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Historical Evolution of Technical and Vocational Education and Training (TVET) in Bangladesh: A Comprehensive Study

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ABSTRACT

The study provided a historical analysis of Technical and Vocational Education and Training (TVET) in Bangladesh, investigating development from pre-colonial to post-independence period as well as the existing policies. The aim was to review the evolution of the health institutions, policy processes, and externally funded interventions that influence the sector. This study used a qualitative historical research method based on government reports, policy papers, academic publications and international agency archives. Using thematic analysis key phases in TVET development were recognized, including the emergence of early trade schools and their post-independence expansion as well as the more recent move to competency-based training. The study also demonstrates important impacts of programs like the TVET Reform Project, Skills 21, SEIP, STEP and SUDOKKHO in increasing accessibility, industry engagement and curriculum quality. Yet key challenges in Pakistan continue such as weak teaching force, gender gaps and governance fragmentation. This is the unique contribution provided by the study, which synthesizes a combination of historical and institutional contexts shaping how policy reform had been adopted or not and donor engagement in the process but also local implementation. Using secondary data from a large nationally representative household and TVET provider survey, the study aims to provide directions to policymakers in Bangladesh for future sustainable, gender-inclusive, and market-responsive TVET strategies.

INTRODUCTION

Technical and Vocational Education and Training (TVET) is considered to be an important mechanism for providing individuals with applied education which is related to the job (Yunos, 2023). In Bangladesh, TVET is considered to be one of the major components that can contribute to enhancing employability and economic growth in a developing country with its problem of youth unemployment and underemployment (Rahman *et al.*, 2021). The historical progression of TVET in Bangladesh has been influenced by colonial patterns of state involvement in the economy and society, post-colonial nation-building action, and recent global pressure to develop workforce skills (Sarder, 2023). The provision of technical and vocational education and training, or TVET, is a must if we are going to equip people with the real skills and competencies they require in the workplace and so in life too, where such skills also have their application. TVET is now a significant component of national development policy in developing countries like Bangladesh, with problems of youth' unemployment, rapid population growth, and skill mismatch being longstanding issues (Alam *et al.*, 2024). The aspiration of becoming the middle-income country by the government and its increasing presence in the international labor market, particularly the labor migration, have also made TVET increasingly important in recent years (Razzaque *et al.*, 2025). History of Technical and Vocational Education in Bangladesh Technical education needs in

the country began to be felt due to the industrialization and commercialization of its economy during the colonial period and it is the period when Bangladesh was a part of British India where little attention was paid to the development of technical education and the training system was very artless and meant to connect the need of the colonial businesses (Fahmida Khatun, 2018). The revitalization of the economy and the reduction of widespread poverty were the most pressing concerns after independence in 1971. It was recognized that TVET was an important tool for developing the economy and the workforce. Be that as it may, the government of Bangladesh initiated several programs to develop and diversify the TVET system gradually in collaboration with different foreign development partners (Sultana, 2022). These measures were the establishment of vocational training centers, the adoption of national legislation, as well as indicators, skill evaluation and certification framework development at national level. The establishment of the Directorate of Technical Education (DTE), the national Skills Development Policy (NSDP) in 2011 and the National Technical and Vocational Qualifications Framework (NTVQF) are crucial landmarks in the history of TVET in Bangladesh (Debapriya Bhattacharya, 2021). Moreover major grant funded ILO, EU, GAC has contributed to TVET reform project, BSEP, SKILS 21 and Progress project and donor-funded initiative like Skills and Training Enhancement Project (STEP) and Skills for Employment Investment

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Program (SEIP) has been focusing in curriculum relevance, PPP and infrastructure development in the skills sector (Islam, 2021). Despite these achievements, Bangladesh's TVET sector has certain challenges to overcome. These challenges are: shortage of skilled teachers, social bias towards the academic rather than vocational education, limited availability of high quality training programs – particularly in rural areas as well as lack of linkage with industry' (Shimu & Haolader, 2025). To overcome these challenges, a deeper understanding of the context within which the TVET system has evolved is required, combined with a critical analysis of the interventions and reforms that have shaped its present form. This study seeks to trace the history of TVET in Bangladesh, analyze major policy changes/reforms, identify the problems confronting TVET and consider the reasons beneath the failing of TVET sub-sector. This article analyses the development of TVET in Bangladesh, focusing on reforms, structures, and current challenges. In doing so, it seeks to provide insights into which VET policies and strategies are best suited to shaping future directions of vocational education and training in Bangladesh and more effectively aligning this system with international labor market trends as well as national development aspirations.

LITERATURE REVIEW

Some of these include policy reforms, implementation programme of education, changing labor market needs, and so many (Haolader *et al.*, 2017), it is all this that has led to a remarkable transformation in the TVET scene in Bangladesh. Focusing on the role that the TVET system is playing in providing the workforce with the right skills desired by domestic and external labor markets, an increasing body of literature has investigated these changes (Chowdhury & Sarkar, 2018). The year 2011 marked a landmark in the modernization of the TVET sector with the enactment of the National Skills Development Policy (NSDP). The NSDP aimed to create a demand-led, more coordinated skills development system which was responsive to employers and targeted at/improving employability, equity, and quality of provision (Ntholeng, 2024). It proposed an integrated institutional structure, which consists of NTVQF and the National Skills Development Authority (NSDA) at the national level (Haolader & Shimu, 2024). The NTVQF since then became an important tool for national qualification and skill level benchmarking. Enforcement has been rather loose given the strong policy commitment (Veeraraghavan & Pokharel, 2024). Managing solid industry relationships, reviewing results and ensuring quality assurance are still problematic. Based on these findings, it is revealed that, although there is an increase in the number of students that enroll in TVET, however, most schools still face the challenges of poor facilities, limited availability of modern equipment, and lack of teachers (Makibinyane & Khumalo, 2021). (Raihan *et al.*, 2022) analyzed the Skills and Training Enhancement Project (STEP) and

the Skills for Employment Investment Program (SEIP). By supporting 93 public and private polytechnics, STEP transformed the quality and relevance of TVET (T. Chowdhury *et al.*, 2022). It fostered the new generation of competency-based training methods and introduced performance-led management programmes. Similarly, the SEIP targeted industry-specific training efforts to enhance employability via demand-driven skilling and public-private partnerships, particularly in ICT, construction and clothing (Mahmood, 2022). Efforts have been made to increase participation of women through stipends and gender-friendly facilities but still due to socio-cultural norms and awareness problems they could not engage fully as pointed out by (Rizwan, 2014). Moreover, in terms of funding and industry links, TVET programs in the bush do not have much to compete with those in urban centers. The need for 21st-century skills to be incorporated in technical instruction, such as digital literacy, problem solving, and communication, has occurred occasionally in the finding of (Mutohhari *et al.*, 2021). The COVID-19 pandemic accelerated the conversation around blended and online learning in TVET; and in this respect, resulted in serious shortcomings in the digital infrastructure and preparedness (Hondonga & Chinengundu, 2021). The crucial role for digitalization to be integrated within the TVET ecosystem, digital assessment tools, e-learning platforms, and virtual simulations were underscore by Grech and Camilleri (2020). In a regional and global context, for the TVET system in Bangladesh relating to those in other South Asian countries, (Darling-Hammond *et al.*, 2017) stressed the needs for improving regional cooperation, aligning qualifications with international standards and increasing investment in teacher professional development and quality of teaching. The government's dedication to connecting TVET with export-oriented enterprises, industrial zones, and foreign employment is also highlighted in (Postiglione & Tang, 2019). According to (Ding Fei, 2024), between 2020 and 2022, almost 3.5 lac student received training and certification from BTEB and 200,000 students received training through NSDA-coordinated programs, with a growing focus on skill certification for immigration purposes.

This study demonstrates that despite its impressive strides in developing a responsive and inclusive TVET system, Bangladesh still faces major challenges in terms of industry engagement, quality, access and future receptiveness. In summary, to address the changing requirements of both the domestic and international workforces, academics recommend that the evaluation of TVET be shifted from an output-oriented model to an outcome-oriented model and that more attention be given to reskilling and lifelong learning.

Objectives of The Study

The purposes of this study are to:

1. Discuss the evolution of TVET in Bangladesh from the pre-independence era to the present.

2. Identify key policies and reform that influenced provision in TVET.
3. Consider strengths and weaknesses of institutionalization processes and donor interventions.
4. Examine the current problems and potential of the TVET system in Bangladesh.

MATERIALS AND METHODS

A qualitative historical research design was used in this study to explore the history of TVET in Bangladesh. We used multiple secondary data sources including government reports, policy documents, academic literature, donor agency archives and international databases for the estimation of cancer burden in India. Reports from the program as well as official records were reviewed, along with records kept by the Directorate of Technical Education (DTE), Bureau of Manpower, Employment and Training (BMET), and Ministry of Education. Sources were selected based on their implications for TVET policy changes, institutional transformations and donor interventions spanning from the colonial period to present. Findings were categorized as per thematic analysis into main phases of TVET

development: colonial foundations, post-independence expansion, competency-based training reforms and recent donor-supported programs. Data triangulation across various sources strengthened interpretation credibility and historical sequencing provided a precise account of the evolvement of policy and institutional changes over time.

RESULTS AND DISCUSSION

This section summarizes the thematic review of the past and present of Technical and Vocational Education and Training (TVET) in Bangladesh. Four main themes (historical development, institutional and policy change, donor-led programmes and enduring issues and gaps) were collated from the analysis of secondary source material to address the purpose of the study. These phases directly related to the study aim of tracking institutional development, policy framework and donor sway.

TVET's Historical Development in Bangladesh

Four significant periods can be identified in the history of TVET in Bangladesh: Colonial, Post-Independence Reconstruction, Reform and Expansion (1990–2010) and Modernization and Policy Driven (2011–till date).

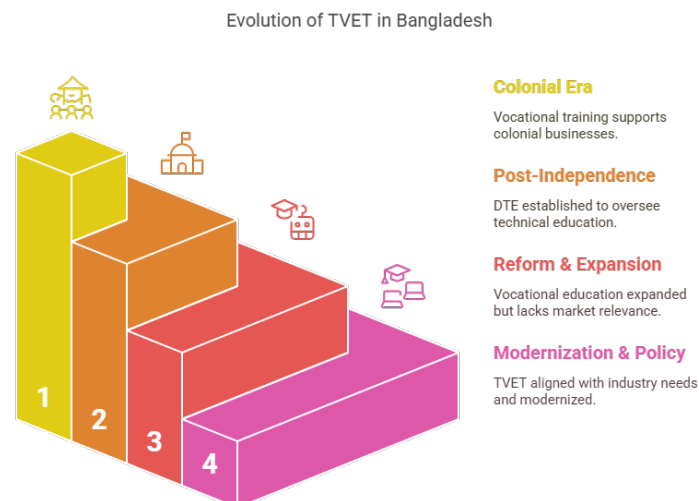


Figure 1: Evolution of TVET in Bangladesh

Figure 1 shows that, colonial businesses during British colonial rule were served by limited technical institutes and informal apprenticeships for vocational training (Kumar, 2018). To oversee technical colleges and polytechnics, the Bangladeshi government established the Directorate of Technical Education (DTE) in 1971, acknowledging the important role of vocational education in the reconstruction of the nation. The government established second level of vocational courses and opened numerous public technical institutes in 1980s and 90s, yet they were insufficient by 21st century standards. During that time, there was no relationship between TVET colleges and industry requirements which meant that graduates could not be placed and that the content taught was often outdated. Vocational education under the colonial dispensation was largely in response to requirements for administrative

and industrial labor. There was a rapid expansion of technical institutes following Indian independence but the fragmented curricula and poor industry linkages in such institutions is documented to have similar challenges in Pakistan and Nepal (ADB, 2015).

Reforms in Institutions and Policies

A major milestone was achieved in 2011, when the National Skills Development Policy (NSDP) that aimed at bringing about “convergence and coherence across different sectors, improving access and equality, responsive training and speedier decisions” was formulated. The emphasis of the strategy was to focus on the importance of decentralization, involving private sector, gender balance and reaching out to marginalized groups (Friis-Hansen & Kyed, 2009).

Achieving a Cohesive Skills Development Framework

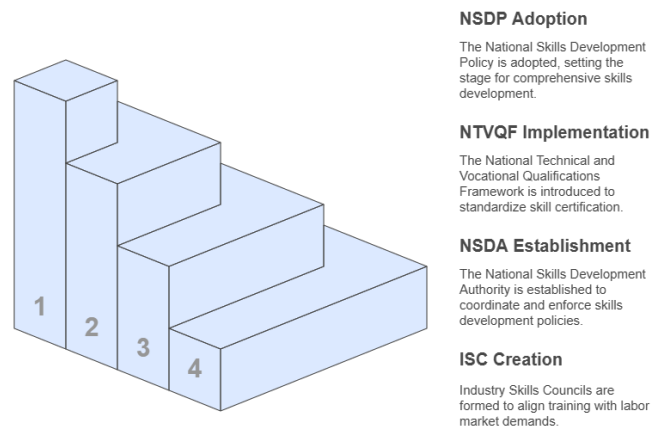


Figure 2: Reforms in Institutions and Policies

Figure 2 represents the NSDP established the NTVQF to enable labor market mobility by standardizing classifications of skill certification across the NSDP sectors and to facilitate recognition of prior learning (RPL). One such institutional reform aimed to improve coordinating and policy enforcement mechanisms was the creation of Bangladesh Technical Education Board (BTEB) and National Skills Development Authority (NSDA) (Ganguly *et al.*, 2019). BTEB and NSDA's accreditation, training provider registration and quality assurance function contributed towards a structured TVET system. Establishment of industry skills councils (ISCs) under the NSDA has provided scope for greater communication between employers and training providers in order to ensure that the training offered is matched to labor market demands. The early 2000s seen the introduction of competency-based

training, being promoted by ILO and World Bank at the time; quickly becoming an acceptable way to ensure 'employability' and skill relevance via policy waves in different countries. Approaches in Bangladesh seemed no different from those taken elsewhere to ensure donor-driven revitalization of the curriculum through programs like the TVET Reform Project, Skills 21 as well as SEIP (Rahman *et al.*, 2021). Comparative analysis reveals that even though donor-led reforms in Bangladesh boosted standardization of training systems; sustainability was less robust than Malaysia's industry-driven TVET ecosystem, indicating some degree of reliance on external sources.

TVET Programs

The basic trade course (360 hours, 95 trades) and CBT&A course (51 occupations) are under the BTEB's formal training program.

TVET Programs and Providers in Bangladesh

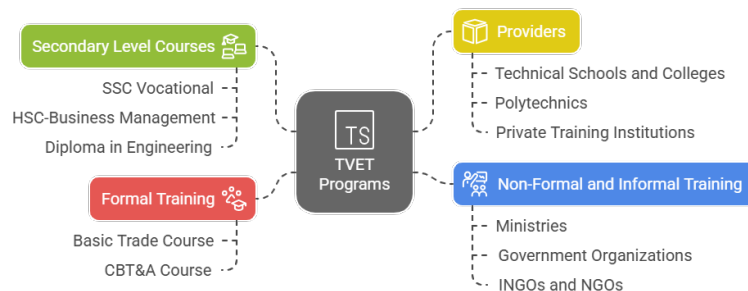


Figure 3: TVET Programs and Providers in Bangladesh

Figure 3 shows the other courses are the SSC (vocational), Dakhil (vocational) of Madrasa Board, HSC (business management), HSC (BM), Diploma in Commerce, Diploma in Engineering (32 technologies), textile engineering (4 technologies), agriculture, fisheries, forestry, and all other HSC courses as well. Government

and private technical schools and colleges, polytechnic institutes and private training institutions provide official TVET provision, courses, and programs, facilities for technical training and specialized institutions through the country in Bangladesh. The same as the provinces, the non-formal and informal skill training is provided

by ministries, government organizations, INGOs and NGOs. The gap between the enrolment of women and men was still very noticeable when considering technical and vocational training (TVET), where, despite growing numbers overall, female students accounted for less than 30%. This is in line with trends in many South Asian countries, but differs from the Rwandan example which subsequently enjoins female participation above 45% (Mutohhari *et al.*, 2021). Learning from the evidence presented above, strategies in such settings to overcome

socio-cultural constraints of female participation can be good lessons for Bangladesh.

Institution, Teacher and Enrolment

The Technical and Vocational Education and Training (TVET) sector in Bangladesh is governed by the Bureau of Manpower, Employment and Training (BMET) and the Directorate of Technical Education (DTE) of Bangladesh, under the Ministry of Education for primary formal TVET provision.

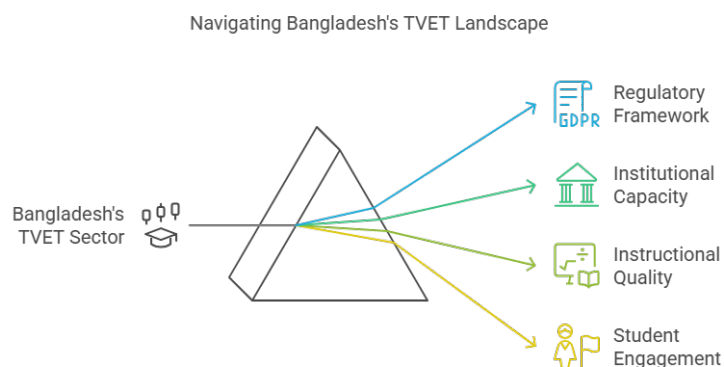


Figure 4: Navigating Bangladesh's TVET Landscape

More than 1,300 public, private and non-governmental organizations work in the country. There are many private training centers that offer diploma, trade and short-term skills courses, as well as significant public institutions including 64 technical school and colleges (TSCs) and 49 polytechnic colleges (Figure 4). Despite this expansion, the sector is facing serious challenges in quality of instruction and teacher supply. Current and relevant training is stifled by a school system with a lack of hands-on experience and ongoing professional development. The Technical Teachers Training College (TTTC) in Dhaka, even with its limited capacity because of the growing demand, is key to training of TVET instructors. Though TVET enrolment has been increasing gradually, reaching more than 750,000 students in recent years, there are still disparities, particularly along gender lines (just over 30% of all students are women) and between rural and urban access. Retention and delivery rates vary, but ICT, clothing, construction and hospitality are popular

fields for enrolment. A more comprehensive approach is required to tackle the large gaps as regards teacher development, institutional capacity and inclusive student engagement though the government and development partners have implemented several interventions to expand access and improve quality. At all three bands teacher shortages and weak pedagogical capabilities remained stubborn obstacles, which mirrors UNESCO-UNEVOC (Alam *et al.*, 2024) inferences that the quality of TVET is directly related to the capacity of its teaching workforce especially in low- and middle-income nations. Even after ToT initiatives of programs, Bangladesh continues to have a 25–30% gap in content-qualified teachers, limiting the scalability of reforms.

Programs Run by Donors and Their Effects

The reform of the TVET sector was largely influenced by the participation of external development partners.

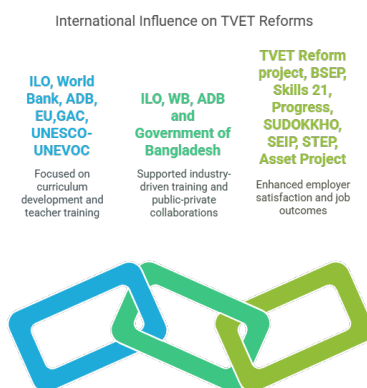


Figure 5: International Influence on TVET Reforms

Figure 5 represents the TVET reform project supported by ILO and European Union; the Skill and Training improvement Project (STEP) supported by the World Bank and CIDA attempted to enhance the development of curriculum, teacher preparation and governance in polytechnics (Soodeen, 2018). It invested in capacity building projects, like development of educational materials and training for TVET teachers, and it introduced performance based payment systems. Similarly, the ADB and the Government of Bangladesh backed the Skills for Employment Investment Program (SEIP) targeting unemployed youth and those working in the informal sector. In such sectors as construction,

leather, ICT, and ready-made-garments (RMG), it encouraged industry-led training initiatives and public-private partnerships. Third, findings show that employer satisfaction for trainees' skills as well as employment performance have improved as a result of SEIP, as research and evidence suggest.

Continuous Difficulties and Deficits

However, the performance of the TVET system is somewhat impaired by a few remaining problems despite the progress made. One of the most persisting issues is society's perception of TVET being the inferior to the normal type of school education.

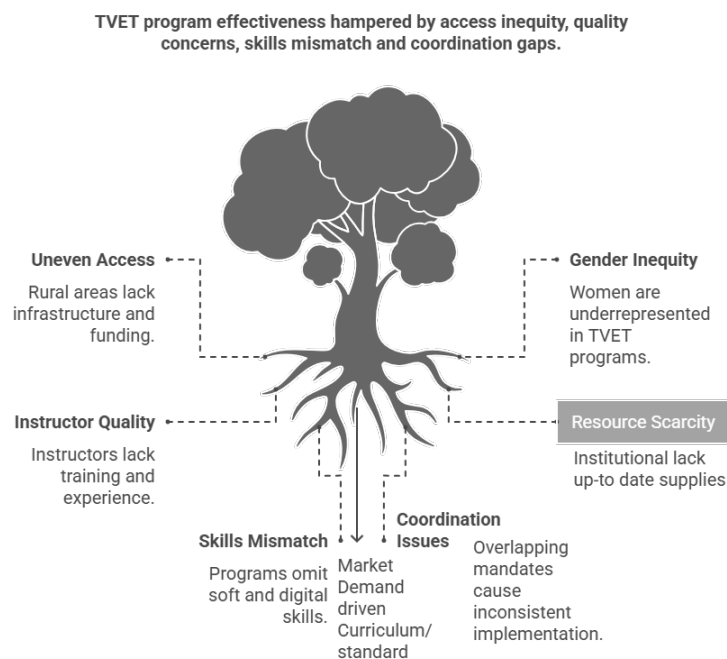


Figure 6: Continuous Difficulties and Deficits

The widespread perception of vocational training as the poor cousin to academic studies makes it an unattractive option to high achieving students, their parents and employers (Szymanski, 2021). But access remains uneven, especially in rural and remote areas that lack infrastructure and have underfunded organizations (Figure 6). Even after targeted stipends and affirmative action, women remain a minority of applicants, revealing a stubborn gender disparity. Another such issue is the quality of education - many TVET teachers do not have the necessary pedagogical training or industrial experience, and institutions are often not equipped with current resources and equipment. The insufficient embedding of soft skills and digital competence in training processes is another key issue. The lack of ICT training, entrepreneurship modules and life-skills in the traditional TVET curriculum of Bangladesh leads to dissonance between the outputs of the training and the demands of the job markets as the country steps onto the digital economy and expands its IT-enabled service sectors. In addition, there is poor coordination across authorities (MOE; MOL; Private

partners) and between various actors resulting in lack of coherence in program delivery and overlap in efforts. Learning outcomes, the scale of job placement or longer-term impact on livelihoods are difficult to trace at a time when monitoring and evaluation systems are at an early stage of development.

Thematic Analysis

The thematic analysis revealed that, while Bangladesh has attempted to re-organize and modernize its TVET system, some challenges in its implementation were faced due to snags of implementation and lack of structural soundness.

In the below Figure-7 shows that, policies, models and commitment to institutional investment are all evidence of the country's commitment to skills development. But in order to derive maximum dividends out of TVET, input centric planning (including enrollment and infrastructure) should be replaced by outcome oriented approach wherein quality, employability and lifelong learning are placed top. The potential preparation of the workforce

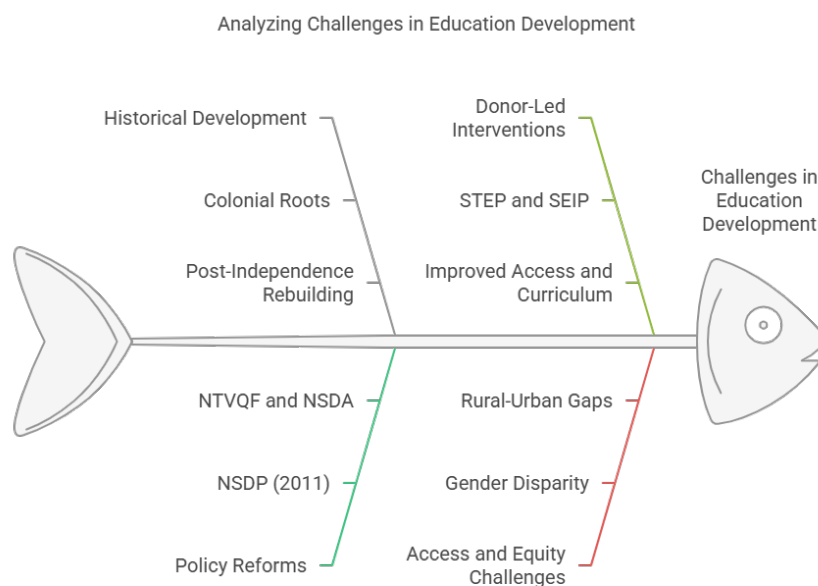


Figure 7: Thematic analysis of the study

for the future lies in the greater integration of technology, entrepreneurship, and green skills in TVET curricula. It will take lobbying and success stories to change societal perceptions about TVET and turn it into a recognized mainstream career direction, and ensuring industry's real engagement in curriculum design.

CONCLUSION

The paper examines the history of expansion and evolution of a sector-wide approach to TVET development in Bangladesh drawing on processes of institutional building, donor intervention and reform outcomes. The results also showed that, despite the expansion of TVET, quality, industry focus, and inclusivity continue to pose daunting problems. Curricula have been upgraded and competency-based training introduced through donor-funded program such as the TVET Reform Project, Skills 21 and SEIP yet gaps around sustainability and teacher readiness starve long-term impact. Future TVET policymaking should focus on: (1) creating sustainable, locally sourced funding models, to move away from donor dependency; (2) partnering with industry for curriculum-market alignment; (3) institutionalizing teacher training in response to skill gaps, and (4) employing specific strategies for increasing female and marginalized group participation—also in line with national development goals. Policy alignment, stakeholder collaboration, and systematic monitoring would thus enable Bangladesh to develop a resilient, inclusive and economically relevant competency-based approach in the TVET system.

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