due to the lack of inclusive TVET institutions. The unfriendly attitudes towards disability and teachers' inability to adapt the curriculum and instructional design for students with disabilities hinder the accessibility of TVET for all.³⁰⁹

Expansion and access. TVET lacks attractiveness compared to general and academic education. The number of students enrolled in TVET schools is lower compared to that in general education.³¹⁰ Another prominent issue is the lack of enrollment of adults aged over 25 years. Lastly, TVET programs are not equally accessible to informal sector employees. Although Thailand has a compulsory Act on occupational training approved by the Ministry of Labor³¹¹, the informal workers are excluded.³¹²

Relevance and outcomes. There is a mismatch between labor demand and supply as Thailand has advanced the Thailand 4.0 Strategy. Despite a great need for ICT-related occupations,³¹³ the data in 2019 showed that only 1% of students were enrolled in ICT programs at upper secondary TVET, while 50% of Thai TVET students were enrolled in industry-related programs, and 35% in

³⁰⁷ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. [Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand](#), p.84.

³⁰⁸ Office of Permanent Secretary for Ministry of Education. 2015 and 2019. *Education Statistics*, mis.moe.go.th/index.php?option=com_content&view=article&id=657:ประเทศไทย 2562&catid=173&Itemid=114. Recite from OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>

³⁰⁹ Chinengundu, T. and Hondonga, J., 2024. Inclusive education practices in TVET institutions in Botswana, South Africa and Thailand: A systematic review. *TVET@asia*, Issue 23. tvet-online.asia/23/inclusive-education-practices-in-tvet-institutions-in-botswana-south-africa-and-thailand-a-systematic-review/.

³¹⁰ Moonpa, N., Phalason, S., Gulich, J. and Beecker, P., 2019. Approaches and Structures of Work-related Learning in TVET in Thailand. *TVET@ Asia*, 13, p.1-19.

³¹¹ Goncalves, C. 2019. *Financing TVET: A Comparative Analysis in Six Asian Countries*, Agence Française de Développement, afd.fr/en/ressources/financing-tvet-comparative-analysis-six-asian-countries.

³¹² OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>, p.56.

³¹³ OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>, p.87.



business administration and commerce programs.³¹⁴ Another significant misalignment exists between TVET sectors and industry development, particularly concerning the establishment of numerous public agricultural institutes. Although these institutes cater to the largest workforce in the agricultural sector, their overall contribution to GDP growth remains relatively low.

Thai nationwide intelligence has limited data and information on labor skill demand and supply and lacks a long-term nationwide tracer study on graduates. Although there is detailed data provided through the Labor Force Survey, the National Statistic Office of Thailand, and OVEC, it lacks the planning on labor demand in the future, and input from the whole-of-industry association.

Notwithstanding, the Thailand Labor Force Survey Report, Survey from the Bank of Thailand (unemployment, employment by sector and wage), the Eastern Economic Corridor (EEC) Statistics surveys still lack long-term statistics for identifying skill demand in the future and lack data from the whole-of-industry association. For example, the Chamber and the Human Capacity Building Institute do not provide significant regular skills surveys.³¹⁵ The Thai Labor Force Survey published in November 2024, presented the highest labor demand by educational attainment was for individuals with vocational levels and diplomas, accounting for 39.59%.³¹⁶

Quality. There is an absence of a relative committee of advisors from the industry sector to facilitate the development of competency-based curriculum.³¹⁷ The quality of the Dual Vocational Training was limited due to the poorly trained teaching staff.³¹⁸ Disparities are widened as TVET institutions in upper secondary education show bigger material resource shortages than general academic schools.³¹⁹ Lastly, the TVET quality assurance system has limitations since the roles and duties of administrators and teachers as major assessors are unclear. Furthermore, the network among key entities is often confined to assessment activities, rather than quality improvement while the students/ learners are still in the education and training phase in the institutes.³²⁰

³¹⁴ Office of Permanent Secretary for Ministry of Education. 2020, *Education Statistics*.

www.mis.moe.go.th/index.php?option=com_content&view=article&id=657:ประกาศ ระเบียบ-

2562&catid=173&Itemid=114. Recite from OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>.

³¹⁵ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*. p. 28.

³¹⁶ Department of Employment. 2024. *Thai Labour Market Journal*.

https://www.doe.go.th/prd/assets/upload/files/lmia_en/97a699241f50691721833a90c1b0a235.pdf.

³¹⁷ Pasawano, T., 2019. Vocational education and training in Thailand—Current status and future development. *Vocational Education and Training in ASEAN Member States: Current Status and Future Development*, pp.207-228.

³¹⁸ Grosch, M. 2018. *Internationales Handbuch der Berufsbildung*. Thailand. Recite from Moonpa, N., Phalasoos, S., Gulich, J., & Beecker, P. (2019). Approaches and Structures of Work-related Learning in TVET in Thailand. *TVET@Asia*, issue 13, 1-19. Online: <https://tvet-online.asia/issue/13/phalasoos-et-al/>.

³¹⁹ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*.

³²⁰ Thepmondhri, R., Chuo-Chun, H., and Chih-Wen, F. 2018. Actors and Networking on TVET QA System of Thailand: A Study on the Implementation and Its Problems. *PEOPLE: International Journal of Social Sciences*, 4(2), 619–638. <https://doi.org/10.20319/pjss.2018.42.619638>

Efficiency. Fragmentation-led duplication of TVET actions such as curriculum design and quality assurance requires additional funding which hampers efficiency in resource mobilization.³²¹ Although there is an increasing retention rate over the years, it still needs further improvement, especially for the dropout rate of the TVET Certificate Program (12.59% in 2019), which was nearly three times higher than that in the Diploma Program (3.66% in 2019)³²². According to figures published by Thailand's National Scheme of Education, dropout rates from vocational studies in upper secondary programs for the academic year 2015 were 17%³²³, and the dropout rates in post-secondary TVET programs were 11%.³²⁴ In 2019, the dropout rate was improved, with 12.59% for the TVET Certificate Program and 3.66% for the Diploma Program.³²⁵

BIAs' engagement. Currently, BIAs' engagement in TVET is organized separately by MoL, MoE, TPQI, and TVET institutions. Additionally, BIAs also support these government organizations in TVET implementation.³²⁶ However, there is no specific TVET body to coordinate BIA's engagement with TVET. Meanwhile, the state-led TVET governance structure also restricts the flexibility and motivation of BIA's engagement.³²⁷ Further, the BIAs lack a consolidated budget for their participation in TVET processes. In addition, small and medium enterprises (SMEs) in Thailand have limited involvement as the current focus is on involving large companies, leaving a significant number of SMEs in sectors such as agriculture, accommodation and food services, construction and manufacturing.³²⁸

Outcomes. There is a lack of a long-term nationwide tracer study on graduates, allowing information about graduates' employment status. However, according to the updated data registering the information of 269,994 graduates, TVET students had great difficulty in finding the job, with only 9.49% of students working at private companies and 17.11% working as freelancers, while 47.58% TVET students continued their studies, and 10.21% were still waiting for work/unemployed.³²⁹ Furthermore, Thai TVET students lacked the competency required by employers due to the absence of a well-functioning labor-market information system and demand-

³²¹ OECD. 2014. *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training. OECD Publishing, Paris, p.9

³²² ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand.*

³²³ Office of the Education Council. 2017, *Education in Thailand.* onec.go.th/index.php/book/BookView/1532.

Recite from OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>. p.49.

³²⁴ World Bank. 2021. *Enterprise Surveys*. <http://www.enterprisesurveys.org>. Recite from OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>. p.58.

³²⁵ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand.*

³²⁶ Ibid, p. 38

³²⁷ Ibid, p. 84

³²⁸ OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>, p.112-113.

³²⁹ OVEC. *Vocational Manpower center*. v-cop.go.th. Accessed: March 5 2025.

driven TVET institutes, as well as owing to the outdated curricula and facilities that were not flexible enough to meet technological changes and the diverse needs of different clients³³⁰.

Integration. Although Thailand has NQF and NVQF, in practice, it is hard to transfer between TVET and general education programs, whereas the formal pathways have been stipulated in NQF. This situation discourages enrollment in TVET programs. The attraction towards TVET is also adversely affected by the societal perception of TVET, which often views TVET as offering limited opportunities for further learning. Additionally, there is a lack of recognition for the skills and learning experiences gained in TVET, leading to overlapping coursework for TVET graduates when they transition to general education.³³¹

Absence of mentoring program: Over the past five years, research has shown that administrators and directors lacked a formal mentoring system for newly appointed teachers. This gap may have contributed to the high attrition rate, with 67% of new teachers leaving the profession. In response, OVEC now requires directors to undergo training in mentoring new teachers. Additionally, OVEC is actively developing a comprehensive mentoring system to support administrators, directors, and teachers alike. More importantly, teachers also need to be trained to mentor students when they do apprentice in the industries.

Baseline data and information. The baseline data is still missing, such as enrolment capacity, curriculum development, TVET school completion rate, school pass rate, tracer study, and whole-of-industry labor market survey.³³² This is because the existing information management system lacks a comprehensive and nationwide assessment of TVET interventions, and a specific research organization for TVET in the country.

2.4.6 Key TVET actors and their partnership

Key actors. At the international level, the major contributors are the EU, GIZ, ADB, and UN Agencies such as UNESCO, ILO, KOICA and JICA. The major government agencies are OVEC under MoE, DSD under MoL and TPQI in charge of TVET policies making, standards/qualifications development, institutional management and quality assurance.

The international development partners included the United Nations Agencies, the European Union, the Asian Development Bank, and the foreign governments, such as Germany, which has been supporting the TVET development. From 2024 to 2028, through the EU-ASEAN Sustainable Connectivity Package–Higher Education Program (SCOPE-HE), the EU sponsored the Nuffic, the Netherlands’ organization for internationalization in education and the DAAD (German Academic Exchange Service) to strengthen partnerships among TVET institutions and BIAs for green transition and digitalization.³³³ Since 2023, ADB has launched the Supporting Human and Social Development in Southeast Asia, aiming to strengthen TVET-related research and innovative

³³⁰ ILO. 2016. *Compilation of assessment studies technical vocational education and training (TVET)*. ilo.org/sites/default/files/wcmsp5/groups/public/@asia/@ro-bangkok/documents/publication/wcms_458131.pdf. ILO DWT for East and South-East Asia and the Pacific, Bangkok.

³³¹ Chalapati, N. and S. Chalapati. 2020. Building a skilled workforce: Public discourses on vocational education in Thailand. *International Journal for Research in Vocational Education and Training*, Vol. 7/1, p. 67-90, <http://dx.doi.org/10.13152/ijrvet.7.1.4>.

³³² OVEC. *Vocational Manpower center*. v-cop.go.th. Accessed: March 5 2025.

³³³ EU-ASEAN Strategic Partnership. *EU-ASEAN Sustainable Connectivity Package-Higher Education Programme (SCOPE-HE)*. <https://euinasean.eu/scope-he/>. Accessed: 11 March 2025.

vocational education.³³⁴ UNESCO Bangkok actively involves TVET sectors in its current initiatives, including Promoting Learner-Centered TVET and Global Network of Learning Cities (GNLC), contributing to partnership strengthening and quality improvement. The German government has made a notable contribution to the development of TVET in Thailand through various projects, including Regional Cooperation for the Development of Technical and Vocational Education and Training (RECOTVET III) (2017-2024)³³⁵, and the Progressing Work-based Learning of TVET System in Thailand project (*ProWoThai*) (2019-2024).³³⁶

Overall impact. Thailand's TVET system demonstrates relatively strong and institutionalized stakeholder partnerships under the leadership of the OVEC. As detailed above, the partnership between government BIAs has been fruitful for curriculum development and facilitating work-based training such as dual-VET and apprenticeship models. The support of the German government is noted for supporting the development and adoption of work-based learning approaches.

The details of key TVET actors and their engagements are presented in Annex 2.4.1.

2.4.7 Key Issues and challenges

Fragmentation in the system and delivery. The Thailand TVET system was considered hard to navigate due to overlapping stakeholders, including ministries, private providers, BIAs, which are engaged in education and training delivery at national, regional, and sectoral levels without effective coordination and a holistic plan of funding.³³⁷

Misconception and lack of public recognition. The recognition and acceptance of TVET is lower than general education, causing a low enrollment rate³³⁸ and lower foundational skills acquisition of the enrolled TVET students.³³⁹ Furthermore, the Thai government lacks proper advocacy of TVET institutes and occupations.³⁴⁰

Relevance and outcomes. There is a mismatch between skills demanded by the market and the supply provided by the TVET system, which exacerbates the low employment rate among TVET

³³⁴ ADB. *Regional: Supporting Human and Social Development in Southeast Asia*. adb.org/projects/52335-003/main. Accessed: 11 March 2025.

³³⁵ German Cooperation. 2024. Regional Cooperation for the Development of Technical and Vocational Education and Training (RECOTVET III). thai-german-cooperation.info/en_US/regional-cooperation-for-the-development-of-technical-and-vocational-education-and-training-recotvet-iii/. Accessed: 12 March 2025.

³³⁶ ProWoThai. <https://prowothai.com/about-us/>. Accessed: 12 March 2025.

³³⁷ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand*.

³³⁸ Pasawano, T., 2019. Vocational education and training in Thailand—Current status and future development. *Vocational Education and Training in ASEAN Member States: Current Status and Future Development*, pp.207-228.

³³⁹ OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en.p.44>, Authors' elaboration based on PISA (2018), PISA 2018 database, <https://www.oecd.org/pisa/data/2018database/>.

³⁴⁰ OECD. 2021. *Vocational Education and Training in Thailand*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <https://doi.org/10.1787/cc20bf6d-en>.

graduates, despite the high demand for the techniques with TVET educational attainments in the current labor market.³⁴¹

2.4.8 Lessons Learned

TVET sector specific research. Several Thai government institutions and Bank are engaged in labor market study and workforce needs forecast. However, continued mismatch demand and supply suggest the followings.

- Macro level survey is not enough to address this issue.
- The research-led information has to be fed into the TVET system. It is not enough to have survey results.
- Relevance of macro survey data could be complemented by results from rapid market appraisals (RMA). Such a study needs to be regularly conducted.
- Institutes should be given flexibility to decided the courses to offer.

Dual Vocational Education (DVE) and relevance. The development of DVE in Thailand increased students' competency and employability. There is a need to expand DVE and develop competency-based training in close cooperation with Thai BIAs.³⁴²

Enhancing BIAs' engagement. Thai BIAs have actively contributed to the development of TVET and were evaluated as effective by the ASEAN TVET assessment report in 2022; however, improvements are needed to further enhance their effectiveness.³⁴³

Improve the permeability by linking NQF and NVQF. Thailand has developed a permeable framework to link educational and professional qualifications by aligning levels 4-6 of the NQF with general education.³⁴⁴ Moreover, the development of the credit bank system further supports the permeability by enabling employees to take the initiative in enhancing their skills through distance learning. These initiatives strengthen the linkage between NQF and NVQF, improving the permeability of the framework.

Enhancing social equality and inclusive learning. Supported by the government, the TVET and skills training have demonstrated their capacity to support people with disabilities, students from disadvantaged backgrounds, and minority groups.

2.4.9 Knowledge gap/research agenda and policy questions

2.4.8.1 Nationally identified key growth sectors and research agenda

The key growth sectors for Thailand's TVET development include high-value agricultural production and processed agricultural products, quality-oriented tourism, electric vehicle manufacturing, digital and smart electronic industry, and green economy.³⁴⁵ These sectors have been identified based on Thailand's socio-economic landscape and its national goals outlined in

³⁴¹ National Statistical Office Thailand. 2024. *Thailand Labor Force Survey, Summary Report in Quarter 4*. nso.go.th/nsoweb/storage/survey_detail/2025/20250131082057_95431.pdf.

³⁴² ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. [Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand](#)

³⁴³ Ibid.

³⁴⁴ SEA-VET. net. *Thailand TVET Country Profile*. sea-vet.net/thailand. Accessed: March 2025.

³⁴⁵ Office of the National Economic and Social Development Council. 2023. *The Thirteenth National Economic and Social Development Plan*. nesdc.go.th/article_attach/article_file_20230615134223.pdf. Accessed: 22 May 2025.

the 20-year National Strategy (2017-2036), the Thailand 4.0 Strategy in 2017, and the 13th NESDP (2023-2027) in 2023. Specifically, Thailand has prioritized industrial digitalization and process automation, STEM education for technology-driven processes, and the Bio-Circular-Green Economy Model, aiming to strike a balance between environmental conservation and economic advancement through technological innovation.³⁴⁶

The Thai priority sectors, research rationale and research agenda are presented in Table 2.4.1.

Table 2.4.1: Thailand priority sectors, research rationale and research agenda

Sectors	Research rationale	Research Agenda
Agriculture	Agricultural productivity and value-added agricultural products	<ul style="list-style-type: none"> What is the current capacity of instructors and facilities to teach new technologies and green farming methods? What agricultural technologies and practices should be integrated into TVET to boost productivity and quality? What models exist for public-private partnerships (PPPs) between TVET institutions and agribusinesses?
STEM education and disruptive technology	Industrial digitalization and automation	<ul style="list-style-type: none"> How can STEM be effectively embedded in TVET curricula to support industrial automation and smart manufacturing? What competencies in disruptive technology are most in demand by Thai industry sectors? To what extent are instructors and institutions prepared to deliver training in disruptive technologies?
Green economy and climate change	Mitigation of climate change effects	<ul style="list-style-type: none"> What green skills are essential for Thailand's Bio-Circular-Green economy model? How can TVET programs integrate environmental sustainability, energy efficiency, and waste management into curricula?
Tourism	Quality tourism	<ul style="list-style-type: none"> What hospitality and service skills are needed to meet the demands of quality-focused tourism?
Manufacturing	Electric vehicle manufacturing	<ul style="list-style-type: none"> What technical competencies are required for maintaining and assembling electric vehicle (EV) technologies? How can TVET institutions collaborate with the private sector to develop EV manufacturing skills?

2.4.8.2 General knowledge gap and research agenda

To improve the quality of Thailand's TVET system, there are existing research gaps that need to be addressed and policy questions that remain unanswered. For example, how has been the relationship between OVEC, DSD, and TPQI, and what are the implications on the overall TVET system operations, particularly in ensuring cooperation from the private sector? To strengthen the coordination among current stakeholders, what regulatory reforms and coordination mechanisms can enhance synergy at least among government agencies? For another instance, to improve relevance and the outcome, what policy measures (for instance, giving flexibility to institutes to take decisions on qualifications to offer) are required to make market assessment mandatory before deciding qualifications to offer? Further details of the knowledge gaps/research agenda and relevant policy questions are presented in Annex 2.4.2 (Thailand TVET Issues and Knowledge Gaps/Research Agendas).

³⁴⁶ Ibid.

2.4.10 Major conclusions and recommendations

Thailand's TVET system faces multiple challenges that hinder its effectiveness and relevance in addressing labor market demands. To enhance the quality, relevance and outcomes of TVET, the following recommendations are proposed:

2.4.10.1 Governance and coordination

TVET governance lacks efficiency and responsiveness due to the overlapping institutional design. It is essential to streamline the governance of TVET, minimize fragmentation across multiple agencies, and empower local authorities with greater autonomy and flexibility to deliver programs that align with market needs. There is a need for the government to develop an effective management system and strengthen active partnerships at different levels with multiple stakeholders.³⁴⁷

2.4.10.2 Inclusion

Although Thailand has allocated inclusive funds and enacted provisions to enhance inclusive TVET, further enforcement is necessary to overcome existing barriers, including mental, physical, and regulatory limitations to TVET education.³⁴⁸ TVET education needs to be accessible to adults, informal workers, people with disabilities, women and girls, and students in rural areas and from underprivileged backgrounds. Additionally, more inclusive funding and support are needed to reduce the disparities between rural and urban areas.

2.4.10.3 Quality

TVET quality assurance lacks efficient quality improvement, which reflects the need for a robust quality assurance framework of accreditation, assessment, and certification standardization. Continuous monitoring and evaluation are needed to ensure that TVET institutions maintain high standards through a knowledge-sharing platform.

The TVET teachers have limited professional development training and inadequate industry-specific training, hindering the quality of vocational education. As a result, incentives should be provided for teachers to improve their pedagogical skills, industry-specific knowledge, and digital competencies. Meanwhile, the adoption of a learner-centered approach is important to improve teachers' skills via e-learning and mentoring practice.³⁴⁹

The low employment rate of TVET graduates and the inability to meet employers' demand require the curriculum upgrade regularly to achieve the NSDAP 13th and Thailand 4.0 Strategy. Emphasizing competency-based curriculum, training and testing will enhance practical skills while integrating digital and green skills into existing curricula. For example, agricultural TVET schools should cultivate future farmers familiar with and transfer the labor in agriculture to the Food Manufacturing / Process industry through technical and innovation training such as automation, mechatronics process control, and entrepreneurship, to add value to agricultural products.³⁵⁰

³⁴⁷ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand.* p.84.

³⁴⁸ Vorapanya, S. & Dunlap, D. 2014. Inclusive education in Thailand: practices and challenges. *In: International Journal of Inclusive Education*, 18(10), 1014-1028.

³⁴⁹ Ibid.

³⁵⁰ Ibid., p.40.



Moreover, it is vital to enable local TVET institutes with the flexibility to develop localized training that aligns with the skill demand of local industries.³⁵¹

2.4.10.4 Relevance

There is an absence of comprehensive nationwide assessment and dedicated research organizations for TVET results. Therefore, a nationwide database with agreed indicators and corresponding baseline data and information, and data analysis with projections with involvement of the BIAs is necessary to properly guide students' choice of TVET, monitor and evaluate the TVET's implementation for evidence-based policymaking.

2.4.10.5 Private sector engagement/ Labor market interface

The lack of inclusion of SME's participation, the absence of specific bodies to coordinate the engagement, as well as the limited flexibility for BIAs engagement in TVET governance restricts BIAs' influence on promoting quality TVET. To address these issues, it is important to promote the number of BIAs representatives in the TVET governing system, and encourage BIAs' advisory role in policy making, facilitating the labor surveys, and offering students with opportunities to have apprenticeships and DVA in the real workplace. Furthermore, BIAs need to be encouraged to conduct collaborative research with TVET institutions, organize career forums, and support the latest equipment and scholarship.³⁵²

2.4.10.6 Public Perception of TVET.

The widespread misconception about TVET has limited enrollment rates and lower foundational skills acquisition among TVET students. To improve the social recognition of TVET, the government plays an important role in continuing to promote and communicate on TVET to develop trust and value of TVET for parents and the community.³⁵³ Moreover, gathering and promoting success stories of TVET graduates is valuable for showcasing labor market demands and career prospects. Lastly, an easier and informative TVET navigation system will be helpful for students to make informed choices.³⁵⁴ Most importantly, the TVET graduates need to be ensured with seamless educational progression paths, and their certificates need to be recognized at parallel with the general education graduates.

2.4.10.7 Mentoring. As discussed in the foregoing section, there is a lack of mentoring provisions for TVET administrators. This is also the case with students from a poor economic background. Therefore, mentoring training for administrators and vocational counseling service for the students at the institute level is considered important.

2.4.10.7 Research and documentation of good practices. The Thai TVET system has good practices, but they are not well researched and disseminated. Accordingly, research and knowledge generation in this agenda and its dissemination could be beneficial for the TVET system and also good practice for the region.

³⁵¹ ASEAN-ROK Technical and Vocational Education and Training Mobility (TEAM) Programme. 2022. *Component 1: 'Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labor Market Information' Country Report: Thailand.* p.84.

³⁵² Ibid, p.84-87.

³⁵³ Ibid.

³⁵⁴ OVEC, p.121

Annex
Table 2.4.1: Key TVET Actors of Thailand

SN	IDPs	Regions	Area of engagement
1	National actors		
a	Office of Vocational Education Commission (OVEC) under Ministry of Education	National agency	<ul style="list-style-type: none"> ▪ Develop acts, policies, and legislative orders to ensure quality education and training ▪ Manage public and private formal TVET system ▪ Develop standards and curriculum ▪ Budget allocation and resources mobilization ▪ Quality assurance
b	Department of Skill Development under Ministry of Labor	National agency	<ul style="list-style-type: none"> ▪ Proceed with legal procedures for the skill development promotion ▪ Develop national occupational skill standards and provide skill testing ▪ Provide short training programs
c	Thailand Professional Qualification Institute (TPQI)	National agency	<ul style="list-style-type: none"> ▪ Develop the professional qualification system and occupational standards ▪ Certification, accreditation, information center
d	Business and industry associations (Eastern Economic Corridor, Federation of Thai Industry, and individual companies)	Private	<ul style="list-style-type: none"> ▪ Labor demand survey ▪ Advisory meeting on standards development and curriculum development ▪ Dual vocational education and work-based learning programs ▪ Set the training institute
2	International actors		
a	European Union		<ul style="list-style-type: none"> ▪ Strengthen partnership among TVET institutions and BIAs for green transition and digitalization
b	ILO		<ul style="list-style-type: none"> ▪ Female skill upgrading in STEM sectors
c	UNESCO		<ul style="list-style-type: none"> ▪ Learner-Centered TVET ▪ Learning Cities
d	Asian Development Bank		<ul style="list-style-type: none"> ▪ Strengthening Research, Innovation and Vocational Education
e	Germany		<ul style="list-style-type: none"> ▪ Pedagogy research and application ▪ Systematic development
f	Korea International Cooperation Agency		<ul style="list-style-type: none"> ▪ Digital TVET
g	Japan International Cooperation Agency		<ul style="list-style-type: none"> ▪

Annex 2.4.2: Knowledge gap/ research agenda and policy questions in Thailand TVET

Issues	Knowledge Gaps/Research Agenda	Policy Questions
Weak coordination among stakeholders leading to fragmentation of services and their qualities	<ul style="list-style-type: none"> ▪ What are the key factors hindering effective coordination between and among stakeholders? Which policy and strategic provisions have contributed to this problem? ▪ How can Thailand learn from international TVET governance models? ▪ How has the relationship been between OVEC, DSD, and TPQI, and what are the implications on the overall TVET system operations, particularly in ensuring cooperation from the private sector? 	<ul style="list-style-type: none"> ▪ What regulatory reforms and coordination mechanisms can enhance synergy at least among government agencies? ▪ How can a system be put in place to develop and implement evidence-based policies and plans?
Delivery of key players	<ul style="list-style-type: none"> ▪ How far have major players such as OVEC and DSD been successful in achieving their objectives? 	<ul style="list-style-type: none"> ▪ What changes/amendments could make these agencies effective and contribute to TVET development?
BIAs' engagement	<ul style="list-style-type: none"> ▪ Why has the partnership with BIAs not been effective? 	<ul style="list-style-type: none"> ▪ What policies should establish legal frameworks and principles to govern the

Issues	Knowledge Gaps/Research Agenda	Policy Questions
		operation and development of industry-academia collaborations (Haque et al 2024)?
Limited access to adults, informal workers, and other disadvantaged groups?	<ul style="list-style-type: none"> ▪ What are the key factors hindering different marginalized groups' access to TVET? 	<ul style="list-style-type: none"> ▪ What policies and mechanisms should be developed to improve the accessibility and inclusiveness of TVET to adults, informal workers, and students in rural areas and from underprivileged backgrounds?
Information mismatch between Labor skill demand and supply	<ul style="list-style-type: none"> ▪ What are the key factors to fill the information gaps between labor skill demand and supply? 	<ul style="list-style-type: none"> ▪ How to build an effective national-wide information system with a systematically informed baseline framework and indicators among different mechanisms and governmental bodies?
Lack of systematic and regular market study before occupations identification and curriculum development.	<ul style="list-style-type: none"> ▪ What occupations/ qualifications have the largest demand in the market in the short, middle and long term? 	<ul style="list-style-type: none"> ▪ What policy measures (for instance, giving flexibility to institutes to take decisions on qualifications to offer) are required to make market assessment mandatory before deciding qualifications to offer?
TVET and general education are not well integrated in practice	<ul style="list-style-type: none"> ▪ Which factors hinder the transferability between TVET and general education? 	<ul style="list-style-type: none"> ▪ What policy provisions and institutional mechanisms are necessary to integrate TVET with general education? ▪ What policy measures could help expand the RPL services across the country?
Low enrollment	<ul style="list-style-type: none"> ▪ How to improve the attractiveness of TVET to the public? 	<ul style="list-style-type: none"> ▪ What policies and interventions can increase the number of TVET students? ▪ How can TVET be made accessible for informal workers?
Low employment rate of TVET graduates	<ul style="list-style-type: none"> ▪ To what extent are current TVET programs contributing to employment and poverty reduction? ▪ What factors are impeding higher employment rates among graduates? 	<ul style="list-style-type: none"> ▪ What targeted interventions could boost employment outcomes and better align training with labor market needs?
Teacher training and digital literacy	<ul style="list-style-type: none"> ▪ What proportion of TVET instructors are proficient in both pedagogy and modern digital tools? ▪ What digital skills gaps exist among instructors? 	<ul style="list-style-type: none"> ▪ What policy interventions can ensure continuous professional development and enhance digital literacy among trainers?
TVET facilities concentrated in urban areas, limiting rural access.	<ul style="list-style-type: none"> ▪ How can access to rural and remote communities be enhanced? 	<ul style="list-style-type: none"> ▪ What decentralization model on accessibility in TVET initiatives exists in other countries?
Limited awareness and use of emerging fields like artificial intelligence (AI), robotics, and automation in the learning environment.	<ul style="list-style-type: none"> ▪ What level of digital literacy among TVET trainers and students? ▪ To what extent is AI used in a learning environment? ▪ What scope remains for such provision? ▪ What infrastructure exists and is required to facilitate online learning in institutes in remote areas? 	<ul style="list-style-type: none"> ▪ What policy provisions can enforce inclusion of digital platforms for expanding e-learning?
	<ul style="list-style-type: none"> ▪ What demand exists for the use of AI and automation? 	<ul style="list-style-type: none"> What policy measures are required to encourage the application of AI and automation?
	<ul style="list-style-type: none"> ▪ What scope exists for the integration of future tech skills in TVET? ▪ To what extent have institutes kept up to date with future tech skills? 	<ul style="list-style-type: none"> What policy changes/ measures are needed to integrate the future tech skills in the TVET system?



Issues	Knowledge Gaps/Research Agenda	Policy Questions
Limited awareness of green and climate change-friendly technology	<ul style="list-style-type: none"> ▪ What policies exist for the promotion of skills for green jobs and climate change-friendly technology? ▪ To what extent are climate-change responsive skills/competencies included in the curriculum? 	<ul style="list-style-type: none"> ▪ What policies exist for the promotion of skills for green jobs and climate change-friendly technology?



Annex 2.5: Cambodia TVET Report

2.5.1 National socio-economic context

According to the National Institute of Statistics, the country's population was 17 million in 2023 (51.5% females)³⁵⁵ and recorded per capita income of 2,345 USD in 2022³⁵⁶. The country's poverty rate dropped to 12.9% by 2018³⁵⁷, which was less than 10% before the COVID-19 crisis according to government data.³⁵⁸ This progress might have been a result of economic growth at an average annual rate of 7.6% between 1995 and 2019. Its economy continued to recover in 2021 and 2022³⁵⁹. The country graduated from a low-income country in 2015 and, with a lower middle-income status, aspires to become an upper middle-income economy by 2030 and a higher-income economy by 2050.³⁶⁰

In 2021, the industry (40.8%) and the service (36.5%) sectors were the first two largest contributors to GDP, followed by the agriculture sector (10.3%)³⁶¹.

Annually, 160,000 new workers enter the labor force.³⁶² According to the World Bank, the unemployment rate was estimated at only 0.2% in 2024³⁶³ and it was 4.3% in 2020³⁶⁴. This drop in the unemployment rate could be because 88.3% of the employment was in the informal sector.³⁶⁵ Micro, small, and medium-sized enterprises played an important role in providing income for millions of people.³⁶⁶

2.5.2 History of TVET development

2.5.2.1 TVET Development

The country's TVET development is guided by human resource development and enhancement of skills in various occupations to contribute to socio-economic development efficiently and

³⁵⁵National Institute of Statistics, Key Figures. nis.gov.kh. Accessed: 22 March 2025.

³⁵⁶ NIS, National Accounts, 2021

³⁵⁷ ADB 2018 cited in ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

³⁵⁸ Royal Government of Cambodia. 2023. Pentagonal Strategy-Phase I Growth, Employment, Equity, Efficiency and Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050. The Royal Government of Cambodia of the Seventh Legislature of the National Assembly. August 2023. mfaic.gov.kh. Accessed: 25 March 2025.

³⁵⁹ ILO/UNDP. 2023. Understanding the Paths To Formalization In Cambodia: An Integrated Vision. December 2023. undp.org. Accessed: 21 March 2025.

³⁶⁰ World Bank. The World Bank in Cambodia. worldbank.org. Accessed: 21 March 2025.

³⁶¹ NIS, 2023

³⁶² World Bank/KWPF. CAMBODIA'S FUTURE JOBS: LINKING TO THE ECONOMY OF TOMORROW. Accessed: 30 March 2025.

³⁶³ World Bank. 2024. Cambodia Economic Update, December 2024: From Recovery to Resilience - Harnessing Tourism and Trade as Drivers of Growth. © Washington, DC: World Bank. <http://hdl.handle.net/10986/42539> License: [CC BY-NC 3.0 IGO](https://creativecommons.org/licenses/by-nc/3.0/)." openknowledge.worldbank.org. Accessed: 23 March 2025.

³⁶⁴ ILO/UNDP. 2023. Understanding the Paths To Formalization In Cambodia: An Integrated Vision. December 2023. undp.org. Accessed: 21 March 2025.

³⁶⁵ National Institute of Statistics. 2021. Cited In ILO/UNDP. 2023. Understanding the Paths To Formalization In Cambodia: An Integrated Vision. December 2023. undp.org. Accessed: 21 March 2025.

³⁶⁶ ILO/UNDP. 2023. Understanding the Paths To Formalization In Cambodia: An Integrated Vision. December 2023. undp.org. Accessed: 21 March 2025.



effectively by focusing on improving the curriculum and creating opportunities for vocational education.³⁶⁷

As the aftermath of World War II, VET emerged in Cambodia and was implemented in three modalities – market-led, institute-based, and dual VET - and supported by many international agencies³⁶⁸. However, as noted by Phal et al 2021,³⁶⁹ the ‘ineffective traditional training, the demographic evolution, and the growing demand for new skills to respond to the global industrial revolution and technological advancement during the twentieth century, led to VET development in the country.’ The main aim of VET during the time was to provide reskilling and upskilling opportunities for the lower socio-economic workforce.³⁷⁰

The VET system became prominent after 2004 when the Ministry of Education, Youth and Sport (MoEYS) through its Office of Technical and Vocational Training started formal TVET. In the following year, the TVET responsibilities were transferred to the Directorate General of TVET (DGTVE) under the Ministry of Labour and Vocational Training (MoLVT). Non-formal and informal (short course) vocational training which were under the Ministry of Social Welfare were also transferred to MoLVT. As such, the Cambodian TVET appears to be a better system compared to others with high sector fragmentation.

To address the issues around permeability between TVET and general education and recognition, the country established a national qualifications framework in 2012³⁷¹ which is considered one of the important developments towards, among others, quality assurance.

2.5.2.2 Management of change during the TVET development process

The country has made efforts to manage the change process in the TVET system through policy and institutional reform, and engaging stakeholders.

Policy Reforms. As explained under the ‘Governance’ Chapter, the TVET developments/reforms were framed within broader national strategies such as the Rectangular Strategy for Growth, Employment, Equity and Efficiency and the Cambodia Industrial Development Policy (IDP) 2015–2025, which helped provide long-term political commitment and strategic alignment. The Ministry of Labour and Vocational Training (MLVT) played a key role in leading the reform.

Implementation approach. A key feature of change management was the adoption of a phased manner in that the developments started through the pilot of reform initiatives. The ADB-supported Strengthening Technical and Vocational Education and Training (STVET) project is an example

³⁶⁷ Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia’s Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moeys.gov.kh. Accessed: 25 March 2025.

³⁶⁸ Nelson 2010 cited in Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

³⁶⁹ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

³⁷⁰ Benavot 1983 cited in Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

³⁷¹ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

of this approach, which helped in the testing of new mechanisms (like competency-based training and modular certification). With the success of the pilots, the country rolled them out on a bigger scale.

Stakeholder engagement. It was another critical approach to the reform process. BIAs were engaged through structures like the National Training Board (NTB) and Sector Skills Councils (SSCs), although their effectiveness and influence varied and needed improvement. As presented above, IPDs also played a strong role in shaping reform content and capacity development.

Capacity-building initiatives. To support institutional readiness for change, capacity-building initiatives were conducted, particularly focusing on trainer upskilling and management training for TVET institute leaders and curriculum developers. These initiatives were important for managing the change and scaling up.

2.5.2.3 Factors influencing the change process

The factors influencing the Cambodian TVET reform can be explained under internal and external categories.

Internal Factors. Among the internal factors, strong political support from the Royal Government of Cambodia, particularly through its National TVET Policy (2021–2030), provided legitimacy and strategic focus to the reform agenda. However, limited human and technical capacity within TVET institutions, including gaps in instructor qualifications; weak governance structures; and dependency on government and external funding, were barriers to the reform process.

External Factors. Among the external factors supporting the reform process included IDPs (providing funding and technical guidance); the country's participation in ASEAN's economic integration and education harmonization frameworks (encouraging standardization and portability of qualifications); and rapid industrialization and the shift toward a skills-based economy (especially in manufacturing and services) have exerted pressure on the TVET system to produce job-ready graduates.

2.5.3 Progress in TVET Development

2.5.3.1 Governance

Policy development and policy framework. Three entities –the Ministry of Labour and Vocational Training (MoLVT), the Ministry of Education, Youth and Sport (MoEYS), and the National Training Board (NTB) are engaged in TVET policy spheres. The latter has responsibility for overall policy formulation, consultation, and monitoring of the TVET system and therefore, has both the policy-making and oversight functions³⁷².

The modern TVET system dates back to 1998 when the Internship provision was introduced in the Labor Law and was followed by the Circulation on the Quality Promotion and Effectiveness of TVET in 2011. As mentioned above, the year 2012 is noted for the establishment of CQF, followed by the formulation of the TVET Strategic Plan 2014-2018 in 2014. A Strategic Plan for the development of the Labor and Vocational Training sector 2014-2018 was also formulated in the same year. Two important policies - National Employment Policy (NEP) 2015-2025 and Cambodia Industrial Development Policy (IDP) 2015-2025 – were developed in 2015.

³⁷² Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia's Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moeys.gov.kh. Accessed: 25 March 2025.



The government introduced National TVET Policy 2017-2025 and Modernizing TVET Strategic Action Plan 2019-2023 in 2017. Several important policy actions including i) MLVT Strategic Plan 2024-2028; ii) Cambodia Skills Development Roadmap 2023-2035 and iii) Transforming TVET Strategic Action Plan 2024-2028 in 2024. Competence-Based Training and Assessment Policy, TVET Quality Assurance Manual, and TVET Master Plan 2021-2025 are other important policy documents shaping the TVET sector.³⁷³

The Ministry of Labor and Vocational Training (MLVT) prepared Cambodia TVET Policy 2017-2025 which was approved by the Council of Ministers in June 2017. It is the main guiding document for skills development strategies and coordinating the stakeholders. The policy objectives were to improve TVET quality to meet national and international market demand; increase equitable access to TVET; promote public-private partnerships (PPPs) and aggregate stakeholder resources to support sustainable development of the TVET system; and improve the governance of the TVET system.

Cambodia developed its Skills Development Roadmap 2023-2025³⁷⁴ with has vision to 'produce or transform Cambodia's human resources into supportive resources with high capacity and productivity for national socio-economic development, responding to the current and future labor market needs; and to provide opportunities for lifelong learning to ensure that 'every citizen has at least one skill in life', has a better job, dignity, and higher living standard. The strategy has five strategic pillars including strengthening the quality of TVET, enhancing branding and outreach, industry-relevant TVET, governance and leadership, and funding and sustainability. It aimed to be a strategic document to guide all actors involved in skills development

As a continuation of the policy reform action, the government has a plan to enact the TVET Law and formulate the National TVET Policy 2026-2035.

The country's TVET sector is also guided by the National Strategic Development Plan 2019-2023. One of the rectangular strategies under this plan was to 'create more jobs, in terms of both quality and quantity aspects, for the citizens, especially for the youth through skill training, provision of job market information, improvement in working conditions and promotion of business and investment inside and outside the country'.³⁷⁵ The country is preparing for the 4th industrial revolution which through its strategies appears to be moving with a clear vision. However, there have been gaps in detailed implementation arrangements³⁷⁶.

In parallel to the MoLVT, the MoEYS has also formulated the Cambodia Education 2030 Roadmap which is the country's educational vision for 2030 to align with the national vision to

³⁷³ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

³⁷⁴ Ministry of Labour and Vocational Training 2023. Cambodia skills Development Roadmap 2023-2035. asean.org. Accessed: 21 March 2025.

³⁷⁵ Royal Government of Cambodia. 2019. National Strategic Development Plan 2019-2023. cdc-crdb.gov.kh. Accessed: 21 March 2025.

³⁷⁶ ADB. 2021. Reaping the Benefits of Industry 4.0 through Skills Development inn Cambodia. January 2021. adb.org. 23 March 2025.



become an upper-middle-income country by 2030 and a high-income country by 2050. It also affirms the country's commitment to achieving SDG 4.³⁷⁷

The country's Pentagonal Strategy (Phase I) underscores the importance of human resource development through education sector reform. The strategy has the objective to 'create more jobs, especially for the youth, by strengthening the quality of education, and market-relevant hard and soft skills training, and provide extensive information about the job market.'³⁷⁸ The policy and planning context explained above set the stage for Cambodia's current and future TVET interventions.

2.5.3.2 Capacity to undertake evidence-based policy formulation

Chapter 2.5.2.2 (Policy development and policy framework) detailing the policies and strategies relevant to the TVET development presents the evidence in support of the Cambodian national capacity to develop relevant policies and strategies. The processes explained in these documents appeared comprehensive as they included contextual analyses followed by policy dialogue and interaction events involving both public and private TVET stakeholders. These processes are supported by international development partners (IDPs). All this evidence – a plethora of policies and processes- is evidence in support of the national capacity to formulate policies. However, it is worth noting that the TVET sector lacks indicators and associated baseline data.

2.5.3.3 Governance structure

According to the study by Phal et al 2021, the country's TVET system can be divided into upper-secondary and post-secondary TVET. The former consists of vocational certificate programs and three levels of competency-based technical and vocational certificate programs (equivalent to the International Standard Classification of Education, ISCED 3) and is also known as C1, C2, and C3. The C3 graduates qualify as equivalent to upper-secondary school completion in general education. The study also reveals that MoEYS has been rapidly expanding its technical education programs at the upper secondary education level and unlike programs under MoLVT, the enrolment under MoEYS tends to significantly scale up.

While the ministries with membership in the National Training Board (NTB) also offer needs-based training for upgrading specialists or introducing new processes, the MoEYS as one of its members offers TVET through its secondary and higher secondary educational programs. The NTB was established in 1996 to develop a coordinated long-term development TVET plan and has Provincial Training Boards decentralize its activities at the provincial level. It provides policy direction to the Directorate General of Technical Vocational Education and Training (DGTVET). There is a range of technical, vocational, and skills orientation programs operating under MoEYS and MoLVT.³⁷⁹ The MoLVT is the main regulatory body³⁸⁰ offering various qualifications through

³⁷⁷ moeys.gov.kh. 2019. Education 2030. Incheon Declaration and Framework for Action Towards inclusive and equitable quality education and lifelong learning for all. February 2019. moeys.gov.kh. Accessed 22 March 25.

³⁷⁸ Royal Government of Cambodia. 2023. Pentagonal Strategy-Phase I for Growth, Employment, Equity, efficiency and Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050. The Royal Government of Cambodia of the Seventh Legislature of the National Assembly. Phnom Penh, August 2023. Accessed 25 March 25.

³⁷⁹ Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia's Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moeys.gov.kh. Accessed: 25 March 2025.

³⁸⁰ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

its DGTVE³⁸¹ through its training centers. Also, the NTB-approved Cambodian Qualification Framework (CQF) in 2012 is used for the development and classification of qualifications based on a set of criteria describing competencies³⁸² to govern the system.

2.5.3.2 Effectiveness

Qualifications and programs. The Cambodia qualification framework has eight levels.³⁸³ TVET system in Cambodia comprises formal TVET and skills training programs, less formal and informal learning, and in-service training programs organized by BIAs. The formal TVET provision comprises TVET programs after primary school, followed by upper secondary TVET Certificate programs at three different levels, a one or two-year TVET diploma, a two-year higher diploma, a four-year of Bachelor's degree, a Master's, and a Doctoral degree.³⁸⁴ In addition, the vocational stream offers educational opportunities to children who cannot complete basic education at trade schools.³⁸⁵ The non-formal TVETs are provided by Provincial Training Centers and Vocational Training Centres, Community Learning Centres (CLCs), NGOs, Women's Development Centres, private providers, and small businesses, offering short-term courses ranging between one to four months, focusing on literacy, agriculture, construction, motor repairs, and basic food processing³⁸⁶.

The country has been working towards Green TVET³⁸⁷ which includes the government's collaboration with stakeholders to integrate green TVET both in the workplace and relevant curriculum; and the 'Greening the Campus' campaign in energy, water, and waste sectors focusing in five northeastern Cambodian provinces. Similarly, awareness campaign events across various provinces aiming to raise awareness among young people is an important start. The government through its Pentagon Strategy has focus on developing a digital economy, digital business, e-commerce, and digital innovation system; build and develop digital infrastructures; and developing trustworthiness building in the digital system.³⁸⁸

Institutes and enrolments. As of 2024, according to the MoLVT³⁸⁹, there were a total of 328 TVET institutions across the country, including 110 under the MoLVT. Among them, 37 were public while 51 were privately operated. Additionally, 22 NGOs and associations were registered under

³⁸¹ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. sea-vet.net. Accessed: 22 March 2025.

³⁸² ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

³⁸³ Kingdom of Cambodia. 2012. Cambodia qualification framework. cambodiancouncilofnurse.com. Accessed: 20 April 2025.

³⁸⁴ DGVET in UNESCO (2013). Recite from <https://sea-vet.net/cambodia>.

³⁸⁵ KRIVET, p.22

³⁸⁶ UNESCO 2013 cited in ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

³⁸⁷ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. sea-vet.net. Accessed: 22 March 2025

³⁸⁸ Royal Government of Cambodia. 2023. Pentagonal Strategy-Phase I for Growth, Employment, Equity, efficiency and Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050. The Royal Government of Cambodia of the Seventh Legislature of the National Assembly. Phnom Penh, August 2023. Accessed 25 March 25.

³⁸⁹ https://sea-vet.net/images/events/35_SV-GBM_Sharing_Session/Presenter_2_KH_Ms_Moeung_Jolita.pdf

the DGTVET and MLVT, while 89 NGOs/Associations were under the provincial departments of labor and vocational training. Furthermore, 129 TVET institutions operated under 19 different line ministries and organizations. Of the 37 public institutions, 34 hold ISO certification. There are 188 qualifications available across the Cambodia Qualifications Framework (CQF) levels 1 to 5.

As of the latest data, 52,781 students and trainees were enrolled in the Cambodia TVET sector across various levels by 2023. Of these, 44,503 were enrolled in public institutes, 6441 were in private institutes, and 1,837 were under business associations. There were 10,891 students in upper secondary TVET certificate programs, 13,467 at the Diploma level, 25,944 at the Bachelor's degree level, 941 at the Master's level, and 24 at the Doctoral level. There is a noticeable gender disparity in TVET enrollment with female students numbering 6,943, which accounts for one-third of the total students.³⁹⁰ Of those enrolled, 54,438 (37.7% females) completed their education and training.³⁹¹

Training models³⁹² include center-based (traditionally institute-based), enterprise-based (all education and training in the enterprise), and community-based. According to Jolita 2024, the education and learning programs were in face-to-face mode, which was completely replaced by online learning during COVID-19. This method is continuing through National TVET E-learning Platforms and social media in the post-COVID era together with institute and work-based learning methods.

Integration and pathways. TVET graduates often feel challenged about the possibility of university education. However, some TVET institutes are already offering master's programs, and enrolments in bachelor's degree programs are far higher than enrollment in higher diploma and certificate programs. Several pathways enabling students' movement between post-secondary TVET and academic higher education exist, but the most common pathway is the higher-level TVET qualifications.³⁹³

Apart from the above arrangement, Recognition of Prior Learning (RPL) is operational where workers are given credit and official recognition after successful completion of RPL which could lead to level 1 of the CQF³⁹⁴.

2.5.3.3 Quality

The Cambodia Qualification Framework is in implementation with aims of enabling uniform certification processes among public and private providers, across ministries, and between formal and non-formal TVET systems. The sector was supported by 2,069 trainers working within public

³⁹⁰ MLVT, 2023. TVET Statistics 2022-2023 midterm
<https://www.tvetmis.gov.kh/live/sites/default/files/2023-08/Semester%201%20Statistic%202023.pdf>

³⁹¹ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. sea-vet.net. Accessed: 22 March 2025.

³⁹² Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. sea-vet.net. Accessed: 22 March 2025.

³⁹³ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

³⁹⁴ Skills Development Program. 2020. Recognition of Prior Learning in Cambodia Implementation Guidelines. June 2020. Swisscontact/Inbas/Swiss Agency for Development and Cooperation. swisscontact.org. Accessed: 30 March 2025.



TVET institutions.³⁹⁵ The National Technical Training Institute (NTTI) established under MLVT in 1991, has the responsibility to provide entry-level training and upgrading of existing trainers and management staff. Institutes' quality is assessed through two provisions including self and external assessment.³⁹⁶ Until 2024, there were thirteen assessment centers in operation.³⁹⁷

2.5.3.4 Relevance

The government's Pentagon Strategy (Priority Five) which is on the Development of a Digital Economy and Society intends to: i) build a digital government and digital citizens; ii) develop a digital economy, digital business, e-commerce, and digital innovation system; iii) build and develop digital infrastructures; iv) develop trustworthiness building in the digital system; and v) develop financial technology, is important to guide the relevance of the TVET interventions.³⁹⁸

Despite frequent engagement between training institutes and BIAs, the quality of graduates is questioned. There is reportedly a misalignment between training institutions and employers in their perception of graduates' industry readiness. According to the ADB study, 90% of the employers surveyed in garment manufacturing (90%) and tourism (79%) perceived that graduates they hired in the past years were not adequately prepared to start the job.³⁹⁹ Further, blended learning including work-based training has been used to enhance relevance and market interface⁴⁰⁰. This model was appreciated during consultation with stakeholders. However, albeit policy provision, internship/ OJT is not compulsory before they graduate.

2.5.3.5 Private sector engagement/ Labour market interface

As noted during consultation, currently, the main industries involved in TVET development are mainly from the construction, automotive, garment factory, and manufacturing sectors. Cambodia Federation of Employers and Business Associations (CAMFEBA) is an umbrella organization regardless of the sectors.

Government priority on 'development of Private Sector and PPP, development of labor market; promotion of micro, small, and medium enterprises, start-ups, entrepreneurship, and development of the informal economy'⁴⁰¹ is in favor of development labor market interface which is explained through the four possibilities as explained in the sections below.

³⁹⁵ Ministry of Labour and Vocational Training, 2011, UNESCO, 2013 Recite from <https://sea-vet.net/cambodia>.

³⁹⁶ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

³⁹⁷ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. sea-vet.net. Accessed: 22 March 2025.

³⁹⁸ Royal Government of Cambodia. 2023. Pentagonal Strategy-Phase I for Growth, Employment, Equity, Efficiency and Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050. The Royal Government of Cambodia of the Seventh Legislature of the National Assembly. Phnom Penh, August 2023. Accessed 25 March 25.

³⁹⁹ ADB. 2021. Reaping the Benefits of Industry 4.0 through Skills Development in Cambodia. January 2021. adb.org. 23 March 2025.

⁴⁰⁰ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. Sharing session on 'Inclusive TVET For a Green and Digital Future'. sea-vet.net. Accessed: 22 March 2025.

⁴⁰¹ Royal Government of Cambodia. 2023. Pentagonal Strategy-Phase I for Growth, Employment, Equity, Efficiency and Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050. The Royal Government of Cambodia of the Seventh Legislature of the National Assembly. Phnom Penh, August 2023. Accessed 25 March 25.



BIAs' engagement in governance. While the MoEYS and MoLVT are government bodies with limited scope to allow BIAs to be in the governance, the NTB has space for this purpose. According to the ASEAN Report 2022, 5 members from the business chambers or associations and at least one representative of employers are in the NTB with 35 members.

BIA engagement through Sector Skills Councils (SSCs). Although some TTIs had initiated partnerships with the private sector, this was not sufficient. To address this gap, the MLVT established four SSCs in 2018 with the participation of private sector representatives. The envisaged roles of these institutions were: i) advise the government and TTIs on skills needs in the market, ii) take part in the development of training programs including soft skills, and iii) assist TTIs in strengthening linkages with industry.⁴⁰² However, as noted during consultation, BIAs do not find it beneficial. For instance, their request for curriculum development is not properly materialized.

Private sector managed TVET institutes. According to the MoLVT, around 15.5% of institutes will be under private-sector management by 2024⁴⁰³.

Workplace-based training models. Work-based training models have been used for enhancing relevance and market interface⁴⁰⁴ including Dual Training Systems; On-the-job Training (OJT); apprenticeship; traineeship; internship and Return to Industry Scheme (RIS).

2.5.3.6 Outcomes

According to Jolita 2024, 80% of graduates were able to get employment after six months of training completion, and over 78% of the employers were satisfied with the competence of these graduate workers⁴⁰⁵. It is considered a good outcome. However, there absence of information on income and further educational outcomes.

2.5.3.7 Financing

TVET programs are financed through the National Training Fund (NTF) under DGTNET⁴⁰⁶ and programs under MoEYS are also considered through government funds. However, the funding from international development partners is also channelled through the government treasury.

The French Agency of Development (AFD), World Bank, ADB and Swiss are the main international development partners while GIZ and UN Agencies also have been playing significant role. The main support now is from ADB as it has a lot of investment. After the completion of the Skills for Competitiveness project in the past 6 years, it has started the 6-year program entitled

⁴⁰² ADB. 2025. Sector Assessment (Summary): Education (Technical and Vocational Education and Training). <http://www.adb.org/Documents/RRPs/?id=50394-002-3>. Accessed: 27 March 2025.

⁴⁰³ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. Sharing session on 'Inclusive TVET For a Green and Digital Future'. sea-vet.net. Accessed: 22 March 2025.

⁴⁰⁴ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. Sharing session on 'Inclusive TVET For a Green and Digital Future'. sea-vet.net. Accessed: 22 March 2025.

⁴⁰⁵ Jolita, M. 2024. Transforming and Modernizing the Technical Vocational Education and Training (TVET) system in Cambodia to Digital and Green. Sharing session on 'Inclusive TVET For a Green and Digital Future'. sea-vet.net. Accessed: 22 March 2025.

⁴⁰⁶ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

'Skill for Future Economy Sector Development Program' since 2025. The World Bank has also started a six-year-long project 'Skill for Better Job' starting this year.

2.5.3.8 Affordability

For students/ learners. Although public institutes provide fee-free courses, learners' financial constraints such as course fees adversely impact their participation and completion of formal TVET⁴⁰⁷ in private institutes. Even the individuals in public TVET institutions have to manage other **costs** such as transportation, accommodation, learning materials, and opportunity costs, which can constrain their participation. To address these problems, the government has introduced several financial support schemes such as scholarships and stipends for students from disadvantaged backgrounds, particularly females, and ethnic minorities. Free short-term training is another approach that indicates learners' affordability.

For government. Government readiness for supporting reform is reflected in its National TVET Policy 2021–2030. However, high dependency on IDPs for funding is one important challenge the government faces given affordability. Efforts to address this challenge include the government's efforts to diversify funding through public-private partnerships.

2.5.3.9 Adoption-scalability

Piloting the reform initiatives (for instance, competency-based training), was the country's strategy and the lessons from these pilots informed national rollouts. However, adoption in rural and remote areas remains particularly challenging due to infrastructure and staff shortages. In addition, instructors are habitual to traditional teaching and learning methods.⁴⁰⁸

2.5.3.10 Sustainability

Reform initiatives are embedded into the National TVET Policy 2021–2030 which indicates government ownership and the possibility of continuation of the reform actions. Such a provision is also helpful to ensure that public funding is essential for the continuation of the reform actions.

Government efforts to develop public-private partnerships and sector-based training councils are other efforts, but these mechanisms are still in progress. The BIAs' engagement in governance is important for the continued relevance of TVET services. Apart from these factors, staff capacity development, policy coherence, and stronger inter-ministerial coordination are key to sustaining the reform initiatives.

2.5.4 Strengths and weaknesses of the current interventions

2.5.4.1 Strengths

Government commitment. The policies and continuation of development and implementation of strategic plans reflect the government's commitment to TVET and workforce development.

Substantial International Funding: Support of international development partners such as ADB for TVET infrastructure is important.

⁴⁰⁷ Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia's Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moyes.gov.kh. Accessed: 25 March 2025.

⁴⁰⁸ Sathya, C., Sopheak, S. and Seyhakunthy, H. 2020. Competency-Based TVET in Cambodia: Promise and Reality. CDRI. cdri.org.kh. Accessed: 09 June 2025.

Growing Industrial Demand: Increasing interest from foreign investors in sectors like automotive assembly and electronics, which can lead to the creation of job opportunities, is another important strength.

2.5.4.2 Weakness

Effectiveness. The current TVET institutes have an annual capacity to prepare 2500 graduates. Therefore, it is not capable of meeting the industry demands. An insufficient number of candidates eligible to join TVET or interested in TVET is also because of high dropout rates at the primary and lower secondary education levels. The certificate and diploma courses under VET institutions are limited in several fields and course offerings and therefore lack diversification to meet the market needs. Many of these courses focus on traditionally male-dominated occupations and the learning options for girls/women are constrained.⁴⁰⁹

Relevance. As presented in the MoEYS Roadmap 2019, the formal TVET programmes are loaded with theoretical content leaving only limited practical training. Market research for identification of occupations with market demands is limited and likewise, there is limited use of systematic labor market information. Due to weak linkages between TVET institutions and enterprises, the TVET system has been supply-driven. Hence, the vacancies announced are difficult to be filled in by industry-ready graduates⁴¹⁰.

As suggested by national expert during consultation, industries need a lot of students from levels 2-4. But currently the system has big investment on levels 5-6, and focus on the top level. It leads to mismatch between demands and supply.

Access and inclusion. The TVET institutes are noted for low enrolment and have challenges in providing access to disadvantaged and under-employed young people.⁴¹¹ There is also limited or no evidence of the application of recognition of prior learning (RPL) which could facilitate the integration of skills learned in the informal sector into the formal sector.

Quality. The TVET system suffers from quality-relevant weaknesses such as insufficient level of teaching/ learning materials and equipment. Exceptions apart, the quality of public TVET providers is relatively low, and infrastructure, practical training equipment, and curricula and teaching-learning materials are insufficient to become market-relevant. Weak leadership and management, poor communication and marketing, and also notable limitations. The insufficiency of a number and qualified teachers with industry experience is another challenge.⁴¹² The MoEYS

⁴⁰⁹ Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia's Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moyes.gov.kh. Accessed: 25 March 2025.

⁴¹⁰ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴¹¹ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025

⁴¹² ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025

roadmap 2019 reveals that the quality of TVET instructors is low^{413, 414}. Moreover, desk review does not show evidence of implementation of competency-based education and training and assessment.

Teacher training is critical because the quality of education depends on the capacity of instructors, which directly impacts students' skill sets. However, there has been limited attention to the training of educators and it has therefore been a major issue. This finding was supported during stakeholders' consultation.

Efficiency. Low enrolment is a serious problem of the country's TVET system. According to the Directorate General of TVET (DGTNET) under MoLVT, the drop-out rates in the C3 program, whose graduates qualify equivalent to upper-secondary school completion in general education, are very high. However, this is not the case with the TVET enrolment under MoYES, which instead tends to increase.⁴¹⁵

Funding. Government funding is insufficient to meet the quality and relevance of the TVET services⁴¹⁶.

BIAs' engagement. Only around 17% of the NTB members are from the proper business and industry which might mean the BIAs do not have a majority to influence the decision-making process. Although this provision has some capacity to facilitate the interface between the TVET system and the employment market, the possibility that even the representatives of associations or chambers might not always be employers or expert workers with full knowledge of the market demands, could limit its influence on the decisions. According to the ASEAN Report 2022, the cooperation between the TVET system and BIAs is low.

Management Information system. The progress on TVET of the VET Management Information System (TVET MIS) is very slow. The country has to rely on the TVETMIS under MoLVT which is yet to be updated. For instance, currently, only data for 2023 is accessible, not even 2024. The difficulty with TVET MIS is also because the MoEYS database mainly covers general education not the TVET

2.5.5 Key TVET actors and partnership

Key actors. The national Training Board, the Ministry of Education, Youth and Sports, and the Ministry of Labor and Vocational Training are the government agencies taking major roles in TVET development. Other ministries such as agriculture, health and tourism also have training institutions and deliver their own training. But it is difficult to ensure coordination among these stakeholders.

⁴¹³ Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia's Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moyes.gov.kh. Accessed: 25 March 2025.

⁴¹⁴ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴¹⁵ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

⁴¹⁶ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

Among the IDPs with notable contributions include the World Bank, ADB, GIZ, KOICA, and UNESCO. Business and industry are other important actors in the country's TVET development. Further details of the actors are presented in Annex 2.5.1.

Overall impact. The partnership between the government and international development partners has shaped policy frameworks, quality assurance mechanisms, and training delivery. The establishment of Sector Skills Councils has helped bring the business and industry into policy dialogue and facilitate work-based training and employment placement. NGOs contribute significantly to reaching vulnerable populations.

2.5.6 Key issues and challenges

Governance. The TVET system is divided between MoEYS and MoLVT. Analyses of the mandates between these two ministries indicate an overlap in roles and responsibilities between these two ministries. For instance, the role of CQF is to integrate the various qualifications through the standards alignment between the CQF levels and level descriptors, standards, and the curriculum. However, as per the desk review findings, this has not happened properly. Factors such as the lack of a common framework for the recognition of prior learning, differences in orientations and quality assurance mechanisms, and shortcomings in inter-ministerial coordination contribute to fragmentation⁴¹⁷.

Fragmentation. As identified by Phal et al 2021, 'the TVET tracks under MoEYS and MoLVT have, in many aspects, grown alike and in some ways in competition with each other as both strive to respond to the labor market needs' but without much coordination. These competing actions are better termed as the 'academisation of TVET and vocationalisation of academic higher education'. Technical training institutes tend to offer higher-level qualifications and courses similar to those within academic higher education.⁴¹⁸

Other important issues in the country's TVET system are discussed below⁴¹⁹:

Adverse public perceptions. As explained in the MoEYS roadmap 2019, people, particularly, secondary education graduates, have a negative perception towards TVET as they are believed to be for blue-collar workers and low-paying jobs⁴²⁰. This is one reason behind the lack of attraction to TVET and is reinforced by the fact that, despite the CQF in place, there are limited or no opportunities to progress to higher levels in existing specializations.⁴²¹ This perception was highlighted by the respondent during the consultation.

Unmet demands. The gap between available jobs and qualified workers remains wide, with over 50,000 jobs in key sectors such as industry and services still unfilled according to MOLVT in 2024.

⁴¹⁷ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

⁴¹⁸ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

⁴¹⁹ Van. David. 2024. Opinion: A History of Cambodia's TVET System and Its Challenges in 2024. cambodiainvestmentreview.com. accessed: 22 March 25.

⁴²⁰ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴²¹ Ministry of Education, Youth and Sports (MoEYS). 2019. Cambodia's Education Roadmap 2030. Sustainable Development Goal 4. February 2019. moyes.gov.kh. Accessed: 25 March 2025.

Mismatch demands and supply of occupations: Vocational training programs often lack proper alignment with the skills (foreign) investors need. For example, manufacturing sectors like automotive assembly and electronics demand specialized technical expertise, but these are rarely the focus of the current curriculum.

Limited business and industry collaboration: Industry collaboration has been limited, and many training programs do not adequately reflect the needs of the market, particularly the high-tech industries.

Informal Sector Overlooked: Although the informal sector is a significant source of employment, its workers are largely excluded from vocational training opportunities.

Limited financing. TVET system suffers from insufficient financial resources which have adversely affected the quality of facilities, relevant workshops, capacity enhancement of teachers, and supporting learners financially.

2.5.7 Lesson Learned

Focus on hardware such as building schools under physical infrastructure is insufficient to ensure quality and relevant training. For this to be achieved, focus is also required on the development of industry-relevant curricula and their delivery by trained teachers⁴²².

To make the TVET programs relevant, of quality, and have employment outcomes, the TVET system needs to work with businesses and industry.

2.5.8 Knowledge gap/research agenda and policy questions

2.5.8.1 Nationally identified key growth sectors and research agenda

According to the Pentagon Strategy-Phase I for Growth, Employment, Equity, Efficiency, Sustainability in 2023 and National Strategic Development Plan 2024-2028, the Royal Government of Cambodia identified technology, road, water and electricity as key priorities of national development.⁴²³ Specifically, it aims to enhance the connectivity and efficiency in transport, logistics, energy, and water supply; boost green economy and address climate change; and develop the digital economy and society. Currently, the country works towards Green TVET through curriculum development, campus initiatives, and awareness campaigns. It is also committed to improving the quality of digital TVET by providing teacher training in digital literacy and ensuring access to appropriate equipment.

The priority sectors, research rationale and research agenda are presented in Table 2.5.1.

⁴²² Van, D. 2024. Opinion: A History of Cambodia's TVET System and Its Challenges in 2024. cambodiainvestmentreview.com. accessed: 22 March 2025.

⁴²³ The Royal Government of Cambodia of the Seventh Legislature of the National Assembly. 2023 *Pentagon Strategy-Phase I for Growth, Employment, Equity, Efficiency, Sustainability: Building the Foundation Towards Realizing the Cambodia Vision 2050*. <https://mfaic.gov.kh/files/uploads/1XK1LW4MCTK9/EN%20PENTAGONAL%20STRATEGY%20-%20PHASE%20I.pdf>. Accessed: 23 May 2025.

Table 2.5.1: Priority sectors, research rationale and research agenda

Sectors	Research rationale	Research Agenda
AI, digitalization and robotics	Integration of emerging technologies in TVET	<ul style="list-style-type: none"> ▪ What is the current level of integration of emerging technologies in TVET curricula? ▪ What digital skills gaps exist among students and instructors? ▪ What proportion of TVET teachers are trained in relevant industry? ▪ What proportion of TVET instructors are proficient in both pedagogy and modern digital tools? ▪ What is the current status of digital infrastructure in TVET institutions?
Road, water and electricity	Meeting sectoral workforce needs	<ul style="list-style-type: none"> ▪ What technical competencies are required for the road, water and electricity sectors? ▪ What TVET institutions are available for this purpose? ▪ What are teacher capacity? ▪ How can TVET institutes collaborate with the private sector to develop workforce for these sectors?

2.5.8.2 General knowledge gap and research agenda

The evidence and analyses presented in the forging chapters indicate that the TVET system has made progress, but a large number of weaknesses and issues persist. However, little research appears to have delved into depth and explained the actors and factors responsible for these issues. It means, there are areas where knowledge gaps persist. These knowledge gaps/research agenda and relevant policy questions are presented in Annex 2.2.2 (Cambodia TVET Issues and Knowledge Gaps/Research Agendas).

2.5.9 Major conclusions and recommendations

Aligning with national vision. To enable the country to achieve its vision of moving to an upper-middle-income country by 2030 and a high-middle-income country by 2050, the TVET sector needs to be competitive. Similarly, the country aims to significantly increase the share of industry in its GDP. However, the current TVET sector has not been operationalized to align with this vision. Therefore, the TVET sector needs to be developed to respond to these national goals and vision.⁴²⁴

Strengthening the regulatory framework. The country has a plethora of TVET policy instruments including the guiding framework from visions for 2030 and 2050. However, the regulatory framework, for instance, for apprenticeship, is considered incomplete and therefore, needs revision and strengthening to make it a comprehensive framework⁴²⁵.

Coordination and Collaboration. Desk-review findings suggest that there is a lack of appropriate coordination and collaboration between stakeholders such as training providers and

⁴²⁴ The Association of Southeast Asian Nations (ASEAN). 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴²⁵ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.



the industry. This gap needs to be addressed by establishing an integrated coordination mechanism using a multi-stakeholder approach. It will also require specifying and activating stakeholders' roles and responsibilities.⁴²⁶ As suggested by stakeholders, collaboration should also take place between general education and TVET stream.

Relevance. The quality and relevance of TVET programs need to be enhanced. It requires building on existing mechanisms for industry engagement. It will require developing courses, for example, focusing on garment manufacturing and tourism sectors.⁴²⁷ The gap in collaboration between the TVET system and BIAs is one of the issues responsible for the mismatch between the demand and supply of trained workforce. Therefore, building close collaboration between the Training system and providers, and Business and Industry/ private companies is inevitable to facilitate relevance and ensure mutual benefits. The role of the latter is also in the co-design of skills training programs.^{428, 429} As such, the TVET system is still considered irrelevant to the labor market which needs to be responsive to market demands⁴³⁰. As also suggested by consultation respondents, the TVET system needs to focus on preparation of Level 2-4 graduates. The TVET system needs to focus on work-based learning models for enhancing relevance.

Quality. Conclusions and recommendations with regards to quality include elements such as quality assurance mechanisms, education and training resources including curriculum, training providers' capacity, and teacher training.

Quality assurance mechanism. Strengthen quality assurance mechanisms for training institutions. It requires putting an accreditation system in place. There is also a need for connecting occupational standards, assessment standards, use of information, and learning technologies. Further, both the teaching and non-teaching staff need to be trained.⁴³¹

Training infrastructure and resources. The findings suggest that the TVET infrastructure including buildings and laboratories is insufficient. Similarly, there are limitations with curriculum updates and making them competency-based. Therefore, to ensure quality training, investment is required for upgrading infrastructure, improving laboratories, and developing competency-based curricula and assessment tools.

Improving the capacity of training providers. The training providers'/ institutes' capacity to provide quality and relevant training is critical to ensure training outcomes. Therefore, training providers need to be capacitated in areas such as studying the market to understand the relevance of the

⁴²⁶ Benghong Siela, B. and Veung, N. 2023. Connecting the dots in TVET in Cambodia: Stakeholders and their collaboration. Kreauser, A. (Ed.). *Skills for Industry* Project. 04 December 2023. zenodo.org/records/10254290. accessed 23 March 2025.

⁴²⁷ ADB. 2021. REAPING THE BENEFITS OF INDUSTRY 4.0 THROUGH SKILLS DEVELOPMENT IN CAMBODIA. January 2021. adb.org. 23 March 2025.

⁴²⁸ Maurer, M. and Naron, V. 2022. Skills for Industry - Stakeholder Meeting. 29th September 2022. SDC/CDRI. cdri.org.kh. accessed 23 March 2025.

⁴²⁹ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴³⁰ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025'

⁴³¹ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025



programs to be offered, providing quality training, and collaborating with businesses and industry to avail opportunities to graduates for market exposure⁴³².

Capacity enhancement of teaching and non-teaching staff. Institute staff both the teaching and non-teaching staff are the lifeline for ensuring its smooth operation. Therefore, they need to be provided with the necessary training including soft skills.

Efficiency and integration. Low enrolment in the TVET institutes is one of the major concerns. As discovered by Pradhan 2025⁴³³, issues with recognition of certificates achieved and limitations with higher educational pathways are two major reasons adversely impacting students' enrolment in TVET. Therefore, these issues need to be addressed through a holistic approach to education including TVET. Proper development and operationalization of the CQF towards integration of TVET with general education is essential in this process. Similarly, public campaigns are necessary for attracting students to TVET.

As shown in the ASEAN Report 2022, there are only limited paths from TVET to higher education and from schools to TVET. This issue needs to be addressed through proper operationalization of CQF including clarity on equivalency and recognition and connecting TVET with secondary and higher education is essential⁴³⁴. Further, there is limited evidence that the country has widely implemented the RPL. This important activity must be expanded to enhance access for workers in the informal or nonformal sector.

As revealed by Phat et al 2021, the adoption of the credit system in both TVET and academic higher education institutions has paved the way for horizontal permeability between the two tracks. However, consensus on recognition of prior learning and credit transfer procedures has hampered the expected mobility between the two. Therefore, the establishment and operationalization of an inter-ministerial technical working group to facilitate communication and coordination between MoEYS, the MLVT, and other ministries could be useful.⁴³⁵ A necessary review of policies and strategies should be done through collaboration between the MoEYS and MoLVT, and relevant business and industry⁴³⁶.

Flexible and modular certification. The assessment and certification system are time-consuming. Therefore, a flexible and modular skill certification program is necessary which could also assess and certify the skills development outside of traditional education channels.⁴³⁷

⁴³² Benghong Siela, B. and Veung, N. 2023. Connecting the dots in TVET in Cambodia: Stakeholders and their collaboration. Kreauser, A. (Ed.). Skills for Industry Project. 04 December 2023. zenodo.org/records/10254290. accessed 23 March 2025.

⁴³³ Pradhan, H. 2025. Augmenting Enrolment in TVET through integration of TVET and general education. CTVET Journal 2025. Kathmandu.

⁴³⁴ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴³⁵ Phal, C., Seyhakunthy and Sopheak, S. 2021. Permeability in Cambodian Post-secondary Education and Training: A Growing Convergence. Working Paper Series No. 130. September 2021. cdri.org.kh. Accessed: 22 March 2025.

⁴³⁶ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴³⁷ ADB. 2021. Reaping the Benefits of Industry 4.0 through Skills Development in Cambodia. January 2021. adb.org. 23 March 2025.



TVET MIS. The current TVET management information system (TMIS) appears insufficient to ensure efficient management of the TVET system. It is difficult to access an aggregated, reliable, and comprehensive employment market information system (EMIS). Therefore, both the TMIS and EMIS need to be further developed and strengthened⁴³⁸.

Perception on TVET. As in other countries under this study, TVET is considered for blue-colour work. This perception has been made complex by unclear higher education pathways for TVET graduates. Therefore, a public campaign together with proper operationalization of CQF with equivalency and recognition at par with general education at related levels is a must. Development of and dissemination of success stories could contribute to mitigate this situation.

Action plan. TVET system inefficiency is responsible for the shortage of skilled workforce. To overcome these challenges, a comprehensive action plan focusing on training instructors, modernizing curricula, and involving the private sector is considered important⁴³⁹. However, in order to make such plan evidence-based and effective, as in other countries, Cambodia also needs a national TVET sector assessment leading to establish set of nationally agreed indicators and corresponding baseline value.

⁴³⁸ ASEAN. 2022. Enhancing the Competitiveness of Human Resources through Responsive TVET Curriculum Supported by Involvement of Industries and Labour Market Information. Country Report. Cambodia. ASEAN-Korean Cooperation Fund/ ASEAN. asean.org. 22 March 2025.

⁴³⁹ Van, D. 2024. Opinion: A History of Cambodia's TVET System and Its Challenges in 2024. cambodiainvestmentreview.com. accessed: 22 March 25

Annex

Table 2.5.1: Key TVET Actors of Cambodia TVET

SN	Key Actors	Area of engagement
1	National actors	
	National Training Board	Overall policy direction
a	Ministry of Education, Youth and Sports	Formal TVET at secondary and higher sector schools
b	Ministry of Labor and Vocational Training	<ul style="list-style-type: none"> ▪ Overall policy and implementation responsibility ▪ Short term training
2	International actors	
a	World Bank	Collaborating on 'Skills for Better Jobs Project' with objective to enhance quality and relevance of skills among Cambodia's upcoming and existing workforce, and in case of an eligible crisis or emergency, respond promptly and effectively to it.
e	ADB	Collaborating 2023 Skills for Future Economy Sector Development Program: Enhancing Cambodia's ability to transition to a knowledge-based economy through reforms and investments in TVET; upgrading infrastructure, and developing industry-driven curricula and training

Annex 2.5.5: Knowledge gap/ research agenda and policy questions in Cambodia TVET

Issues/ strength	Knowledge Gaps/Research Agenda	Policy Questions
Week coordination among stakeholders leads to fragmentation of services and their qualities	<ul style="list-style-type: none"> ▪ What are the key factors hindering effective coordination between MoEYS and MoLVT? 	<ul style="list-style-type: none"> ▪ What regulatory reforms and coordination mechanisms can enhance synergy at least among government agencies? ▪ How can a system be put in place to develop and implement evidence-based policies and plans?
TVET perception	<ul style="list-style-type: none"> ▪ Why are graduates attracted to higher level general education? ▪ Why are TVET qualifications considered inferior to general education? ▪ Why has the CQF not been effective in mitigating this problem? 	<ul style="list-style-type: none"> ▪ What policy provisions could contribute to addressing this problem? ▪ How can the CQF be effectively operationalized by integrating both the TVET and general education?
More share of female among enrollees	<ul style="list-style-type: none"> ▪ What are factors behind low share of females who completed course? 	<ul style="list-style-type: none"> ▪ What financial and non-financial incentives could enable females to complete the courses?
Income outcomes	<ul style="list-style-type: none"> ▪ What factors have contributed to high employment rate as shown by MoLVT? ▪ Whether such employment rate is even across the provinces? To what extent they vary between rural and urban areas? 	
Limited work-based training opportunity for teachers and students	<ul style="list-style-type: none"> ▪ To what extent is the work-based training practiced? 	<ul style="list-style-type: none"> ▪ What policy and mandatory partnership provisions could address this problem? ▪ What incentives could encourage BIAs to avail such opportunity?
BIAs engagement	<ul style="list-style-type: none"> ▪ To what extent have SSCs been effective in enhancing interface between the TVET system and business and industry? ▪ Are these SSCs established by law and operate as a legally established body or are they MoLVT system? 	<ul style="list-style-type: none"> ▪ What legal mechanism could make them effective in the roles they are expected to?
	<ul style="list-style-type: none"> ▪ Why are the employers unable to find adequate number of industry-ready graduates? Is it because of limited enrolment in the institutes or the TVET system has limited capacity to enroll? ▪ Is it because the big gap between the enrollees and the graduates? (cycle completion rate) 	<ul style="list-style-type: none"> ▪ What policies are required to increase the enrolment capacity? ▪ How the cycle completion rate can be increased?
Teacher training and digital literacy	<ul style="list-style-type: none"> ▪ What proportion of TVET teaches are trained in relevant industry? ▪ What proportion of TVET instructors are proficient in both pedagogy and modern digital tools? ▪ What is the current status of digital infrastructure in TVET institutions? 	<ul style="list-style-type: none"> ▪ What policy instrument could ensure the teachers' training in the relevant business or industry? ▪ What policy interventions can ensure continuous professional development and enhance digital literacy among trainers?
Integration of emerging	<ul style="list-style-type: none"> ▪ What is the current level of integration of emerging technologies in TVET curricula? 	<ul style="list-style-type: none"> ▪ What policy measures can promote the inclusion of advanced technologies and digital platforms in TVET programs?

Issues/ strength	Knowledge Gaps/Research Agenda	Policy Questions
technologies (AI, robotics)	<ul style="list-style-type: none"> ▪ What digital skills gaps exist among students and instructors? 	
Outdated equipment and consumable shortages	<ul style="list-style-type: none"> ▪ How widespread is the lack of modern equipment and consumables across TVET institutes? ▪ What impact do these deficiencies have on training outcomes? 	<ul style="list-style-type: none"> ▪ What public–private partnership models could facilitate the upgrade of facilities and ensure sustainable resource supply?
Curriculum relevance and labor market alignment	<ul style="list-style-type: none"> ▪ How frequently are market studies conducted to inform curriculum updates? ▪ What role do employers/ SSCs play in current curriculum development processes? ▪ To what extent are market assessments practiced before deciding on the programs to offer? ▪ How can the market assessment system can be institutionalized? ▪ How far the curriculum has been revised according to the NQF framework? 	<ul style="list-style-type: none"> ▪ What regulatory instruments can empower local institutes to adapt course offerings to current market demands?
RPL	<ul style="list-style-type: none"> ▪ Whether RPL system is in operation in the country? ▪ If yes, what percentage of existing workers/ aspiring workers have access to RPL services? ▪ How far has it been successful to open pathways for informal sector workers or people with skills earned from the informal sector? 	<ul style="list-style-type: none"> ▪ What policy provisions and programs could help start and expand this important service across the country?
Post-training support and entrepreneurship	<ul style="list-style-type: none"> ▪ What forms of post-training support (counseling, mentoring, financial aid) are most needed by graduates? ▪ What gaps exist in current support mechanisms? 	<ul style="list-style-type: none"> ▪ How can an integrated support system be developed to foster entrepreneurship and smoother transitions to employment?
Sustainable funding for quality TVET	<ul style="list-style-type: none"> ▪ How effective are current funding mechanisms in ensuring high-quality training? ▪ What financial models could be explored to establish a dedicated TVET fund? 	<ul style="list-style-type: none"> ▪ Would the creation of a dedicated TVET fund address existing financial constraints and boost overall quality?

Annex 2.6: Philippines TVET Report

2.6.1 National socio-economic context

The Philippine Statistics Authority (PSA) recorded that, as of July 2020, the country's population was 109 million.⁴⁴⁰ According to the World Bank⁴⁴¹ in 2021, 18.1% of the population was below the national poverty line. The national poverty incidence among families with five members was 10.9% in 2023, which is equivalent to 2.99 million. These families lacked sufficient income to meet their basic food and non-food needs.

According to the PSA cited in Patinio 2025⁴⁴², the country's employment rate increased to 95.7% in January 2025 from 95.5% during the same period in the previous year. On the other hand, the unemployment rate declined to 4.3% in January 2025 compared to 4.5% in the last year. Yet, the country's employment situation is susceptible to natural disasters. For instance, as presented in the ADB 2021 report⁴⁴³, the impact of COVID-19 was severe as the unemployment rate increased to 17.7% in April 2020 from 5.1% in the comparable period in 2019, which pushed additional 5 million people into unemployment status.

The Labor Force Survey 2024 revealed that 62.1% of the employed persons were in the service sector, followed by 20% and 17.9% in the agriculture and industry sectors, respectively. The same report showed that 96.8% of the population aged 15 and above were employed (96.7% male and 96.9% female), and the share of unemployed and underemployed stood at 3.2% and 10.8%, respectively. The report also showed that among the population between 15 and 24 years old, 9.6% were unemployed.⁴⁴⁴ Apart from domestic employment, the country is also known for foreign employment seekers. The 2018 National Migration Survey (NMS) found that 12% of Filipino households had a member who was or had been an Overseas Filipino Worker.⁴⁴⁵

All this evidence suggests the need for a competitive workforce to meet the market demands both in the country and abroad, and in turn, calls for reform in technical and vocational education and training (TVET) and skills development.

2.6.2 History of TVET Development

2.6.2.1 TVET development

The Philippine Senate and House of Representatives enacted Joint Resolution No. 2, creating the Commission on Education (EDCOM) in 1990. This development paved the way for the

⁴⁴⁰ Philippine Statistics Authority (PSA). 2025. Highlights of the 2010 Census-Based Population Projections. Population Projection Statistics. psa.gov.ph/statistics/census/projected-population. Accessed. 03 March 2025.

⁴⁴¹ World Bank. databank.worldbank.org/views/reports/reportwidget.aspx?Report_Name=CountryProfile&country=PHL. Accessed. 05 March 2025.

⁴⁴² The PSA 06 March 2025 cited in Patinio, F. 2025. DOLE: Gov't efforts to boost employment 'on right track'. 06 March 2025. pna.gov.ph/articles/1245512. Accessed: 07 March 2025.

⁴⁴³ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. [Adb.org](https://adb.org). Accessed: 02 March 2025.

⁴⁴⁴ Philippine Statistics Authority (PSA). 2025. Press Conference on the January 2025 Labor Force Survey (Preliminary) Results. PSA. Manila. library.psa.gov.ph. Accessed. 03 March 2025.

⁴⁴⁵ PSA. 12% of Filipino Households Have an OFW Member. [PSA.gov.ph](https://psa.gov.ph). 08 March 2025.

creation of the Technical Education and Skills Development (TESDA) with responsibility for both technical education and skills development.⁴⁴⁶ The other events important in the process are the Presidential Task Force on Education in 2007, the K to 12 Reform in 2013, and the Presidential Commission on Education Reform in 2018. Similarly, in the TVET reform continuum, the introduction of the Philippines Qualification Framework (PQF) in 2018 is another major milestone. Today, TESDA is operational with both the regulatory and implementation authority.

The country's TVET reform includes four distinct actions, including competency-based education and training (CBET), quality assurance, the Philippines Qualifications Framework (PHF), and skills recognition arrangements⁴⁴⁷.

Change management process. The government managed the change process through instruments including appropriate policy formulation and strategic planning, institutional reforms, and improvement in implementation.

Policy formulation and strategic planning. To guide the TVET system development, the government developed various policies and laws. For instance, the Republic Act 7796 (TESDA Act of 1994) led to the establishment of the TESDA and the Philippine Development Plan (PDP) (for further details, refer to the Governance Chapter below). Labor Market Information (LMI) and consultations with industry stakeholders were also used as strategies for this purpose. The LMI is useful for understanding the trends in employment and emerging industries and can better predict the demands, which in turn helps to prepare better policy and formulate an implementation plan.

Institutional changes and coordination. The government focused its efforts on strengthening TESDA's role to enable it to respond to the labor market needs. In this process, TESDA is entrusted with both the regulatory and implementation responsibilities, although there is a need to make a change in this provision. The government also made efforts to decentralize TVET functions to Local Government Units (LGUs).

Collaboration with business and industry. The country also placed importance on partnerships with industry. For instance, the establishment of industry-led training centers that provide tailored skills training aligned with specific industry needs. The formation of RIBs is another example. As discussed in the following chapters, TESDA works closely with key sectors, including manufacturing, tourism, construction, and information technology to design training modules that directly address the skill gaps.

Focus on quality assurance and standards. The government has implemented the National TVET Qualifications Framework (NTQF) aligned with the Philippines Qualifications Framework (PQF), which aligns TVET qualifications with industry standards. This helps ensure that workers are trained according to recognized competencies that meet national and international standards. The other efforts in the change management process are systems for accreditation, assessment, and certification including the recognition of prior learning (RPL).

⁴⁴⁶ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

⁴⁴⁷ TESDA. The Philippine TVET System. unesco.org/sites/default/files/The%20Philippine%20TVET%20System-NEDA-Aug20%20%5BCompatibility%20Mode%5D.pdf. Accessed

2.6.2.2 Factors influencing change

The factors in support of change include policy backing, strong Institutional and planning framework, BIA's engagement, and decentralized governance. The hindering factors include fragmentation in delivery, issues with the relevance of TVET programs, and budget limitations. As in other countries, negative social perception of TVET is another important hindering factor. Key internal and external factors influencing changes is presented in Table 2.6.1.

Table 2.6.1: Internal and external factors influencing change

Thematic areas	Key Internal Factors	Key External Factors
Governance	TESDA leadership, coordination gaps	Donor and multilateral engagement
Quality & Relevance	Curriculum misalignment, low WBL integration	Industry 4.0, regional qualification standards
Access & Equity	Inclusion challenges for marginalized groups	Migration trends, global labor mobility
Financing	Public funding reliance,	
Perception & Culture	Low societal value for TVET	Global focus on TVET and skills development
Labor Market	Graduate underemployment, weak job matching	Economic shifts, green and digital economy demands, IR4

Internal Factors

Governance and institutional capacity. Institutional fragmentation between TESDA and other education agencies such as the Department of Education (DepEd), and capacity limitations in planning, coordination, and monitoring across regional offices are important governance related factors.

Quality and relevance of training. Industry relevance of curriculum alignment, variation in quality of services across training institutions, especially between urban and rural areas, and limited industry-based training, such as apprenticeship or enterprise-based learning have an influence on the reform process.

Access and equity challenges. Geographic disparities, barriers for women, persons with disabilities (PWDs), out-of-school youth, and other marginalized groups are important factors limiting reform in access and equity.

Financing mechanisms. Over-reliance on government funding with limited private sector co-investment and inadequate funds for training equipment, staff development, and infrastructure are important.

Labor market mismatches. While EBET had a high employment rate, other models did not apparently have similar outcomes. Therefore, continued unemployment or underemployment among TVET graduates. Limitations with systematic and institutionalized labor market studies, as in other countries, affect the Philippines' reform process.

Perception. As in other countries, TVET suffers from a low social image due to a preference for academic pathways.

External factors

Technological change and Industry 4.0. Various research on Industry 4.0 apparently is taking place in the Philippines and emergence of sectors like renewables, digital services, and logistics demand for more responsive training.

Globalization and labor nobility. The Philippines has a long history of large out migration for work workforce demand for internationally recognized competencies and qualifications.

Regional and international support. The ASEAN Qualifications Reference Framework (AQR) is progressing in Southeast Asian Nations. Similarly, several donor-funded reform projects (e.g., by ADB, ILO, GIZ, World Bank) are shaping policy and capacity development.

2.6.3 TVET performance areas and progress

2.6.3.1 Governance

Policy development and policy framework. The TESDA Act of 1994⁴⁴⁸ is an important document in the country's TVET Policy context. It has a provision to ensure a 'policy to provide relevant, accessible, high-quality and efficient technical education and skills development in support of the development of high-quality Filipino middle-level manpower in response to and in accordance with the Philippine development goals and priorities'.

TESDA formulates manpower and skills development plans⁴⁴⁹. For instance, after completion of the National Technical Education and Skills Development Plan (TESDP) 2017-2022, it formulated the TESDP 2023-2028⁴⁵⁰ which is currently under implementation.

The plan has the vision to ensure a 'Globally recognized Philippine TVET as a catalyst for education and lifelong learning, workforce, and socio-economic transformation'. Its strategies include: modern and responsive TVET and lifelong learning advanced and reinforced; quality and productivity of workforce enhanced; quality assurance on certifications, standards, equivalencies, and qualifications strengthened; collaborations with industry ensured; transformative and innovative TVET ecosystem organized and strengthened, and TVET system and governance harmonized. The plan aims to provide access to high-quality opportunities for lifelong learning, as well as to provide smart and innovative skills and has a focus on creating future-ready TVET programs, advancing ladderized education, and pursuing collaborations in recognizing relevant courses offered by NGOs, technical-vocational and higher education institutions. It also aims to increase enterprise-based training and apprenticeships.

Capacity to undertake evidence-based policy formulation. According to the ADB 2021 report, there is a high awareness of TVET and skills development also from the perspective of Industry 4.0. For instance, the Senate's Joint Resolution 10⁴⁵¹ suggests the country is cognizant of the skills- and outcome-based learning, reskilling, and retraining of the workforce, and their lifelong learning. This awareness is reflected in the relevant Acts and planning documents and as a result, as explained above, its reform action has covered important components such as quality assurance and qualification framework. However, gaps still exist in translating the policy into practice. For instance, TESDA is continuing with both the regulatory and implementation responsibilities.

⁴⁴⁸ Republic of the Philippines. 1994. An Act creating the Technical Education and Skills Development Authority, providing for its powers, structure and for other purposes. pqf.gov.ph/Uploads/Legal%20Basis/REPUBLIC.pdf. accessed: 02 march 2025. 07 March 2025.

⁴⁴⁹ TESDA. 2025. [Brief History of TESDA. tesda.gov.ph](https://www.tesda.gov.ph). Accessed: 02 March 2025.

⁴⁵⁰ TESDA. 2025. The National Technical Education and Skills Development Plan (NTESDP) 2023-2028. [tesda.gov.ph](https://www.tesda.gov.ph). Accessed: 02 March 2025.

⁴⁵¹ Senate. Office of the Secretariate.



Governance structure. The TESDA Act of 1994 created the TEVTA with a Board of 13 members. Of them, six were allocated to ministry officials, and the rest from the private sector,⁴⁵² which according to UNESCO-UNIVOC⁴⁵³ has now changed. The size of Board members is now increased to 22, with 27.3% from the business and industry.⁴⁵⁴ Apart from the TESDA, other government departments on the Board include, the Department of Labour and Employment (DOLE), the Department of Interior and Local Government, the Department of Trade and Industry, the Commission on Higher Education, the Department of Education (DepEd), Department of Agriculture, and Department of Science and Technology.

As a TVET apex body, TESDA has the mandate⁴⁵⁵ to ‘integrate, coordinate and monitor skills development programs; restructure efforts to promote and develop middle-level manpower; approve skills standards and tests; develop an accreditation system for institutions involved in middle-level manpower development; fund programs and projects for technical education and skills development (referred to as ‘TVET services’ hereunder); and assist trainers’ training programs’. It is also mandated to ‘set appropriate skills standards and tests, coordinate and monitor workforce policies and programs, and provide policy directions and guidelines for resource allocation for the TVET institutions in both the private and public sectors’.

The TESDA Board is the highest-level policymaking body and the local TESDA committees oversee the regions and provinces. The board and local TESDA committees are composed of the government, industry, labor, and academia. Advisory councils for TESDA technology institutions (TTIs) are composed of government, industry, and academia, and serve as ‘additional policymaking body and aim to provide policy advice and guidance and to build networks of the TESDA-administered schools and regional training centers’.⁴⁵⁶

The TESDA Act of 1994 entrusts TESDA with the coordination of all skills training schemes, in that it is expected to ‘integrate the national skills development efforts, all technical education and skills training schemes’ in the country. As such, ‘all the public and even the private training programs that get government funds are required to report to TESDA for assessment of efficiency and effectiveness’.

Since its establishment, TESDA has evolved as a strong body with roles ranging from policy development and coordination, and implementing TVET and skills development programs. Its structure includes central, regional, and provincial offices and TTIs.

2.6.3.2 Effectiveness

Qualifications and programs. To establish recognition of and avail seamless pathways to graduates, the Philippines Qualifications Framework (PQF), with levels up to 5, was established.

⁴⁵² Republic of the Philippines. 1994. An Act creating the Technical Education and Skills Development Authority, providing for its powers, structure and for other purposes. lawphil.net. accessed: 02 march 2025.

⁴⁵³ UNESCO-UNIVOC. The Country Profile. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles. Accessed: 05 march 2025.

⁴⁵⁴ We identify the private sector and Business and Industry Associations and their members (BIAs) as different entities. The BIAs are defined as an entity that have the potential to provide occupation-specific employment and workplace-based training. Therefore, private sector entities such as private sector training providers and trade unions are not included.

⁴⁵⁵ TESDA. 2025. Brief History of TESDA. [Brief History of TESDA. tesda.gov.ph](http://tesda.gov.ph). Accessed: 02 March 2025.

⁴⁵⁶ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. [Adb.org](http://adb.org). Accessed: 02 March 2025.



It was enacted by the Senate and House of Representatives on 24 July 2017⁴⁵⁷. Recognition of Prior Learning (RPL) is covered by the PQF, which defines the PQF as a ‘quality assured national system for the development, recognition, and award of qualifications based on standards of knowledge, skills, and values acquired in different ways and methods by learners and workers of the country’. As such, the PQF ensures integration between general education and TVET and opens pathways to the formal sector for the skills learned in the informal or non-formal sector.

The PQF is a collaborative action among the Department of Education (DepEd), TESDA, Commission on Higher Education, Professional Regulation Commission (PRC), and Department of Labor and Employment (DOLE)⁴⁵⁸.

TESDA delivers TVET services through three training modalities including institute-based, enterprise-based, and community-based training⁴⁵⁹. The first modality includes TESDA and private tech-voc schools and those under higher education institutions (HEIs) and DepEd. This modality also covers regional and provincial training centers under its umbrella. The enterprise-based training is delivered through business and industry-housed training centers and can also be in the form of work-based training. This training can be in the form of apprenticeship, learnership, and dual training. The community-based training, aimed at the poor and marginalized groups, is delivered by community training and employment centers, NGOs, local government units (LGUs), and government projects.

TESDA has been promoting e-learning modality to make TVET services accessible to professionals, laborers, the unemployed, out-of-school youths, students, and migrants wishing for skills upgradation⁴⁶⁰ and has played a critical role in the reskilling and upskilling of displaced workers.⁴⁶¹ For instance, the TESDA Online Program (TOP) is a web-based platform that offers free Massive Open Online Courses (MOOCs) TVET programs to existing workers at their own space and time.⁴⁶² These MOOCs are offered by the National Institute for Technical Education and Skills Development (NITESD) and include modules on blended learning, e-learning appreciation, and developing e-learning materials, and certifications are awarded upon completion.⁴⁶³

In 2018, the country started engaging in "green" TVET to support the government's move to promote a green economy⁴⁶⁴. TESDA has developed the Greening TVET Framework and issued Labor Market Intelligence Reports to promote green jobs and competencies in the workforce. The

⁴⁵⁷ Congress of the Philippines. 2017. An Act Institutionalizing the Philippine Qualifications Framework (PQF), establishing the PQF-National Coordinating Council (NCC) and Appropriating Funds Therefor. pqf.gov.ph/Uploads/Legal%20Basis/RA%2010968.pdf. Accessed: 09 March 2025.

⁴⁵⁸ DPED/TESDA/CHED/DOLE. Philippines Qualification Framework. pqf.gov.ph. Accessed: 05 March 2025.

⁴⁵⁹ TESDA. The Philippines TVET System. thedocs.worldbank.org/en/doc/d8addafa734920915128e4df05088dec-0070012024/original/1-TESDA-TVET-System.pdf. Accessed: 07 March 2025.

⁴⁶⁰ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. [Adb.org](http://adb.org). Accessed: 02 March 2025.

⁴⁶¹ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. [Adb.org](http://adb.org). Accessed: 02 March 2025.

⁴⁶² TESDA. About TESDA Online Program (TOP). e-tesda.gov.ph. Accessed: 09 March 2025.

⁴⁶³ TESDA Online Program. TESDA National Institute for Technical Education and Skills Development Online Course. tesdaonlineprogram.com. Accessed: 10 March 2025.

⁴⁶⁴ Arayata, M. 2018. TESDA gears up for "green" tech-voc training. pna.gov.ph. 06 March 2018. Accessed: 20 April 2025.

country has policies relevant to the green environment, which include the Sustainable Development Goals, the Philippine Development Plan (PDP) 2023-2028, and the National Green Jobs Human Resource Development (NGJ-HRD) Plan 2020-2030. Major TESDA actions towards greening skills include the Green TVET Framework.⁴⁶⁵ These policy and regulatory instruments have an influence on scaling up green skills under TVET.

Similarly, in 2023, TESDA launched a digital skilling program for over 1.2 million learners in partnership with Microsoft and aimed at providing the 'TVET learners with access to resources and curriculum that will enable them to upskill and gain the necessary certifications in cybersecurity, data and artificial intelligence, productivity, and digital literacy'.⁴⁶⁶ As such, the work on digital skills is at an earlier stage.

Institutes and enrolments. As per the TESDA Annual Report 2023, these TVET and skills programs were availed from 4536 institutes (5.6% from the public sector) covering 17,629 programs, of which over 90% were regulated.

With regards to the expansion of TVET services, ADB 2021 informs that TVET enrollment has increased in recent years, which has increased the number of assessed and certified graduates. According to the TESDA TVET Statistics 2023⁴⁶⁷, it reached 1,633,393 in 2023, of which 87.47% completed the training in the year. Similarly, 1,135,993 learners were enrolled under MOOCs through 176 courses for the period covering January to September 2024, of which 798,552 completed the courses.⁴⁶⁸

24,796 accredited trainers and 7699 accredited assessors were engaged in these programs. For students' and learners' assessments, 1937 accredited assessment centers were available nationwide.

After training completion, students are eligible candidates to sit for the National Certificate assessment process for qualifications ranging from levels I to IV certificates⁴⁶⁹ and starts after Grade 12. A diploma at Level 5 exists between NC IV and a Baccalaureate Degree. According to the ADB Report 2020⁴⁷⁰, TVET is considered a non-tertiary level. Vocational training can also lead to a Certificate of Competency for individuals without secondary school completion. There are also TVET opportunities outside the National Certificate system, leading to qualifications recognized by the industry and government.

⁴⁶⁵ TESDA. 2023. Labor Market Intelligence Report. Green Skills for Green Jobs 2.0. Expanding green TVET Infrastructure for the skilled workforce. tesda.gov.ph. Accessed: 20 April 2025.

⁴⁶⁶ Microsoft Philippines Communications Team. 2023. TESDA launches digital skilling program for over 1.2 million tech-voc learners in partnership with Microsoft. 07 September 2023. news.microsoft.com. Accessed: 20 April 2025.

⁴⁶⁷ TESDA. 2024. the TESDA TVET Statistics 2024 (3rd quarter report). tesda.gov.ph.

⁴⁶⁸ TESDA. About TESDA Online Program (TOP). e-tesda.gov.ph. Accessed: 09 March 2025.

⁴⁶⁹ As shown in adb.org/sites/default/files/linked-documents/54332-001-ea.pdf. 'National Certificate (NC) courses are short-term, non-diploma courses offered by the TTIs. The NC I courses have an average duration of 37 days while that of II, III and IV are 39, 51 and 100 days, respectively. Diploma courses have duration of three years'.

⁴⁷⁰ Vandenberg, P. and Laranjo, J. 2020. The Impact of Vocational Training on Labor Market Outcomes in the Philippines. ADB. Manila. www.adb.org/sites/default/files/publication/644566/ewp-621-vocational-training-labor-market-phi.pdf. Accessed: 05 March 2025.



2.6.3.3 Inclusion

TESDA has objectives of social equity and poverty reduction, targeting the poor and vulnerable populations. Findings related to inclusion are presented in three areas: female enrolment, scholarship provisions, and training modality.

Gender disaggregation of TVET enrolment is encouraging. As of September 2024, 51.42% of the enrolled individuals were female, while the remaining were categorized as male. Similarly, the share of female and male graduates during the same period was 51.47% and 48.53%, respectively. This finding is also supported by the ADB Report 2021, which reveals that the gender gap in TVET has been closed, with a larger share of females than males among TVET enrollees in recent years.

With regards to the regional TVET enrolment, the ADB Report 2021 noted that it is generally proportional to regional population size. The report also reveals that enrollment in the community-based TVET has grown faster than other modalities, underscoring the importance of continued efforts to ensure high-quality training at the local level. The Training for Work Scholarship (TWS), Special Training for Employment (STE), and Private Education Student Financial Assistance (PESFA) are the other major tools for enhancing inclusion.

The TEVTA Act of 1994 has provisioned a system of allocation and funding of scholarship grants to respond to the TVET needs of the different regions and embrace the marginalized sector of Philippine society⁴⁷¹. Specific groups targeted for training under this provision include the poor and marginalized, persons with disabilities, Indigenous people, women including victims of abuse, returnee migrants, farmers/fisherfolk, the unemployed and underemployed, citizens in conflict-afflicted areas, and inmates⁴⁷². By the 3rd quarter of 2024, the TESDA availed 400,951 scholarships (38.2% of the total enrolment) under seven types of schemes.⁴⁷³ The number of scholarships appeared to fluctuate. For instance, as shown by a TESDA Study 2019⁴⁷⁴, of the TVET students in 2018, 27.8% (576,720) of the enrolment were recipients of certain TESDA scholarships.

The NITESD training programs through the online platform were useful to learners unable to participate in the institute/ center-based education and training.

2.6.3.4 Quality

The Philippines TVET system has four major components: quality-assured TVET system including competency-based occupational qualification; unified program registration and accreditation; and TVET quality awards.

The competency standards and curriculum aligned with these standards are important features of the TESDA education and training process in terms of quality. The learning process is completed after the learners sit the competency-based assessment and receive certificates.

⁴⁷¹ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

⁴⁷² UNESCO-UNIVOC. The Country Profile. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles. Accessed: 05 march 2025.

⁴⁷³ TESDA. 2024. the TESDA TVET Statistics 2024 (3rd quarter report). tesda.gov.ph. Accessed: 02 March 2025.

⁴⁷⁴ TESDA. 2020. STUDY ON THE EMPLOYMENT OF TVET GRADUATES. FULL REPORT. tesda.gov.ph/Uploads/File/Researches/2019_SETG_Final%20Report.pdf. Accessed: 06 March 2025.



The Unified TVET Program Registration and Accreditation System (UTPRAS) under TESDA is one of the major quality assurance mechanisms where TVET programs need to be mandatorily registered. These registered programs are expected to meet the minimum TESDA requirements. The accreditation system under TESDA is important to ensure the quality of the programs and graduates' certification. In this context, mention of the PQF is important and is a unified system that sets the standards for qualification outcomes, allowing TVET learners to complete high school to doctoral degrees.

National TVET Trainers Academy (NTTA) is operational under TESDA to provide trainers development programs in response to the demand for quality learning facilitators and is expected to address the upgradation needs of the institutional or organizational competencies of TVIs. It is an in-service training supplementary to the Philippine TVET Trainers Qualifications Framework. The program clients include administrators, supervisors, teaching, and non-teaching staff.⁴⁷⁵ As such, the TESDA is a quality-assured national system based on standards of knowledge, skills, and values acquired in different ways and methods.

2.6.3.5 Relevance

Ensuring industry-responsive curricula was assessed to be weak in the Philippines⁴⁷⁶. However, the evidence presented in Chapter 2.6.4.8 (Private sector engagement/ labor market interface) suggests important efforts made to enhance TVET relevance.

2.6.3.6 Private sector engagement/ labor market interface

Private sector engagement is assessed mainly from their engagement in governance, management/ sector councils, workplace-based training delivery, and availing employment opportunities.

BIAs' engagement in governance. As provided in the TESDA Act 1994, only two (15.4%) out of 13 TESDA Board members were from the employer/industry organization.⁴⁷⁷ This enactment indicates that the government was aware of the importance of business and industry for the labor market interface at the policy level and then enhanced TVET relevance. The other two categories of private sector members were two from the labor sector and three from the association of private sector TVET institutions. As cited under the 'Governance structure' section above, the size of Board members was increased later by increasing the BIA's share to 27.3%. This was a positive change, but to make the BIAs effective in the labor market interface, even this share is insufficient.

BIAs' engagement in industry boards. The TESDA Act of 1994 provision to 'establish effective and efficient institutional arrangements with industry boards' is important and expects that such provisions will provide direct participation of employers and workers in the design and implementation of skills development schemes, trade skills standardization, and certification.

⁴⁷⁵ TESDA. TESDA Launches NTTA Academy, Steps Up Trainers Development. tesda.gov.ph/Gallery/Details/10244. 09 March 2025.

⁴⁷⁶ ADB 2021b. Reaping the Benefits of Industry 4.0 Through Skills Development in High-Growth Industries in Southeast Asia Insights from Cambodia, Indonesia, The Philippines, and Viet Nam. adb.org/sites/default/files/publication/671711/industry-skills-development-southeast-asia.pdf. Accessed: 05 March 2025.

⁴⁷⁷ Republic of the Philippines. 1994. An Act creating the Technical Education and Skills Development Authority, providing for its powers, structure and for other purposes. lawphil.net. accessed: 02 March 2025.



Accordingly, as shown in the TESDA Annual Report 2023⁴⁷⁸, following the TESDA mandate on establishing institutional arrangements with industry boards, in collaboration with respective associations, five national Industry TVET Boards (ITBs) were established, covering the construction sector; tourism sector; information and communications technology (ICT), manufacturing and agriculture sector.

Workplace-based training. To enhance the labor market interface, the TVET system has three types of enterprise-based education and training (EBET) programs including 'on-the-job education for the workforce, apprenticeship programs, and learnership programs'⁴⁷⁹. The EBET generally has the highest employment rates as it has the potential to be relevant to the industry's needs.⁴⁸⁰

2.6.3.7 Employment outcomes

Using the household survey 2015/16, Vandenberg and Laranjo (2020)⁴⁸¹ estimated that 94% of the TVET graduates were employed. This finding suggested that TVET graduates were more likely to be employed and receive a higher wage compared to those who were only taught at secondary school or had an education below. The study also found that TVET graduates have a higher likelihood of being employed than those who pursued tertiary education.

According to the TESDA Tracer Study 2019⁴⁸², 84.15% of the graduates in the active labor force in 2018 were employed, which, according to the TESDA Report 2020⁴⁸³ dropped to 70.51% in 2019. The study also found that the majority of the TVET graduates across regions were actively working at the time of the survey with an employment rate ranging between 74 and 90%. The TESDA tracer study 2019 also found that the TTIs and non-TTIs exhibited high employment rates that were on par to the national estimate of 84.15%.

Some of the interesting findings from TESDA tracer study included:

- 38.42% of graduates were engaged in a short-term employment
- 40% had already jobs before attending a TVET program
- about 23% who were unemployed before and were able to find a job after attending a program
- 30.3% acquired new job after completing a TVET program

⁴⁷⁸ TESDA/BAGONG. Annual Report 2023. One Heart, One Nation - Positioning TVET at All Fronts. tesda.gov.ph/Uploads/File/Resources/TESDA%20ANNUAL%20REPORT%202023.pdf. Accessed: 05 March 2025.

⁴⁷⁹ UNESCO-UNIVOC. The Country Profile. unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles. Accessed: 05 March 2025.

⁴⁸⁰ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. [Adb.org](https://adb.org). Accessed: 02 March 2025.

⁴⁸¹ Vandenberg, P. and Laranjo, J. 2020 cited in ADB 2020. *The Impact of Vocational Training on Labor Market Outcomes in the Philippines*. *Asian Development Bank Economics Working Paper Series No. 621*. papers.ssrn.com. Accessed: 09 April 2025.

⁴⁸² According to TESDA 2019 report, 'TVET graduates are generally classified as either a completer of TESDA Technology Institutions (TTIs) or of non-TTIs. The TTIs are being managed by TESDA wherein trainings are provided directly to the clients in their schools and training centers all over the country. Non-TTIs, on the other hand, are operated by private institutions accredited by TESDA.'

⁴⁸³ TESDA. 2020. STUDY ON THE EMPLOYMENT OF TVET GRADUATES. FULL REPORT. tesda.gov.ph/Uploads/File/Researches/2019_SETG_Final%20Report.pdf. Accessed: 06 March 2025.



- 36.22% of the unemployed before who were still unemployed

2.6.3.8 Efficiency

Given organizational and management efficiency, the provision to bring all the TVET services under TESDA is important. Similarly, the provision of RIBs is important as these institutions have the potential to facilitate sector-focused coordination. Further, 90% of the TVET service providers are from the private sector. Such private sector engagement also shares the financing burden with the government and therefore contributes to enhancing financial efficiency.

2.6.3.9 Financing

TESDA funds technical education and skills development in the country. However, as presented in the ADB Report, only 1.8% of the total budget allocated for the Department of Education, TESDA, and the Commission on Higher Education between 2012 and 2021 was designated for TESDA. Despite this, there has been an increasing trend in recent years regarding government spending for TVET. However, the substantial share of private sector institutes indicates a significant investment from the private sector.

To support learners, four broad types of financial assistance and scholarship provisions - Training for Work Scholarship Program (TSWP), Private Education Student Financial Assistance (PESFA), Special Training for Employment Program (STEP), and Universal Access to Quality Tertiary Education Act (UAQTEA) - have existed since 1998.

2.6.3.10 Affordability

As discussed earlier, the TESDA scholarships, such as the Training for Work Scholarship Program (TWSP), Special Training for Employment Program (STEP), and the Private Education Student Financial Assistance (PESFA), help individuals from marginalized or low-income backgrounds to pursue TVET programs. In addition, many TVET programs are short-term and modular, which reduces opportunity costs for learners. Community-based training programs are particularly affordable, as they are often delivered in local settings with minimal fees.

TESDA Online Program (TOP)/ MOOCs is another mechanism providing a growing number of free online short courses, which helps reduce geographic and financial barriers by eliminating transportation and accommodation costs for learners. It is considered a popular program in the country. Enterprise-based education and training (EBET) models such as the Dual Training System (DTS) encourage employers to share training responsibilities and costs.

These mechanisms help individuals pursue the TVET programs. The TOP is a particularly cost-effective approach for the government to manage training programs.

2.6.3.11 Adoption-scalability

Through the TESDA's regional and provincial offices across the country, it can implement reforms in diverse local contexts, making adoption more feasible. Local offices can adapt training programs to community needs and local labor market demand. As proven elsewhere, the use of standardized curricula and competency-based assessments ensures that training programs are replicable and consistent in quality, regardless of location or provider. TOP, due to its digital nature, has helped expand its reach to learners regardless of geographical constraints. Albeit currently limited in scale, the EBET model has the potential to expand and scale up.

2.3.3.12 Sustainability

As explained below, the TVET developments in the country appear to have a strong possibility of sustainability.

Policy-backed and government-led reform. TVET is institutionally embedded through strong legal and policy frameworks. For instance, the TESDA Act (RA 7796), the PQF Act (RA 10968), and the multi-year NTESDP plans to ensure continuity and institutional backing for TVET development. Similarly, as the TVET is incorporated into national socio-economic planning, it gains strategic support from the highest policy levels, leading to feasibility for ensured public funding. These are strong indications of government-led and owned reform actions.

BIAs engagement. The relevance of TVET services is a strong indication of sustainability, which appears to be strongly placed in the country's TVET system. This has been made possible due to BIAs' involvement in TVET processes, particularly in curriculum development.

However, insufficient funding, particularly limited opportunity for training of trainers/ teachers and assessors, are examples of risks challenging the sustainability of the achievements made so far.

2.6.4 TVET system strengths and weaknesses

2.6.4.1 Strength

Enactment of statutory provisions. The establishment of TESDA and other provisions by the Parliamentary Act is one of the greatest strengths of the TVET system. The country's commitment to reform, demonstrated by decisions and recommendations by higher-level task forces and committees, is another strength. Recommendations of the committee under the Presidential Committee on Educational Reform 1998 on TVET including the adoption of a competency-based framework, enhancement of trainers' training, institutionalization of ladderized TVET courses, and improving the certification systems, are examples.

Similarly, the Presidential Taskforce on Education (2007) has articulated harmonization between TVET and higher education which was further highlighted by the country's First Biennial Congress in 2008. Key recommendations of this task force included a 'call for agreement between TESDA and the Commission on Higher Education on competency-based assessment and credit units. Consequently, the implementation of competency-based education training and assessment (CBT&A) has been another important strength of the programs under TESDA. Similarly, other recommendations include a policy to standardize credit transfer from technical-vocational or tech-voc education to higher education degree courses; pathways of interfacing tech-voc education and higher education; and model curricula to expand the coverage of ladderized education programs.⁴⁸⁴

The country's continued commitment to relevance can also be realized through the signing of the Implementing Rules and Regulations (IRR) of Republic Act 12063⁴⁸⁵ by TESDA and DoLE. This government action is encouraged by the high employment rate (85.5%) of the EBET graduates. The EBET-focused IRR aims to strengthen the workforce through enhanced skills training and improved employability, while also bridging the gap between education and the employment market. It also intends to expand EBT opportunities and encourage industry engagement in curriculum development and theoretical instruction.⁴⁸⁶

⁴⁸⁴ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

⁴⁸⁵ Congress of the Philippines. An Act institutionalizing the EBET framework and appropriating the funds therefor. lawphil.net/statutes/repacts/ra2024/pdf/ra_12063_2024.pdf. Accessed: 07 March 2025.

⁴⁸⁶ Arayata, M.C. 2025. TESDA, DOLE sign EBET Framework Act implementing rules. | 28 February 2025. pna.gov.ph/articles/1245512. Accessed: 07 March 2025



The state policy⁴⁸⁷ to ‘institutionalize the ladderized interface between TVET and higher education to open pathways of opportunities for career and educational progression of students and workers, create a seamless and borderless system of education, empower students and workers to exercise options or to choose when to enter into and exit from the educational ladder, and provide job platforms at every exit with the possibility of income’ are important for TVET development. In the process of implementation of this policy, the Congress of the Philippines, through the Republic Act (RA) No. 10968, passed the Act ‘institutionalizing the Philippine Qualifications Framework (PQF)’. It paved the path to establishing the PQF-National Coordinating Council (NCC) and was useful in appropriating the required funds.⁴⁸⁸

NTESDP 2023-2028. The NTESDP was developed following the TESDA mandate on the development of a comprehensive plan for a mid-level workforce (under Section 21 of RA 7796⁴⁸⁹) and is in operation. The law stipulates that this plan is for the TVET sector for the entire country and this stipulation is the strength of TESDA with regard to the implementation of this plan. It aims to provide access to high-quality opportunities for lifelong learning, as well as to provide smart and innovative skills.

Female participation. More share of females than males (for instance, 51.42% in September 2024) in enrolment is one of the greatest strengths of the country’s TVET system.

2.6.4.2 TVET system weaknesses - areas for improvement

Governance. The weak BIA representation in the TESDA Board (only 27.3% of the total) has already been discussed in the foregoing chapters. Similarly, TESDA’s conflicting roles as a regulatory and delivery body is another weakness that makes it overly occupied, limiting its capacity to effectively respond to the market demands. There is evidence that there is a duplication of training programs offered by TTIs and private TVET institutions under TESDA, and training programs under senior high schools, and higher education institutions (HEIs).

The other important TVET sector weaknesses are summarised below from the ADB Report 2021⁴⁹⁰. Additional related references for any additional data and information are placed where necessary.

Quality. The continuation of TVET services involves facilities that face concerns regarding market relevance and the training of technical and managerial staff. Additionally, lengthy processes for developing standards and assessment tools are also quality-related weaknesses.

As revealed by the ADB Report 2021, the shortage of trainers/facilitators required for the smooth operation of the TTIs is a serious concern. Similarly, there is also an issue regarding the

⁴⁸⁷ Congress of the Philippines. 2014. An Act Strengthening the Ladderized Interface Between Technical-Vocational Education and Training and Higher Education. Enacted by the Senate and House of the Representatives of the Philippines in Congress. web.senate.gov.ph. Accessed: 04 March 2025.

⁴⁸⁸ Congress of the Philippines. 2017a. *Republic Act (RA) No. 10968. An act institutionalizing the Philippine Qualifications Framework (PQF), establishing the PQF-National Coordinating Council (NCC) and appropriating funds therefor.*

⁴⁸⁹ Republic Of The Philippines. REPUBLIC ACT NO. 7796, August 25, 1994]. An Act Creating the Technical Education and Skills Development Authority, Providing for its Powers, Structure and for Other Purposes. lawphil.net. Accessed: 04 March 2025.

⁴⁹⁰ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

insufficiency of competent assessors. As the trainers are engaged in teaching/training, they have limited time to contribute to effective assessment.⁴⁹¹

Expansion and access. Over the years, there has been an expansion in the TVET services. However, the enrollment shares in public institutions are not necessarily higher in the poorer regions.

Relevance and outcomes. According to an ADB study, despite success in the expansion of TVET services,⁴⁹² the TVET system has been unable to keep pace with the changes in the demand for skills. Misalignment between the competency standards and the industry needs is another weakness in the context of relevance, and this weakness contributes to the training–job mismatch, which could range between 42% and 81%⁴⁹³. The ADB Study 2021 revealed that the share of graduates who successfully matched their post-training occupation expectations ranged from 32% to 36%, questioning the relevancy of skills among TESDA graduates.

Despite encouraging employment outcomes from enterprise-based education and training (EBET), its share of total enrolment is limited. For instance, it was less than 4% in 2018⁴⁹⁴. This proportion remains low, although it increased to 7.2% in 2023⁴⁹⁵. Further, courses offered, particularly among female enrollees, include many that lead to low-productivity, low-pay occupations, often involving non-routine manual tasks⁴⁹⁶.

These evidences question the relevance of the TVET services.

BIAs' engagement. As noted under the 'Governance' section, of the TESDA Board only 27.3% is allocated to business and industry. This was a positive change compared to the past, but even this share is insufficient to make the BIAs effective in the labor market interface. This finding is also consistent with the ADB findings⁴⁹⁷ which noted that 'the relationship between TVET system and the industry is weakly defined'. Such weak representation is insufficient to positively influence the TVET development processes, particularly in terms of relevance.

2.6.5 Key TVET actors and their engagement

⁴⁹¹ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

⁴⁹² ADB. 2022. Economic Analyses. Supporting Innovation in the Philippine Technical and Vocational Education and Training System Project: Report and Recommendation of the President. adb.org/sites/default/files/linked-documents/54332-001-ea.pdf. Accessed 04 March 2025.

⁴⁹³ ADB. 2022. SECTOR ASSESSMENT (SUMMARY): EDUCATION (TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING). Supporting Innovation in the Philippine Technical and Vocational Education and Training System Project: Report and Recommendation of the President. Reports and Recommendations of the President | November 2022. adb.org/sites/default/files/linked-documents/54332-001-ssa.pdf. Accessed 04 March 2025.

⁴⁹⁴ Aayata, M.C. 2025. TESDA, DOLE sign EBET Framework Act implementing rules. 28 February 2025. pna.gov.ph/articles/1245512. Accessed: 07 March 2025.

⁴⁹⁵ TESDA/BAGONG. Annual Report 2023. One Heart, One Nation - Positioning TVET at All Fronts. tesda.gov.ph/Uploads/File/Resources/TESDA%20ANNUAL%20REPORT%202023.pdf. Accessed: 05 March 2025.

⁴⁹⁶ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

⁴⁹⁷ ADB. Economic Analyses. Supporting Innovation in the Philippine Technical and Vocational Education and Training System Project: Report and Recommendation of the President. adb.org/sites/default/files/linked-documents/54332-001-ea.pdf. Accessed 04 March 2025.

Key actors. TVET stakeholders and their engagements are discussed in the following chapters. They are divided into government ministries, TESDA, RIBs/TIBs, BIAs and labor bodies, Private sector training providers, NGOs, and international development partners (IDPs). Among the IDPs, ASEAN, ADB, GIZ, and ILO appear to be major players. The details of key stakeholders are presented in Annex Table 2.6.1

Overall impacts. Tripartite partnerships involving government, industry, and labor groups have been statutorily provided through TESDA Boards and regional structures and appear different compared to all six countries under this study. BIAs' engagement is notable, particularly in the development of competency standards. Partnerships with IDP have supported digital transformation and green skills. The country has demonstrated how institutionalized partnerships can promote policy coherence and labor market relevance.

2.6.6 Key issues and challenges

2.6.6.1 Governance

The major issue under the governance, as highlighted by the ADB Report 2021, is that the TESDA is directly engaged in the implementation of TVET and skills development activities in parallel to its regulatory functions. Further, this issue is also pointed out by the Eighteenth Congress of the Republic of the Philippines Resolution 2 dated 10 December 2019⁴⁹⁸, the TESDA has 'yet to fully implement the provisions of the law on devolution of TVET to local governments and industry, and its transformation from provider to quality assurance, and planning and financing agency'.

2.6.6.2 Effectiveness/ efficiency

Not all the students enrolled appear in the final competency assessment and get certified. For instance, of the 1,260,244 enrollees of 2022, only 72% (907,244) were assessed. Similarly, only 67% (844,368) of the total enrollees of the year certified.⁴⁹⁹

2.6.6.3 Funding

A limited budget for capital outlay for land, buildings, and other structures, machinery, and equipment, and transportation equipment is another issue with TESDA⁵⁰⁰.

2.6.7 Lessons Learned

2.6.7.1 Dual responsibility

TESDA continues assuming both regulatory and implementation roles. Due to such conflicting responsibilities, TESDA's focus on quality assurance is insufficient. This situation calls for decentralizing the implementation roles of the LGUs⁵⁰¹.

⁴⁹⁸ Senet Office of the Secretariate. 10 December 2019. Joint Resolution Creating A Congressional Oversight Committee on Education to Review and Assess Philippine Education, Providing Funds Therefore and for Other Purposes. Eighteenth Congress of the Republic of Philippines Resolution 2. legacy.senate.gov.ph. 04 March 2025.

⁴⁹⁹ TESDA. 2022. TESDA Annual Report 2022. Accessed: 15 June 2025.

⁵⁰⁰ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. [Adb.org](http://adb.org). Accessed: 02 March 2025.

⁵⁰¹ Senet Office of the Secretariate. 10 December 2019. Joint Resolution Creating A Congressional Oversight Committee on Education to Review and Assess Philippine Education, Providing Funds Therefore and for Other Purposes. Eighteenth Congress of the Republic of Philippines Resolution 2. legacy.senate.gov.ph. 04 March 2025.

2.6.7.2 Need for qualified teachers

The ADB 2021 report highlights the need for qualified teachers and managers to ensure quality TVET.

2.6.7.3 Enterprise-based education and training (EBET)

The success of the EBET has been proven by graduates' high employment rates. This evidence calls for an emphasis on and expansion of this model of education and training.

2.6.7.4 Productive Partnership between TESDA and BIAs

TESDA has realized that a productive partnership between TESDA and BIAs is necessary to ensure the development of the TVET resources, such as standards and curriculum and their rollout. For instance, efforts are made to engage BIAs in all stages of TVET starting from research for identification of demand in the employment market to avail workplace-based training and placement.

2.6.7.5 Improving machines and equipment for practical training

Availability of market-relevant machines and equipment for practical training, and digital solutions based on international norms help improve education and training quality. This general impression is also supported by the ADB Report 2021.

2.6.8 Knowledge gap/ research agenda and policy questions

2.6.8.1 Nationally identified key growth sectors and research agenda

According to the Philippines' NTESDP 2023-2028⁵⁰², the national economic growth sectors focus on the modernized agriculture and agri-business, technology adoption, servicification in manufacturing sectors, and the innovative tourism sector. To achieve these goals, the Philippines highly values digitalization and infrastructure development.

Apart from the economic sectors that TVET needs to prioritize, the green economy and digitalization also require the development of relevant skills to promote environmental sustainability and digital literacy. In response, the Green TVET Framework and digital skilling programs have already been implemented to ensure that the workforce is equipped with the necessary competencies to support sustainable economic growth.

The priority sectors, research rationale and research agenda are presented in Table 2.6.1.

Table 2.6.1: Priority sectors, research rationale and research agenda

Key growth sectors	Research rationale	Research Agenda
Emerging technologies (AI, robotics)	Integration of emerging technologies (AI, robotics)	<ul style="list-style-type: none"> ▪ What is the current level of integration of emerging technologies in TVET curricula? ▪ What digital skills gaps exist among students and instructors? What proportion of TVET teachers are trained in the relevant industry? ▪ What proportion of TVET instructors are proficient in both pedagogy and modern digital tools? ▪ What is the current status of digital infrastructure in TVET institutions?

⁵⁰² National Economic and Development Authority. 2023. *Philippine Development Plan 2023-2028*. https://pdp.neda.gov.ph/wp-content/uploads/2023/01/PDP-2023-2028-Briefer.pdf?utm_source=chatgpt.com. Accessed: 23 May 2025.

Key growth sectors	Research rationale	Research Agenda
Green economy and climate change	Green economy and climate change mitigation	<ul style="list-style-type: none"> What green competencies are most in demand across sectors and how can these competencies be integrated into TVET curricula? What are the current capacities of TVET instructors to teach/ train green skills? How can international development partners support in developing localized green TVET policy and program?
Agriculture	Modernized Agriculture and value-added agricultural products	<ul style="list-style-type: none"> What is the current capacity of instructors and facilities to teach new technologies and green farming methods? What agricultural technologies and practices should be integrated into TVET to boost productivity and quality? What models exist for public-private partnerships (PPPs) between TVET institutions and agribusinesses?
Infrastructure	Infrastructure development	<ul style="list-style-type: none"> What TVET skills are most urgently needed to support infrastructure and urban development projects?
Manufacturing	Servicification in manufacturing	<ul style="list-style-type: none"> How can TVET institutions integrate service-related competencies into manufacturing-focused programs? How can TVET build stronger partnerships with manufacturing sectors adopting service-based models?
Tourism/hospitality	Innovative tourism	<ul style="list-style-type: none"> What hospitality and service skills are needed to meet the demands of innovative tourism?

2.6.8.2 General knowledge gap and research agenda

The evidence and analyses presented in the forging chapters indicate that the TVET system has made progress, but a large number of weaknesses and issues persist. However, little research appears to have delved into depth and explained the actors and factors responsible for the success or failure of specific interventions/events. In other words, the progress and the gaps in TVET services indicate the persistence of the knowledge gap. These knowledge gaps/ research agenda and relevant policy questions are presented in Annex 2.6.2 (Philippines TVET Issues and Knowledge Gaps/Research Agendas).

2.6.9 Major conclusions and recommendations

2.6.9.1 BIAs in Governance

The share of BIAs in the TESDA Board is only a little over one-fourth of the total members. This is one of the reasons why BIAs' engagement appears weak, resulting in a weak labor market interface of the TVET system. Although RIBs are in place, they do not have a direct role in the decision-making at the TESDA Board. Lessons from Pakistan on BIA engagement in governing boards suggest that it is important to ensure at least 50% of the members of each level of governance – federal, provincial, and local, and/or including institute-level management committees - should be the BIA representatives/ employers.

2.6.9.2 TESDA focuses on quality assurance

Despite the government's vision of its role in quality assurance, it continues to assume both the regulatory and implementation responsibility. To ensure the quality of the TVET system and services, TESDA should focus on a quality assurance role together with planning, monitoring, and



financing responsibilities. There is also a need to strengthen institutional mechanisms between TESDA and the Department of Education for coordination and policy setting⁵⁰³.

2.6.9.3 Coordination and collaboration

Standards need to be consistently communicated and understood by the stakeholders involved in the management of the program, especially at the division offices of DepEd, provincial offices of TESDA, and the implementing schools themselves. Addressing this gap requires collaboration between DepEd and TESDA institutions during policy review and formulation and program implementation.⁵⁰⁴

2.6.9.4 Relevance and Outcome

Despite the potential for success in EBET, the ADB Report 2021 has raised concerns regarding the decline of enrolment in this training model and its complete absence in certain regions. This claim is substantiated by enrolment numbers available in the TESDA Annual Report 2023. Therefore, the report suggests intensifying efforts to expand EBET, including through a review of the Dual Training System Act of 1994 and the Apprenticeship Bill. The upskilling and reskilling of the workforce has been important in the context of Industry 4.0,⁵⁰⁵ which means a review of standards and curriculum of demand courses is urgent.

Two specific findings of the TESDA Tracer Study 2019: i) that only about 23% who were unemployed before and were able to find a job after attending a program; and ii) that 36.22% of the unemployed before who were still unemployed are important. This finding implies that securing jobs was easy for those who were already engaged in employment. This, in turn, raises question about relevancy of education and training for students without experience and therefore, suggests for focusing on further effort on monitoring learning outcomes when the students are still in education and training phase.

2.6.9.5 Operationalization of NTVQF

The operationalization of the PQF is critical to open pathways allowing transitions between different levels of education, and implementation of RPL. Therefore, calls for concerted efforts for its implementation. The process also requires coordination between TESDA and general education authorities. Revisit the TVET program frameworks, institutional arrangements, and implementation in light of the K to 12 reform and PQF is also necessary. Further, the Philippine Credit Transfer System, necessary to harmonize and establish pathways between TVET and higher education, should be finalized and sustained.

2.6.9.6 Improving access and equity

TESDA is entrusted with providing TVET opportunities to the poor and vulnerable populations through public providers. Based on enrolment, according to the ADB report 2021, TESDA is making progress towards its objectives on social equity and workforce inclusion. However, 'enrollment shares in public institutions do not necessarily mean higher enrollment in the poorer regions' as well. Therefore, the Public TVET provision should also focus on enrolment in the areas where such weaknesses are observed. While doing so, the courses offered should be relevant to the 'local needs, including those in the agriculture and other sectors'.

⁵⁰³ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

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⁵⁰⁵ Generalao. I.A. The impact of TVET on youth employment outcomes in the Philippines. psa.gov.ph/sites/default/files/ncs/paper-presentations-manuscripts/outcomes_Generalao_0.pdf

2.6.9.7 Digitization and Digitalization

The country also intends to digitalize the Public Employment Services (PES) to enhance accessibility, streamline processes, and improve efficiency for job seekers and employers via online platforms⁵⁰⁶. This objective could be realized by reviewing the provisions and mechanisms in Pakistan's successful NEXT platform.

2.6.9.8 Evidence-based and participatory plan

Nationally agreed indicators and baseline data are critically important to enhance the effectiveness of plans. Therefore, preparation and implementation of a TVET principle-based strategic reform plan is necessary and it is better if such a document is prepared with the participation of the public and private sectors, local communities, NGOs, and international development partners.⁵⁰⁷

Annex

Table 2.6.1: Key TVET Actors of Philippines TVET

SN	TVET Actors	Area of engagement
1	National actors	
a	Technical Education and Skills Development Authority (TESDA)	Coordination, quality assurance, and certification
		<ul style="list-style-type: none"> ▪ acts, policy, and legislative orders to ensure quality education and training ▪ meeting the national targets
		<ul style="list-style-type: none"> ▪ Quality assurance ▪ Accreditation, standards and curriculum development, affiliation, and assessment and certification
b	Ministry of Labor and Employment	Short term training
d	Other ministries	providing skills training
f	Registered Industry Boards	<ul style="list-style-type: none"> ▪ Ensure industry collaboration in skills development. ▪ Strengthen industry linkage, apprenticeship program, workers' up-skilling and re-skilling, RPL, development of standard and curriculum, assessment of trainees, trainers, and assessors
g	Business and industry associations/	Skills training
h	Private training providers	Education and training
2	International actors	
a	Asian Development Bank	Teacher training, Skills training
b	GIZ	
c	ILO	
d	ASEAN	ASEAN region Qualification Framework

⁵⁰⁶ Patinio, F. 2025. DOLE: Gov't efforts to boost employment 'on right track'. 06 March 2025. pna.gov.ph/articles/1245512. Accessed: 07 March 2025.

⁵⁰⁷ ADB 2021. TVET in the Philippines in the Age of Industry 4.0. ADB. Manila. Adb.org. Accessed: 02 March 2025.

Annex 2.6.2: Knowledge gap/ research agenda and policy questions in Philippines TVET

Issues/ strength	Knowledge Gaps/Research Agenda	Policy Questions
Week coordination among stakeholders leads to the fragmentation of services and their qualities	<ul style="list-style-type: none"> ▪ What are the key factors hindering effective coordination between and among stakeholders? Which policy and strategic provisions have contributed to this problem? 	<ul style="list-style-type: none"> ▪ What regulatory reforms and coordination mechanisms can enhance synergy at least among government agencies? ▪ How can a system be put in place to develop and implement evidence-based policies and plans?
Delivery of key players	<ul style="list-style-type: none"> ▪ How far have major players such as TESDA and MoE been successful in achieving their objectives? 	<ul style="list-style-type: none"> ▪ What changes/amendments could make these agencies effective and contribute to TVET development?
Academic Preference/low image	<ul style="list-style-type: none"> ▪ Why are graduates attracted to higher level general education? ▪ Why are TVET qualifications considered inferior to general education? ▪ Why has the PQF not been effective in mitigating this problem? 	<ul style="list-style-type: none"> ▪ What policy provisions could contribute to addressing this problem? ▪ How the PQF can be effectively operationalized by integrating both the TVET and general education?
More share of female among enrollees	<ul style="list-style-type: none"> ▪ What is the employment rate and income among female graduates? ▪ What impact has brought on graduates' livelihoods in general and specifically among females? 	
Enterprise-based Education and Training (EBET)	<ul style="list-style-type: none"> ▪ Why is the EBET enrolment low (limited to 9% of the total) despite very high employment rate of EBET graduates (over 84%)? ▪ What are barriers are responsible for low enrolment? ▪ What financial and non-financial benefits exists for enterprises engaged in this education and training modality? 	<ul style="list-style-type: none"> ▪ What policy provisions or financial and non-financial incentives to employers could help increase the enrolment rate?
Employment outcomes	<ul style="list-style-type: none"> ▪ To what extent are current TVET programs contributing to employment and poverty reduction? ▪ What factors are impeding higher employment rates among graduates? 	<ul style="list-style-type: none"> ▪ What targeted interventions could boost employment outcomes and better align training with labor market needs?
Income outcomes	<ul style="list-style-type: none"> ▪ What are income outcomes of the TVET graduates? ▪ To what extent have the TVET services been useful for poverty reeducation? 	
Teacher training and digital literacy	<ul style="list-style-type: none"> ▪ What proportion of TVET instructors are proficient in both pedagogy and modern digital tools? ▪ What is the current status of digital infrastructure in TVET institutions? 	<ul style="list-style-type: none"> ▪ What policy interventions can ensure continuous professional development and enhance digital literacy among trainers?
Integration of emerging technologies (AI, robotics)	<ul style="list-style-type: none"> ▪ What is the current level of integration of emerging technologies in TVET curricula? ▪ What digital skills gaps exist among students and instructors? 	<ul style="list-style-type: none"> ▪ What policy measures can promote the inclusion of advanced technologies and digital platforms in TVET programs?
BIAs' engagement	<ul style="list-style-type: none"> ▪ Why has the partnership with BIAs not been effective? 	<ul style="list-style-type: none"> ▪ What policies should establish legal frameworks and principles to govern the



Issues/ strength	Knowledge Gaps/Research Agenda	Policy Questions
		operation and development of industry-academia collaborations (Haque et al 2024)?
Outdated equipment and consumable shortages	<ul style="list-style-type: none"> ▪ How widespread is the lack of modern equipment and consumables across TVET institutes? ▪ What impact do these deficiencies have on training outcomes? 	<ul style="list-style-type: none"> ▪ What public-private partnership models could facilitate the upgrade of facilities and ensure sustainable resource supply?
Curriculum relevance and labor market alignment	<ul style="list-style-type: none"> ▪ How frequently are market studies conducted to inform curriculum updates? ▪ What role do employers play in current curriculum development processes? ▪ How can the market assessment system be institutionalized? ▪ How far has the curriculum been revised according to the NQF framework? 	<ul style="list-style-type: none"> ▪ What regulatory changes can empower local institutes to adapt course offerings to current market demands?
RPL	<ul style="list-style-type: none"> ▪ What percentage of existing workers/ aspiring workers have access to RPL services? ▪ How far has it been successful to open pathways for informal sector workers or people with skills earned from the informal sector? 	<ul style="list-style-type: none"> ▪ What policy provisions and programs could help expand this important service across the country?
Post-training support and entrepreneurship	<ul style="list-style-type: none"> ▪ What forms of post-training support (counseling, mentoring, financial aid) are most needed by graduates? ▪ What gaps exist in current support mechanisms? 	<ul style="list-style-type: none"> ▪ How can an integrated support system be developed to foster entrepreneurship and smoother transitions to employment?
Sustainable funding for quality TVET	<ul style="list-style-type: none"> ▪ How effective are current funding mechanisms in ensuring high-quality training? ▪ What financial models could be explored to establish a dedicated TVET fund? 	<ul style="list-style-type: none"> ▪ Would the creation of a dedicated TVET fund address existing financial constraints and boost overall quality?

Annex 3: Summary of country reports in data and information

3.1 Socio-economic context

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Population (million)	35	236	169.87	66.95	17	109
Poverty (%)	54.5	25.3	5	6.8	<10	10.18.1
Labour market entrants	400,000	1,250,000	2,200,000	800,000	160,000	444,000
Unemployment (%)	High	7.5	4.5 (Youth: 10.6) (59.03% of working age population employed)	0.9	0.2	4.3
Economic status	Low-income status	Lower-income country	Least developed	Upper middle-income	Least developed	lower middle-income
Informal sector (%)	73.6 informal sector (of the GDP)	72 (of the employed population)	84.9 (of the employed population)	64 (of the employed population)	88.3 (87.6% female) (of the GDP)	Over 80 (of the employed population)
Contribution to GDP:						
▪ Agriculture (al)	34.5	23.7	11.2	8.72	10.3	8.6
▪ Service	46.5	57.7	51.24	58.65	36.5	62
▪ Industry	13.5	18.7	37.65	32.63	40.8	29.4
Development vision	peace-building, state-building, and market-building	Upper middle-income by 2025	Upper middle-Income by 2031. High-Income by 2041	Thailand Vision 2030	Upper middle-income economy by 2030 Higher-income economy by 2050	AmBisyon Natin 2040, middle-class society where no one is poor by 2024

3.2 History of TVET Development

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
TVET development	Began in 2023 and institutionalized in 1947; TVETA was established in 2018	Began in 1947, reformed during 1980s and early 2000s; NAVTTC and TVETAs established; Policy and strategy development; CBT&A and WBT;	Transition from supply-driven to reform-intensive model post-2000; Introduction of TVET policies and plans in 2011; NSDA creation; BNQF and RPL; CBT development	Began in 1989; Modernized the framework through 2003 EE and 2008 BEA; Institutional amalgamation in 2012; Unified governance	Appear matured post-2004; Centralized governance; NQF and SSC development	EDCOM in 1990; the Presidential Task Force on Education in 2007; K to 12 Reform in 2013; Presidential Commission on Education Reform in 2018; PQF 2018
Management of change	Policy reforms; Institutional reform	Policy Reforms; Institutional reform; BIA/stakeholders' engagement; Development partner role; Capacity building; Monitoring / sustainability	Policy Reforms; Institutional reform; BIA/stakeholders' engagement; Development partner role; Capacity building; Monitoring / sustainability	Policy Reforms; Institutional reform; BIA/stakeholders' engagement; Development partner role; Capacity building; Monitoring / sustainability	Policy Reforms; Implementation approach; stakeholder engagement; Capacity-building initiatives	TESDA Act 1994; LMI; TESDA and LGUs (decentralization); BIAS and RIBs NTQF align with PQF; RPL
Factors influencing the change	<ul style="list-style-type: none"> ▪ Enablers: IDPs; growing youth population and returnees; emerging business and industry demand ▪ Disabling: political instability and regime changes, fragmented governance, limited institutional capacity; gender exclusion 	<ul style="list-style-type: none"> ▪ Internal: government policies and strategies; political commitment; ▪ External: engagement of IPDs, demands for industry-relevant graduates ▪ Disabling: lack of physical and technological capacity to implement the CBT&A-based curriculum 	<ul style="list-style-type: none"> ▪ Internal: government commitment; institutional development ▪ External: demographic dividend; demand for skilled workers; international support technological disruption ▪ Disabling: low perception; limited flexibility in adapting to emerging technologies and occupations 	<ul style="list-style-type: none"> ▪ Internal: institutional capacity; CBT; ▪ External: labor market demands; demographic shifts; IDPs support ▪ Disabling: teacher quality and training; social perception and cultural norms 	<ul style="list-style-type: none"> ▪ Internal: political support; limited human and technical capacity; dependency on government and external funding ▪ External: IDPs, participation in integration of ASEAN; rapid industrialization and shift toward a skills-based economy 	<ul style="list-style-type: none"> ▪ Enablers: Policy backing, Institutional and planning framework, BIAs and decentralizations; ▪ Disabling: Fragmentation in delivery; Insufficient relevance, Budget limitation Negative social perception

3.3 Progress in TVET development

3.3.1 Governance

3.3.3.1 Policies

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Governance						
Act	<ul style="list-style-type: none"> ▪ Presidential Decree in 2018 ▪ Education Law 2008 ▪ Labor law 1999 	<ul style="list-style-type: none"> ▪ Pakistan is the National Vocational and Technical Training Commission Act, 2011 	<ul style="list-style-type: none"> ▪ National Skills Development Authority (NSDA) Act 2018, ▪ Bangladesh Technical Education Board (BTEB) Act 2018, ▪ NSDA Rules 2020, ▪ Bangladesh Labor Law 2015 (Apprenticeship), 	<ul style="list-style-type: none"> ▪ National Education Act 2017 ▪ Vocational Education Act 2008 ▪ Skills Development Promotion Act 2002 	<ul style="list-style-type: none"> ▪ Labor Law 1998 ▪ TVET Law 2025 (Upcoming) 	<ul style="list-style-type: none"> ▪ Technical Education and Skills Development Authority (TESDA) Act of 1994 ▪ Vision: Globally recognized Philippine TVET as a catalyst for education and lifelong learning, workforce, and socio-economic transformation
Public structure	<ul style="list-style-type: none"> ▪ MoE, ▪ MOLE ▪ MoLSA ▪ TVET-A 2018 ▪ Afghanistan National Qualifications Authority (ANQA) 2008 	<ul style="list-style-type: none"> ▪ NAVTTC, autonomous body under MoE ▪ Provincial TEVT Authorities ▪ TVET Directorate under Regional governments 	<ul style="list-style-type: none"> ▪ MoE/ DTE, ▪ MoLE, ▪ NSDA, ▪ Ministry of Expatriate Welfare and Overseas Employment ▪ other 20 ministries ▪ BTEB ▪ Bureau of Manpower Employment and Training 	<ul style="list-style-type: none"> ▪ OVEC under Moe ▪ DSD under MoL ▪ TPQI 	<ul style="list-style-type: none"> ▪ National Training Board ▪ Ministry of Education, Youth and sports ▪ DGTNET under Ministry of Labor and Vocational Training 	<ul style="list-style-type: none"> ▪ TESDA Board as autonomous agency ▪ Department of Labour and Employment (DOLE), Department of Interior and Local Government (DILG), Department of Trade and Industry (DTI), Commission on Higher Education (CHED), Department of Education (DepEd), Department of Agriculture (DA),

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
						Department of Science and Technology (DOST).
(Weakness)	<ul style="list-style-type: none"> Lack of overarching governing and coordinating body Apart from TVET-A, other ministries are also engaged in skills training but largely uncoordinated 	<ul style="list-style-type: none"> Coordination challenges across ministries and authorities; 	<ul style="list-style-type: none"> NAVTTTC have dual responsibilities of regulatory and implementation The failure of the establishment of SSC 	<ul style="list-style-type: none"> Fragmentation Overlapping programs due to multiple stakeholder Incoherent policy Lack of coordination Centralized system restrict local flexibility 	<ul style="list-style-type: none"> Overlap in responsibility between MoEYS and MoLVT lack of a common framework for the recognition of prior learning 	<ul style="list-style-type: none"> Only 27.3% of BIA in the TESDA Board; TESDA conflicting roles as regulatory and delivery body; Duplication of training programs;
Relevant national plans	National Priority Program 2017	National Education Policy Framework 2018	<ul style="list-style-type: none"> 8th Five Year Plan. Integrated TVET Development Action Plan (ITDAP) 2016-2030 National Action Plan (NAP) 2022-2027 	<ul style="list-style-type: none"> National Strategy 2018-2037 13th National Economic and Social Development Plan (NESDP) 2023-2027 Thailand 4.0 Strategy 	<ul style="list-style-type: none"> Country's Pentagonal Strategy (Phase I) National Strategic Development Plan 2019-2023 Cambodia Education 2030 Roadmap 	National Technical Education and Skills Development Plan (TESDP) 2023-2028 Senate's Joint Resolution 10
Policy (Qualification Framework)	<ul style="list-style-type: none"> Afghanistan National Qualifications Authority Framework (ANQF) 	<ul style="list-style-type: none"> National Vocational Qualification Framework Recognition of Prior Learning 	<ul style="list-style-type: none"> Bangladesh National Vocational Qualification Framework Recognition of Prior Learning 	<ul style="list-style-type: none"> National Qualification Framework 2015 National Vocational Qualification Framework 2019 	Cambodia Qualification Framework 2012	<ul style="list-style-type: none"> Philippines Qualifications Framework Recognition of Prior Learning

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Private sector/ BIAs in governance	Equivalent to minuscule if not none	<ul style="list-style-type: none"> ▪ More than 50% at NAVTTC ▪ Average 46% at the province level ▪ Over 50% in the IMCs 	<ul style="list-style-type: none"> ▪ 8% at the NASDA ▪ Not in the MOE and MoWEW structure ▪ ISCs exist but not as governing stakeholders 	<ul style="list-style-type: none"> ▪ 9% at VEC Board ▪ Decisional and advisory meetings 		<ul style="list-style-type: none"> ▪ 27.3% in the TESDA Board ▪ RIBs exist but not as the governing stakeholder

3.3.3.2 Capacity to undertake evidence-based policy formulation

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Evidence	some level of information system	operational and institutionalized TVET MIS	introduced MIS systems; comprehensive policy document	operational and institutionalized TVET MIS	Contextual analysis, policy dialogue, interaction events, IDPs' engagement	High awareness of TVET and skills development
Weakness	Face capacity gaps and fragile context	systematic use of evidence in policymaking has yet to be institutionalized, and data quality and coverage remain with gaps	Lack of inclusion of all necessary baseline data and information	systematic use of evidence in policymaking has yet to be institutionalized, and data quality and coverage remain with gaps	Lacks indicators and associated baseline data	Gaps existing in translating the policy into practice

3.3.3.3 Governance Structure

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Governance	TVET-Authority	NAVTTTC as lead	NSDA as coordinating body and BTEB as quality assurance body	OVEC and regional offices under MoE	<ul style="list-style-type: none"> ▪ MoLVT: delivery, regulatory body (through DGTVET) ▪ MoEYS: delivery ▪ NTB: policy-making and oversight 	TESDA Board; The board and local TESD committees; Advisory councils for TESDA technology institutions (TTIS) DOLE, DepEd and other ministries

3.3.2 Effectiveness

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Qualifications and programs	ANQA, Below Bachelor's Degree level	NVQF, Level 8	BNQF, Below Bachelor's Degree level	NVQF, Below Bachelor's Degree level	CQF, Below Bachelors level	PQF, levels up to 5
Institutes	379 TVET institutions	3882 institutes (71% vocational training)	10,595 institutes (5000 privately managed institutes)	<ul style="list-style-type: none"> ▪ 877 institutions (49.4% from public sector and 50.6% from private sector) ▪ 84 DSD skills training Centers 	<ul style="list-style-type: none"> ▪ Total TVET Institutions: 328 TTIs (110 registered under MLVT) ▪ Curriculum: 188 Qualification for CQF L1-L5 ▪ Trainers: 2,069 Trainers in TVET Public institute 	4536 institutes (5.6% from public sector; 90% private sector)
Green skills	No information	Green skills within sectors such as agribusiness, water, and energy	Not a focus	Focus on green curriculum and sustainable development	The country has been working towards Green TVET initiatives includes integration of green TVET both in the workplace and relevant curriculum; and the 'Greening the Campus'. Similarly, awareness campaign events across	TESDA has developed the Greening TVET Framework and issued Labor Market Intelligence Reports. Policy and regulatory

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
					various provinces aiming to raise awareness among young people is an important start.	instruments are in place.
Digital skills	No information	DigiSkills.pk offers free online targeting digital economy NSIS with four wings: NEXT, Digitised M&E, Project management system and NVQ registry	Provision for emerging technologies including digital skills	Online courses offered	Government has focus on developing a digital economy, digital business, e-commerce, and digital innovation system; build and develop digital infrastructures; and developing trustworthiness building in the digital system. Online platforms during COVID-19 (TVETSMS, E-RPL)	In 2023 TESDA launched a digital skilling program for over 1.2 million learners aiming to certifications in cybersecurity, data and artificial intelligence, productivity, and digital literacy. Not a highly focused area of work
Training model	Traditional, school-based models, with limited workplace learning opportunities	Institute-based, Cooperative vocational training Teaching factory Work-based	Dual training	<ul style="list-style-type: none"> ▪ Institute-based ▪ Dual Vocational Training 	<ul style="list-style-type: none"> ▪ Center-based (traditionally institute-based), enterprise-based (all education and training in the enterprise) and community-based. 	<ul style="list-style-type: none"> ▪ Center-based (traditionally institute-based), enterprise-based (all education and training in the enterprise) and community-based. raining
Enrolment (Capacity)	80,000 (238,000 including informal sector training)	455,000	1,818,522 learners (short term: 350,074)	963,310	52,781	1,633,393 Learners under TESDA Online Program: 1,135,993 Uneven enrolment across the provinces

Integration

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Perception on purpose of TVET	<ul style="list-style-type: none"> Low prestige Considered as an option for national college exam failures >=80% achievers in TVET courses could choose to pursue general education 	Although improving but still considered as second option	Considered as second option	The recognition and acceptance of TVET is lower than general education	Blue-colour workers Preference to higher and general education	negative social perception
TVET structure/ Pathway	Up to Level 4. Graduates scoring 80% of above could joint higher general education	Level 8	Level 6 (Bachelor level in general education)	Up to Level 6 (Bachelor)	Up to associate degree at level 5	Level 5 and pathway to Bachelor in general education

Inclusion

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Gender inclusion	Females are excluded as they cannot further education beyond Grade 6	29% of the institutes are exclusively for female Of the total enrolment capacity, 33% is for females	29.53% females Govt emphasis on access of Persons with disability and Madrasah students	<ul style="list-style-type: none"> 40% of enrollment is female Male (75%) focused on industry-related programmes and female (66%) in business administration and commerce programmes 	Gender disparity exists in TVET enrolment (1/3 female); Scholarships particular for female from disadvantaged backgrounds	Female participation (51.42% in enrolment and 51.47% in graduation) Gender gap in TVET has been closed

Disability inclusion	provision of 16 disability-inclusive TVET institutions	acknowledge disability inclusion	NEP	Education for Persons with Disabilities Act 2008	acknowledge disability inclusion	TESDA scholarships
Special provision	Drop outs below grade 9 can return any time	rural populations, and religious minorities	rural populations, Madrasa students, and religious minorities	9,427 scholarships from EEF	ethnic minorities and the rural poor	Scholarship grants in TVETA Act 1994

Quality (Weakness)

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Policy provisions						
Accreditation system	Does not exist	Exists and is in operation using online platform	National bodies active, but with limited reach	National Education Standards and Quality Assessment (ONESQA)	Suggest to have put an accreditation system in place	Unified TVET Program Registration and Accreditation System (UTPRAS)
NVQ operationalization	NVQF introduced in 2008 but information on operationalization, it is limited to Level 4	Qualifications tied up with NVQ levels but with some limitations Level 5 and preparations for beyond	Exists but not operationalized	Up to Level 6, Bachelor	Up to level 5 (associate degree)	<ul style="list-style-type: none"> Level 5 and pathway to Bachelor in general education
CBT&A-based curriculum	Initial phase	Good progress; Competency based	Initial stage	System-wide and mandatory	Competence-Based Training and Assessment Policy developed by no evidences of implementation	Important strength of the program under TESDA
BIA engagement in quality assurance and implementation	Limited or unclear	<ul style="list-style-type: none"> NAVTTTC board 52% On average 46% in Boards IMCs have over 50% 	Present but less prominent	Special Economic Development Zones established Working Committee on TVET manpower	17.1% in NTB; 4 SSCs established in 2018; CAMFEBA; 15.5% institutes under private-sector management	Industry-responsive curricula were assessed to be weak

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
				with TVET institutions		
(Weakness)	None	Insufficient	insufficient	Not whole-of-industry engagement	Very weak	Weak in TESDA Board, six RIBs
Teachers (number)	3353 teachers (9.2% females)	Insufficient in number/ vacancy even in CoEs	55,338 (24.53% female) (large number of vacancies)	36,186 (14,828 public teachers and 10,007 private teachers)	2,069 trainers within public (Inadequate)	<ul style="list-style-type: none"> ▪ 24,796 accredited trainers ▪ 7699 accredited assessors
Teachers (quality)	(Not fully competent)	(Not fully competent)	(Not fully competent)	Lack of digital skills	(Insufficient)	(Not fully competent)
Teacher training provisions	TTTI and VTTI for teacher and trainers training	5 CoEs but 4 are engaged but yet to be fully operational	Technical Teachers' Training College (TTTC) and Vocational Teachers' Training Institute (VTTI)	OVEC	National Technical Training Institute (NTTI)	Quality of TVET services at the TTIs is serious concern
Teacher training provision	Lack of trained teachers; teachers lacked competencies	Center of Excellence;	Technical Teachers' Training College (TTC) and Vocational Teachers' Training Institute (VTTI)	15,000 TVET practitioners completed training organized by OVEC	Initial stage	National TVET Trainers Academy (NTTA)
(Weakness)	(Limited occupational skills upgradation (OSU) training)	Insufficient	(Insufficient delivery of TTTC/VTTI)	(Insufficient delivery)	Limited attention	(Insufficient delivery)
Laboratory/ equipment	Needs improvement	In the CoEs but the situation in most institutes need to be improved	Budget limitation	Well-equipped institutions, ICT-based	Insufficient	Budget limitation
Center of Excellence	Limited reach	4 in operation and one in progress	In place	70 Center of Vocational Manpower Network Management in	4	Mandatory CPD

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
				place and 30 to be established		
Accreditation bodies/ centers	Nascent systems; limited external validation	Trade Testing Board (TTB) and Bureau of Technical Education (BTE)	Bangladesh Technical Education Board	ONESQA	Initial stage	Utpras UNDER TESDA
Overall	Poor, graduates not industry-ready	Good practice in CBT&A	Under development	<ul style="list-style-type: none"> ▪ Not industry-ready ▪ Poorly trained teaching staff in the Dual Vocational Training ▪ Material shortage 	Quality of public TVET providers relatively low, and infrastructure, practical training equipment, and curricula and teaching-learning materials are insufficient.	CBT is under implementation; Shortage of trainers and competent assessors Face concerns regarding market relevance

3.3.5 Relevance

Relevance		Good progress				
Mismatch in demands and supply	Lack of BIA's participation and supply driven	Exists but towards improvement	Employment outcomes are only moderately successful	<ul style="list-style-type: none"> ▪ 39.59% labor demand ▪ 9.49% of graduates working in private sector, 17.11% of freelance, and 3.82% of others 	Supply-driven; Investment on level 5-6 whereas graduates from level 2-4 is largely needed	Training and post training occupation matching: 32% and 36% graduates
Market assessment for identification of demand (before offering programs)	Does not exist	Although, TVET III introduced the feasibility and tracer study, no evidence of their systemic institutionalization was available	No evidence of systemic institutionalization of market research	Quarterly survey conducted by MoL and survey from BIAs but lack of whole-of-industry data and assessment for long-term demand	Lack of sufficient information during the desk review	Market assessment for identification of occupations with demand
Weakness	Does not exist	Insufficient, regularity required	Insufficient	<ul style="list-style-type: none"> ▪ Insufficient ▪ Lack of whole-of-industry engagement 	Insufficient	Insufficient EBET enrolment is limited
Curriculum	Generally out of dated	CBT-A based, many recent and aligned with NVQ levels	CBT&A is at initial stage	<ul style="list-style-type: none"> ▪ Dual Vocational Training ▪ Work-integrated Learning Program 	Not properly materialized and lack of market relevancy	CBT-A based
Work-based training	Labor Law 1999 with OJT as a provision	Good progress – OJT, teaching factory and cooperative vocational training	Insufficient	Exists	Exists	4% enrolment in EBT

3.3.6 Private sector engagement/ Labor market interface (weaknesses)

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
BIAs' engagement in governance	Does not exist, not in the TVET-A Decree	NAVTTTC 52% Average 46% in Boards More than 50% in IMCs	2 out of 25 members of NASDA Board	9% at VEC Board	National Training Board – 5 representatives from BIAs and at least one representative of employers in the NTB with 35 members (17.1% at least)	27.3% in TESDA Board
(Weakness)	No evidence exists	Not over 50% in all Government departments for instance in GB does not have space	Limited representation	<ul style="list-style-type: none"> ▪ No specific governing body to coordinate BIAs' engagement ▪ Lack of a consolidated budget 	Only 17% of the National Training Board members are from BIAs Even all of them might not be expert workers.	Share of BIAs in TESDA is insufficient.
Sector Skills Councils (SSCs) or other instruments	Does not exist	Established but underperformed, almost failed	16 Industry sector councils	Does not exist	Four SSCs formed in 2018	5 Industry TVET Boards (ITBs),
Private sector managed TVET institutes	350 under MoLSA alone.	Growing number of private institutes	About 220 polytechnic institutes, 64 technical training institutes (TTCs), 35 technical schools and colleges, and over 900 other vocational training organizations/ centers	50.6% of private formal TVET institutes under OVEC	15.5% private institutes	90% of the TVET service providers are from the private sectors
BIAs in Workplace-based training	Only limited and no structured models reported	Good progress – OJT, teaching factory and cooperative vocational training	Limited WBT in RMG sector	Dual Training System ((16.4% of TVET enrolment), OJT)	Dual Training System; On-the-job Training (OJT); apprenticeship; traineeship; internship and Return to Industry Scheme (RIS)	<ul style="list-style-type: none"> ▪ OJT ▪ Enterprise based training
BIAs/ employers in school management committee	School management council (Shuras) but without BIAs	Strong IMCs (in public schools) and District Board of Management in PVTC schools BIAs role effective	Present but less prominent	Present and particularly active in special economic	Some TTI–industry initiatives	Institutional links exist

				development zones		
Cooperation between BIAs and TVET system	Not enough information	Improving	Insufficient	Improving	Weak	Insufficient
(Private sector institutes)	Exists	Exists	Exists	Exists	Exists	Exists

3.3.7 Outcomes

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Tracer study practices	No information on its practice	Practice in progress	Practice in progress	Practice in progress	Exists at national level but no information about its application at institute level	Practice exists
Employment outcomes (%)	Only limited information	52% under TVET III program under NAVTTC and EU/GIZ	39% (surveyed diploma-level graduates); DTE tracer study 2021 HSC- 23% SSC-11%	<ul style="list-style-type: none"> ▪ 9.49% of graduates working in private sector ▪ 17.11% of freelance ▪ 10.21% unemployed 	80% of TVET graduates received employment in the trained companies within 6 months of completing their training. • 78.5% of companies are satisfied with the competence of TVET students.	74 to 90 (Enterprise based training: 85.5%)
Employers' perception	No information	Employers are satisfied with CBTA graduates	Strong demand for skilled workers	Graduates lack competency required by employers	78% employer satisfaction	Positive

3.3.8 Efficiency

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Measures	Double shifts; combined general and TVET streams in 172 schools	NSIS, NVQ Registry, NEXT for MIS CoEs for joint training Some co-ed education schools providing education jointly to male and female students	Double shifts to enhance access	Performance-based budgeting, digital reforms, teacher networks	Growing enrolment under MoYES	TESDA-led governance; 90% private providers; RIBs for sectoral alignment
Challenges	Limited data; unclear outcomes and staffing effectiveness	Fragmented coordination between federal and provincial levels	Dropouts, reduced enrolment, teacher/staff vacancies	Low enrolment, duplication of TVET actions; dropout rate, institutional capacity for reform sustainability	High dropout under MoLVT; limited attractiveness	MIS needs further improvement

3.3.9 Funding

Indicators of good practices			Country			
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Public fund	Primarily by government IDPs complement	Primarily government EU in collaboration with Norwegian Government ADB and World Bank	Cover 70% of the public institutes	707,163 USD from OVEC under MoE	Insufficient funds	TESDA funding; scholarship provisions
Privately funded institutes	Large number of providers	Active; Large number of institutes under PVTC and private ownership	Large number of institutes under private investment	Scholarship sponsor and OJT	Not specified	Strong Private sector owned institutes

3.3.10 Affordability

Indicators of good practices			Country			
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Students	Fee-free under public structure	Low fees; scholarships and Zakat aid; But CBT costlier compared to traditional courses	SEIP; STEP (for learners/ students)	Low tuition; high indirect costs; limited stipends	Government provides financial support schemes for students from disadvantaged backgrounds	TESDA scholarship; Community-based training with minimal fees; TESDA online program
Government	For government reliance on IDPs	Dependent on external funds but policy-aligned investments increasing	Increasing national investment but external funding still important	Funding available, but at risk from competing sectors and not equally available to remote regions	Reform-oriented but dependent on external funds	External support important
Institutes	Limited budget	Capacity-building through CoEs and TEVTAs	Exploring cost-recovery; paid short courses	State-reliant with limited fundraising autonomy	Limited funds; efforts at PPPs ongoing	Strong PPPs and online infrastructure

3.3.11 Adoption-scalability

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Key Reforms Adopted	Pilot PPPs, CBT, qualification framework	CBT&A, CoEs, CVT/Dual VET, qualification framework and RPL	CBT&A, qualification framework and RPL	Dual VET, EEC model, qualification framework and RPL	Pilot the reform initiatives such as CBT	Localization; Standardized CBT curricula and assessment; Accessible TOP
Weakness	Limited institutional capacity, teacher shortages, gender restrictions	Curriculum gaps, infrastructure and trained staff constraints	Limited institutional capacity in some regions, reliance on external support	Geographic disparities, unprepared teachers, rural limitations	Lack of adoption in rural and remote areas	Resource gaps in EBET, limited reach in remote areas

3.3.12 Sustainability

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
National commitment	Weak (due to political instability)	Moderate with – strong frameworks	From policy and plan documents	Strong – embedded in 20-Year Strategy	National TVET Policy 2021-2030; Public funding; Efforts to develop PPP and sector-based training councils, BIA's engagement, develop staff capacity and ministerial coordination	Strong commitment

3.4 TVET system strengths and weaknesses

3.4.1 Strengths

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Policy	Presidential Decree in 2018	TVET Policy	Policy level commitment	Vocational Education Act 2008;	Government commitment; Substantial international funding; Growing industrial demand	Enactment of statutory provisions; EBET focused; NTESDP 2023-2028; Female participation
Strategies and Plans	Clear National TVET strategy	National Skills for All Strategy	NSDP	20-Year National Strategy (2018–2037)	<ul style="list-style-type: none"> ▪ Country's Pentagonal Strategy (Phase I) ▪ National Strategic Development Plan 2019-2023 	TESDP 2023-2028
Quality and Relevance	NVQF	National Vocational Qualifications framework	Bangladesh National Qualifications framework	NVQF 2019 Curriculum aligned with ASEAN standards;	NVQF/ Curriculum aligned with ASEAN standards;	PQF/ NTQF

3.4.2 Weaknesses

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Governance	Policy deficits; Fragmentation in the system and delivery	Limited coordination between NAVTTC and TVETAs	<ul style="list-style-type: none"> ▪ Fragmentation (23 ministries engaged); ▪ Multiple policies (NSDP 2011 and NSDP 2021) for TVET sector ▪ Centralized directives 	<ul style="list-style-type: none"> ▪ Fragmentation ▪ Overlapping programmes due to multiple stakeholder ▪ Incoherent policy ▪ Lack of coordination ▪ Centralized system restrict local flexibility 	TESDA's conflicting roles	Weak BIA representation; TSEDA conflicting roles; Duplication of training programs
Private sector engagement	Lack of BIAs' engagement in TVET governance	BIA's engagement is still weak and limited influence on decision-making	<ul style="list-style-type: none"> ▪ Weak (2/25 members of NSDA) 	Limited and SMEs are excluded	Lack of BIAs' engagement in TVET governance	Insufficient and weak, influence TVET development on relevance
Teachers placement	Insufficiently qualified teachers is one of the major weaknesses.	Insufficient	<ul style="list-style-type: none"> ▪ 50% positions vacant 	High teacher vacancy rate	Lack of qualified teachers with industry experience.	Shortage of trainers and competent assessors
Teacher training	Teachers often lack appropriate pre- and in-service training.	CoEs are established but they are not fully mobilized for the teachers' training purposes.	80% lacked proper teacher training No industrial training/ experience	Not fully implement the pre-service training	Insufficient	Insufficient
Curriculum	Only 50% of the institutes implement full curriculum	Despite successful experience and industry preferred CBT curricula, still traditional curricula are continued when funding available.	Little relevance to industry needs	Lack of industry sector inputs through process achieved	market irrelevance and lengthy processes for standards development	Slow development of standards

3.5 Key actors/ stakeholders and partnership

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Key stakeholders						
Public	MoE, MoLSA and TVET-A	MoE, NAVTTC	NSDA coordination and active BTEB	OVEC DSD TPQI	NTB, MoEYS, MoLVT,	TESDA and government ministries and departments
Private	BIAs Private schools	BIAs, Industry Sector Councils Private schools	BIAs, Industry Sector Councils Private schools	BIAs, Industrial Sectors Committee Private schools	BIAs, Sector Skills Councils Private schools	BIAs, RIBs/TIBs Private schools
Others	NGOs	NGOs	NGOs - UCEP	NGOs	NGOs	
IDPs	World Bank, ADB, GIZ, UNDP, Mercy Corps	EU, GIZ, JICA, Norwegian Government British Council	World Bank, ADB, EU, ILO, SDC	World Bank, ADB, EU, UNESCO, German	World Bank, ADB, AFD, Swiss, UN agencies and GIZ	ADB, ASEAN, ADB, GIZ, ILO

3.6 Key Issues and challenges

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Governance	Fragmentation, limited information about coordination efforts	<ul style="list-style-type: none"> ▪ Overlap between NAVTTC and provinces, ▪ NAVTTC as both quality assurer and implementation 	Too many government agencies in TVET	<ul style="list-style-type: none"> ▪ Fragmentation ▪ Overlapping programmes due to multiple stakeholder ▪ Incoherent policy ▪ Lack of coordination ▪ Centralized system restricts local flexibility 	<ul style="list-style-type: none"> ▪ Divided between MoEYS and MoLVT ▪ MoLVT engaged in implementation ▪ Academisation of TVET and vice versa but without effective coordination 	<ul style="list-style-type: none"> ▪ TESDA yet to be decentralized at optimum level ▪ TESDA engaged in implementation
Public perception	Perceived as an opportunity for academically weak	low prestige in the society	Second option	The recognition and acceptance of TVET is lower than general education	Blue-colour workers and low paying jobs	75% took competency assessment
Demands and supply	Mismatch exists	Mismatch exists	Mismatch	Mismatch	<ul style="list-style-type: none"> ▪ Unmet demand in the market ▪ Mismatch exists 	<ul style="list-style-type: none"> ▪ Unmet demand in the market ▪ Mismatch exists
Business and industry Involvement	Very limited or no	Uneven across the provinces	Very limited	Limited and SMEs are excluded	Limited	Insufficient and weak, influence TVET development on relevance
Informal sector training	Ustad-sagirda system	Ustad-sagirda system	Large proportion	Exists and free training provided by DSD of MoL	Insufficient attention/ education and training services	
Funding	Under resourced, Lack of development budget to institutes	Government funds insufficient for quality TVET	Inadequacy and delayed funding	Requires more budget	Insufficient	Limited budget for development

3.7 Lessons learned

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Participatory process	Important for implementation of ANQF	Dual responsibilities of NAVTTC limits the focus on quality and other TVET indicators	Progress towards CBT useful for quality assurance	State-led system and process limited local institutions' operation	Need for decentralization and clarity of mandates	Dual responsibilities of TESDA limits the focus on quality and other TVET indicators
Qualified teachers	A must	A must	A must	A must	A must	A must
Training model	Useable during time of crises, blend of on/off site education and training	Work based training best for outcomes	CBT	Dual Vocational Education	CBT	Enterprise-based training best for outcomes
Quality	Comprehensive quality assurance system	Comprehensive quality assurance system	Comprehensive quality assurance system	Comprehensive quality assurance system	Focus on physical infrastructure is insufficient, adversely impacts the quality	Comprehensive quality assurance system
Private sector/BIA engagement	Effective structures need funding and legal clarity; partnerships with BIAs yield better outcomes	Effective structures need funding and legal clarity; partnerships with BIAs yield better outcomes	Useful for improving curriculum	Contribute to labour force survey, and advisory meeting for policy making and quality improvement	For ensuring relevance and quality, partnership with BIAs is necessary	A must for quality and relevance

3.8 Major knowledge gap/ research agenda

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
	Governance and coordination; access and inclusion; relevance and outcomes; quality; integration; awareness and counseling; post training support; management	Weak coordination; governance; low enrolment; finance; teacher training; infrastructure; limited awareness; regular market study	Weak coordination; delivery of players; employment outcomes; limited work-based training; teacher training and digital literacy; integration of emerging technologies; funding	Weak coordination; BIAs' engagement; limited access; information mismatch; teacher training; low employment;	Weak coordination, TVET perception, gender equality, income outcomes, limited work-based training, BIAs engagement, teacher training, equipment, curriculum relevance, RPL, post training support; sustainable funding	In-depth study into the actors and factors responsible for the success or failure of specific interventions/events

3.9 Major conclusions and recommendations

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Governance						
Policies	Aligning TVET development with national policies; Governance and coordination	NSS 2018 and TVET Policy 2018 exist but a national level indicators and baseline-based comprehensive strategic reform plan is necessary	Policies and strategies but under MoE and NASDA. Need to be streamlined	Streamline the governance, minimize the fragmentation, and empower local authorities	Plethora of TVET policies and strategies but need to be streamlined	Aligning TVET development with national policies; Governance and coordination
Public sector dominated structure/ BIAs in governance	<ul style="list-style-type: none"> ▪ TVET-Authority at least 50% of BIA members ▪ BIAs in governance and Institute management 	<ul style="list-style-type: none"> ▪ NAVTTC needs to enhance BIAs participation ▪ SSCs to be established by law 	MoE and NASDA – need to have at least 50% of BIA members	Promote the number of BIAs representatives in the TVET governing system	MoEYS and MoLVT needs to have more collaboration with BIA	TESDA with at least 50% of BIA members
Apex body role	TEVT-A needs to focus on regulatory/quality assurance role	NAVTTC needs to focus on regulatory/quality assurance role	NSDA needs to focus on regulatory/quality assurance role	OVEC develop an effective management system	MoLVT and NTB develop an effective management system	TESDA needs to focus on regulatory/quality assurance role
Coordination/ Collaboration	TEVTA needs to be strengthened	Coordination between NAVTTC and TEVTAs	Further collaboration between MoE and NSDA and a large number of other providers	Collaboration between OVEC and multiple stakeholders	For effective coordination, integrated coordination mechanism using a multi-stakeholder approach Strengthen collaboration between general education and TVET stream	Collaboration between DepEd and TESDA

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Effectiveness						
NVQS operationalization for reform	Needs to start	Higher level pathways at Level 5 and beyond	Higher level pathways beyond Level 6	Higher level pathways beyond Level 6	Operationalization beyond Level 6 Bachelors level Credit system exists but needs to be implemented in a collaborative way Investment on L2-4 to meet markets need	Operationalization beyond Level 6 Bachelors level; Clarity on pathways between TVET and general education
Training model	Work-based training must be made compulsory	Work-based training (at least one form OJT, Teaching factory and cooperative vocational training) must be made compulsory	Work-based training must be made compulsory (for instance, OJT)	Dual Vet	Work-based training must be made compulsory	EBET/Dual Vet/ Work-based training must be made compulsory
Exclusion						
Exclusion of girls/females/ regions/ provinces	Female enrolment beyond Grade 6	Special initiatives	Special initiatives	Enhance female enrolment in STEM	Special initiatives	Enhance enrolments in the poorer regions
Exclusion of rural areas	Expand	Expand	Decentralization of TVET services	Accessible	Expand	Expand
Quality is challenging						
Accreditation system	Need to be introduced	Further strengthened, staff in place	Further strengthened	Staff in place	Accreditation system needs to be in place	Shortage of competent assessors
CBTA	Need to be strengthened	Scaled up necessary	Need to be strengthened	Scale up and consult input from BIAs	Scale up and consult input from BIAs	Review of standards and curriculum of

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
						demand courses is urgent
Weak laboratory	Investment	CoEs have great facility but it needs to be strengthened in other institutes	Investment	Investment	Investment is required for upgrading infrastructure, improving laboratories, and developing competency-based curricula and assessment tools.	Funding for market-relevant machines and equipment
Teacher training	Workplace based training for teachers	Operationalization of CoEs for this purpose Workplace based training for teachers	Training focusing on modern TVET and digital skills Workplace based training for teachers	Incentives provided to improve pedagogical skills, industry-specific knowledge and digital competencies	Workplace based training for teachers	Workplace based training for teachers
Workplace based training	Enhancement and widening	Widening and compulsory	Widening and compulsory	Stipend provided during the training	Widening and compulsory	Expand EBET
Relevance – mismatch between demand and supply						
Weak market research	Needs to be in place	Needs to be regularized	Needs to be regularized	Needs to be regularized	Needs to be regularized	Needs to be regularized
Skills gap assessment of the existing workers	Needs to be regularly done	Needs to be regularly done	Needs to be regularly done	Needs to be regularly done	Needs to be regularly done	Needs to be regularly done
Collaboration with BIAs weak	Need to start	Further strengthening	Further strengthening	Further strengthening	Further strengthening Co-design of curriculum	Further strengthening

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
		Capacity building of SSCs or other mechanism	Capacity building of ISCs or other mechanism		Capacity building of SSCs or other mechanism	Capacity building of SSCs or other mechanism
Tracer studies are not regular	Should be a regular practice	Should be a regular practice	Should be a regular practice	Should be a regular practice	Should be a regular practice	Should be a regular practice
Curriculum	Careful review of curricula and ensure their precise alignment with NVQF level descriptor requirements.	Careful review of curricula and ensure their precise alignment with NVQF level descriptor requirements.	Careful review of curricula and ensure their precise alignment with NVQF level descriptor requirements.	Careful review of curricula and ensure their precise alignment with NVQF level descriptor requirements.	Careful review of curricula and ensure their precise alignment with NVQF level descriptor requirements.	Review of standards and curriculum to align with IR4.0 requirements
Efficiency is under question						
Enrolment is low Limited pathways for higher education	developing competency and credit-based modular curricula	developing competency and credit-based modular curricula	developing competency and credit-based modular curricula	developing competency and credit-based modular curricula	Needs to increase through awareness on existing equivalency and recognition Inter-ministerial technical working group	Harmonize and establish pathways between TVET and higher education; Coordination between TESDA and general education authorities
TVET Perception						
Weak understanding of TVET	Strong public communication strategy and its operationalization	Strong public communication strategy and its operationalization	Strong public communication strategy and its operationalization	Promote success stories and easier navigation system	Strong public communication strategy and its operationalization	Strong public communication strategy and its operationalization

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
TVET as second opportunity for weak learners	Recognition at par general education Proper operationalization of NVQF for equivalency and recognition	Capacity building of SSCs or other mechanism	Capacity building of SSCs or other mechanism	Recognition at par general education	Capacity building of SSCs or other mechanism	Capacity building of SSCs or other mechanism
Evidence-based planning						
Knowledge gap	Investment in research based on the knowledge gap/ research questions	Investment in research based on the knowledge gap/ research questions	Investment in research based on the knowledge gap/ research questions	Investment in research based on the knowledge gap/ research questions	Investment in research based on the knowledge gap/ research questions	Investment in research based on the knowledge gap/ research questions
Sector indicators and baseline data	Needs to be updated	Needs to be established through comprehensive sector assessment	Needs to be established through comprehensive sector assessment	Needs to be established through comprehensive sector assessment	Needs to be established through comprehensive sector assessment A comprehensive action plan focusing on training instructors, modernizing curricula, and involving the private sector is considered important	Needs to be established through comprehensive sector assessment

Generalized conclusions (and recommendations)

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Augmenting perception to TVET	(Equal recognition and equivalency)	(Equal recognition and equivalency)	(Equal recognition and equivalency)	The recognition and acceptance of TVET is lower than general education	(Equal recognition and equivalency; public campaign)	(Equal recognition and equivalency)
Aligning TVET system with national vision	(Continue)	(Continue)	(Continue)	<ul style="list-style-type: none"> ▪ 13th NSDP ▪ Thailand 4.0 Strategy 2017 	(Continue)	(Continue)
Coordination and Collaboration among stakeholders	(Address fragmentation)	(Address fragmentation)	(Address fragmentation)	(Address fragmentation)	(Address fragmentation)	(Address fragmentation)
BIAs in governance	(Introduce)	(Continue)	Currently 8% (Increase to >50%)	<ul style="list-style-type: none"> ▪ 9% at VEC Board ▪ Decisional and advisory meetings 	Currently, insufficient (17.1%), (Must be increased)	Currently, insufficient, (Must be increased)
Focus of TVET body	<ul style="list-style-type: none"> ▪ (Strengthening the regulatory framework ▪ Focus of regulatory system on quality) 	<ul style="list-style-type: none"> ▪ (Strengthening the regulatory framework ▪ Focus of regulatory system on quality) 	<ul style="list-style-type: none"> ▪ (Strengthening the regulatory framework ▪ Focus of regulatory system on quality) 	<ul style="list-style-type: none"> ▪ (Strengthening the regulatory framework ▪ Focus of regulatory system on quality) 	<ul style="list-style-type: none"> ▪ (Strengthening the regulatory framework ▪ Focus of regulatory system on quality) 	<ul style="list-style-type: none"> ▪ (Strengthening the regulatory framework ▪ Focus of regulatory system on quality)
Inclusion of girls/females	(Review policy)	(Review policy)	(Enhance inclusion)	(Enhance inclusion)	(Enhance inclusion on enrolment)	(Even enrolment across provinces)

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
NVQF operationalization/ integration	Framework exists but operationalization remains (Operationalize)	Framework exists (Operationalize at level 6 and beyond remains)	(Operationalize)	Framework exists and needs integration in practice	Exists (Operationalize at optimum level)	Exists (Operationalize at optimum level)
Integration/ permeability	(Through equivalency with and recognition at par general education)	(Through equivalency with and recognition at par general education)	(Through equivalency with and recognition at par general education)	(Through equivalency with and recognition at par general education)	(Through equivalency with and recognition at par general education)	(Through equivalency with and recognition at par general education)
Flexible and modular curricula and certification	(Need to develop)	(Need to develop)	(Need to develop)	(Need to develop)	(Need to develop)	Exists (But need to align with Level Descriptors)
Focus on training model	(Work-based training)	(Work-based training)	(Work-based training)	<ul style="list-style-type: none"> ▪ Dual Vocational Education ▪ Work-based training 	(Work-based training)	(Increase enrolment on EBET)
Relevance	Mismatch continues (Engage BIAs)	Mismatch continues (Continue engagement of BIAs)	Mismatch continues (Continue engagement of BIAs)	Mismatch continues (Continue engagement of BIAs)	Mismatch continues	Mismatch continues
BIAs in curricula development	(Enhance engagement)	Engaged (Continue)	Engaged (Continue)	Engaged (Continue)	Lack of engagement	Insufficient
Market studies	Only limited (Establish and continue)	Only limited (Establish and continue)	Only limited (Establish and continue)	Only limited (Establish and continue)	Only limited (Establish and continue)	
Quality						
<ul style="list-style-type: none"> ▪ Accreditation system 	(Establish and operationalize)	(Continue and scale up)	(Strengthen)	(Continue and improve)	(Proper operationalization)	(Continue and improve)

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
					of accreditation system)	
<ul style="list-style-type: none"> ▪ Infrastructure 	(Improve)	(Improve)	(Improve)	(Improve)	(Improve)	(Improve)
<ul style="list-style-type: none"> • CBT 	Only limited (Improve)	(Improve and scale up)	(Improve and scale up)	(Improve and scale up)	Only limited information on CBT development and implementation exists.	Regulated in policy and it has been a strength of the programs under TESDA; The review of standards and curriculum of demand courses is urgent
<ul style="list-style-type: none"> • Teacher training 	(Capacity building activities)	(Capacity building activities)	(Capacity building activities)	Teacher training programs at the tertiary education level	(Capacity building activities)	(Capacity building activities)
<ul style="list-style-type: none"> ▪ Capacity building of training provider 	(Capacity building activities)	(Capacity building activities)	(Capacity building activities)	(Capacity building activities)	(Capacity building activities)	(Capacity building activities)
TVET MIS	Start the digital system	Continue		Data updated by OVEC on a regular basis	Accessing aggregated, reliable, and comprehensive employment market information is difficult (Establish EMIS)	Review the provisions and mechanisms to digitalize the Public Employment Services

Indicators of good practices	Country					
	Afghanistan	Pakistan	Bangladesh	Thailand	Cambodia	Philippines
Digitization and digitalization	(Necessary)	(Improve and continue)	(Necessary)	(Improve and continue)	(Necessary)	(Improve and continue)
Strategic action plan	Does not exist	Does not exist		National Education Strategy (2017-2036)	Exist	NTESDP 2023-2028
Evidence based policy	(Needs improvement)	(Needs improvement)	(Needs improvement)	(Needs improvement)	(Needs improvement)	(Needs improvement)
Baseline data	(Needs to be updated)	Does not exist (Introduce)	Does not exist (Introduce)	(Needs to be updated)	Does not exist (Introduce)	Does not exist (Introduce)

Annex 4: List of Experts Consulted

Country	Name	Position/ Organization
Afghanistan	Dr. Abdul Hameed Omar	Program Manager UNDP Afghanistan
	Mr. Abdul Rasheed Ahadi	TVET Expert
Pakistan	Mr. Abdul Qayyum	TVET Expert
	Mr. Muhammad Aasim	Deputy Director, National Vocational and Technical Training Commission
Bangladesh	Mr. Firoj Alom Molla	TVET Expert
	Mr. Zakir Hussain	TVET Expert
Thailand	Dr. Siripan Choomnoom	President, Institute of Vocational Education Bangkok Council, and Vocational Education Commission Member
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