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Skilling Youth through Industry Linkages: Case of Nepal

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Abstract

Nepal is in the phase of gaining its demographic dividend where more people have the potential to be productive and may contribute to achieve rapid economic growth. However, most of this productive age group lacks engagement in gainful employment both in domestic as well as international market. This paper scrutinizes the present TVET practices, identifies the gap and envisions systemic TVET implementation mechanism that ensures affordable access to TVET and a decent job for the productive age group of Nepal. The paper concludes that the linkage of industry with TVET, where industry plays a vital role in the implementation ecosystem, will serve in optimum utilization of the productive age-group.

Keywords: Technical and Vocational Education and Training (TVET), TVET curricula, workplace-based learning, decent job, employability skills

Preface

The population of Nepal stands at 26,494,504 with an annual growth rate of 1.35 percent. The population by age group up to 18 years is 44.42 percent and the share of the population of 15-49 age cohort is 50.6 per cent (Central Bureau of Statistics, 2011). The figure indicates that Nepal is in a demographic transition and stands to gain its demographic dividend where more people have the potential to be productive and may contribute to achieving rapid economic growth. However, in the present context of Nepal, many of this productive age group lacks engagement in decent and gainful employment in domestic as well as in international market. Poudyal (2013), claims that on an average at least one in every four households migrates in search of a job. Most of them migrate without essential competencies required for the decent job and therefore, the remuneration they get is also minimal. Thus, the migration of productive youth has started creating an unbalanced and adverse impression in economic as well as in social segment. The scenario of the domestic market is even worse.

To some extent, the cross-border workforce has captured the domestic market and even the domestic employers seem to prefer hiring cross-border workforce over domestic workers. Why is this so? Why are the domestic employers prefer avoiding local workforce? Is this because of a lack of affordable access to Technical and Vocational Education and Training (TVET) opportunities for the Nepali youths? Is this because of the lack of market-responsive TVET programs or is it because of skilling youth without industry linkages? Is this because Nepali TVET programs lack the skills required for the world of work? Or what else? This paper aims to seek answers to these questions by reviewing the existing policies, documents and practices in connection to the Nepali TVET system. Additionally, it envisions the systemic TVET implementation mechanism for Nepal.

TVET Setting of Nepal

Nepali TVET can be officially traced since 1929, with the establishment of Ayurvedic School. Then, an engineering school in 1930, twenty-nine multipurpose high schools in 1960, Balaju Technical Training Centre and Mechanical Training Centre in 1961, the National Vocational Training Center (NVTC) in 1967 were established. The new education system plan (NESP) was introduced in 1971 that attempted to establish vocational education in every secondary school throughout the country. Karnali Technical School and Skill Testing Authority were established in 1982 and 1983 respectively after the establishment of Directorate of Technical Education and Vocational Training in 1980 (CTEVT, 2019). Council for Technical Education and Vocational Training (CTEVT) was constituted under a separate CTEVT Act, 1989 as a national autonomous apex body with the mandate of the policy formulation, coordination, facilitation and implementation of all types of TVET programs/providers including quality assurance of TVET in Nepal (Ghimire, 2013) as depicted in Figure 1. In addition, CTEVT certifies and accredits skills that are learned formally or informally (CTEVT, 2016).

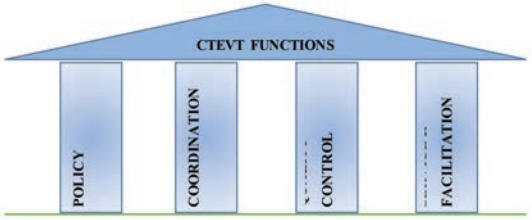

Figure 1. **CTEVT Functions**

Presently, TVET of Nepal is guided by the TVET Policy, 2012. The policy places Ministry of Education, Science and Technology (MoEST) at the principal position, and CTEVT as the regulator of TVET sector of Nepal. It has given emphasis on five key areas: expansion, inclusion and access, quality, integration and sustainable funding. Likewise, the government of Nepal has adopted the motto of *"Prosperous Nepal, Happy Nepalis"*. To strive for the success of this motto, there is a need to develop self-sustainable, competitive, innovative and value-oriented citizens for the socioeconomic transformation of the nation so that Nepal can elevate Nepal's status from a least developed country by 2022 and reach the status of a middle-income country by 2030 (National Planning Commission, 2016). This urges for the TVET system of Nepal to focus on quality by producing competent workforce who can cope with the global challenges of the 21st century. Similarly, after the promulgation of the Constitution of Federal Democratic Republic of Nepal in September 2015, Nepal government has expressed its commitment to make TVET as the mainstream education and has emphasized to link education with skill, skill with labour, labour with production, production with decent job and decent job with prosperity and establish at least one CTEVT recognized TVET institution in all 753 local units of Nepal. This urges for massive inclusive and affordable expansion, integration, sustainable funding and strong linkage between government, employer and TVET providers.

Presently, CTEVT has the capacity to produce 62015 mid-level skilled workforce with its diploma and technical school leaving certificate programs a year from 45 constituent, six partnership, 397 technical education in community schools and 429 private

TVET providing institutions. Additionally, 1081 short-term skill-oriented training providing institutions are registered with CTEVT and produce a significant number of the semi-skilled workforce (CTEVT, 2019). Figure 2 depicts serving volume of CTEVT.

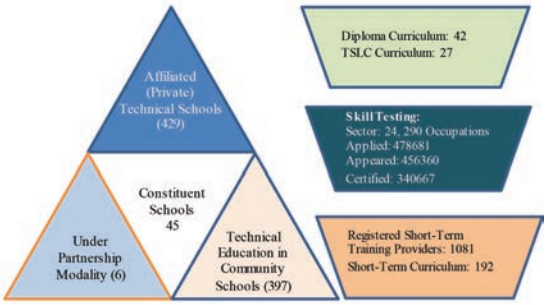

Figure 2: **Serving Volume of CTEVT**

In this connection, CTEVT as a national autonomous apex body with the mandate of policy formulation, coordination, facilitation and implementation of all types of TVET programs/providers including quality assurance, is continuously playing a vibrant and vital role to strengthen the TVET system of Nepal (Lamichhane, 2013). However, there are many emerging challenges, that need to be transformed into the opportunities. Afterall, TVET is important to bring radical changes in the socio-economic settings of the country.

In addition to CTEVT catered TVET providing institutions, there are many other TVET serving universities and institutions in Nepal. Various ministries, donor agencies/development partners and private sectors are also significantly contributing to TVET in Nepal (Acharya, 2011). All these TVET actors produce approximately 114,000 skilled to ; semi-skilled workforce (MoEST, 2017). The figure indicates that 77.73 percent of Nepali unskilled workforce enters into the labor market every year. This impulses Nepal to focus on the massive expansion of relevant, affordable and outcome-based TVET programs.

TVET Implementation Mechanism in Nepal

The plethora of TVET serving actors in Nepal do not necessarily follow a consistent mechanism for implementation. CTEVT, on the other hand, mandated by the Government of Nepal, practices an approach of analyzing, designing, developing, implementing and evaluating TVET programs. Presently practiced Nepali TVET implementation mechanism is shown in Figure 3.

During the analysis phase as depicted in Figure 3, CTEVT performs needs analysis; job (function) analysis; and tasks (behavior) analysis in association with line and other ministries, industries/market and TVET providing institutions. During the design phase, CTEVT designs competency-based market-oriented courses as per competency standards required by industry in association with industries/market and TVET providing institutions. During the development phase, TVET providing institutions develops the learning materials. During the implementation phase, TVET providing institutions implements the TVET courses, performs continuous and formative assessment and facilitate for summative evaluation.

On-the-Job training depends upon the nature of the occupation and duration of the course. CTEVT awards certificate to the successful graduates. CTEVT performs monitoring and evaluation in each stage. However, job placement is unsure.

Ideally, industries need to play a leading role in the Analysis and Design phase of the implementation mechanism. In Nepal, although industries are part of the ecosystem of this process, they seem to have a passive role.

Similarly, in the development and implementation stage, with an exception to on-the-job training (OJT), TVET institutions have the primary role while CTEVT operates as an influencing body. CTEVT conducts summative evaluation of the learners and is the prevailing body in the overall evaluation, monitoring and supervision process. The dominating role of CTEVT along with the government of Nepal and legal dilemma are distinctly apparent in the

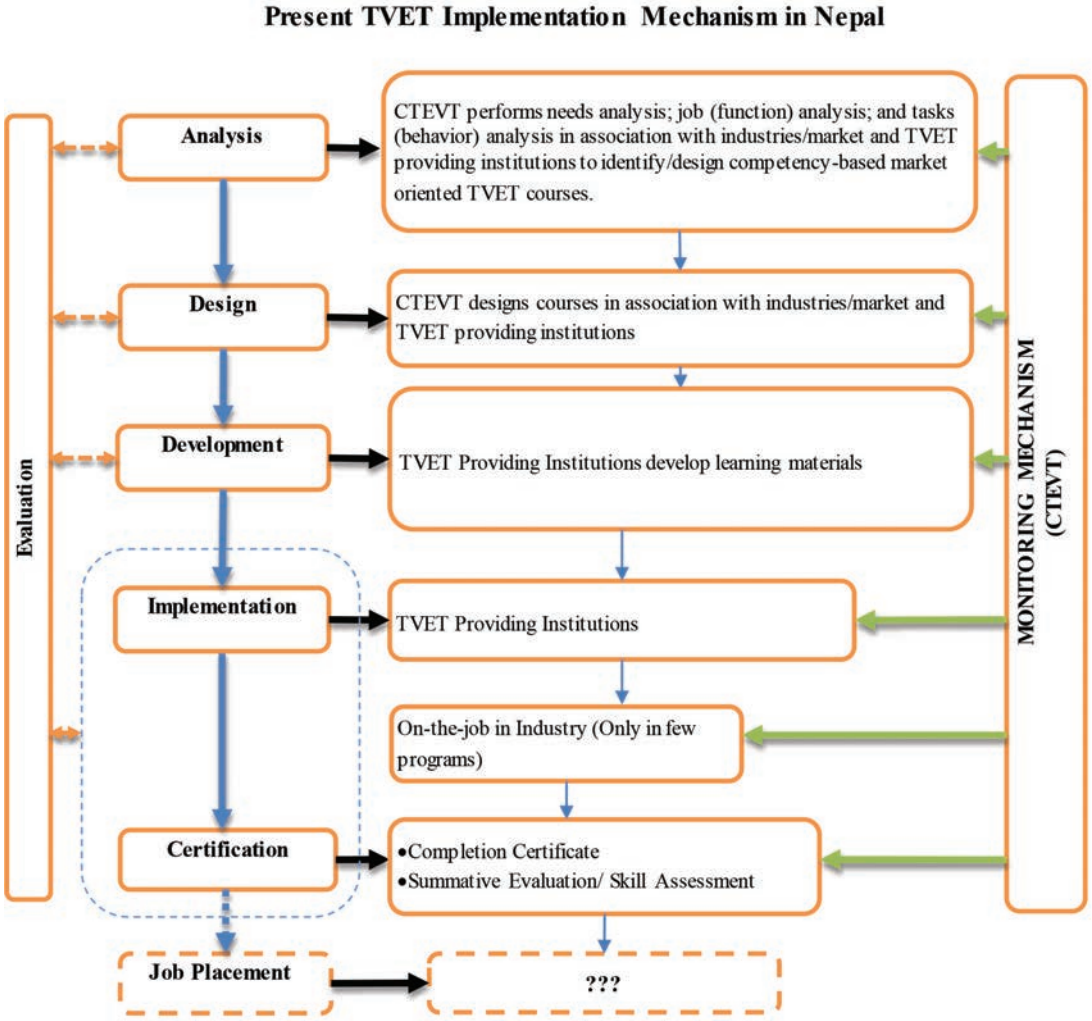

Figure 3: **Present TVET Implementation Mechanism in Nepal**

(This diagram is created based on present practices)

TVET system. On the flip side, industries have taken a back seat on the overall process. Because of this, TVET providing institutes are training people without industry linkages. In addition to the lack of human resource planning and needs assessment, there is a mismatch in industry required workforce and TVET graduates. Although there are increasing number of graduates, the workforce demand from the industry has not been met. Industry exposure during the TVET implementation process is indispensable to build the attitude, skills and knowledge required to harvest industry level competencies. The networking and confidence of competencies allow industry to trust TVET programs and entrants to fulfil potential occupation that the industry might need in the future. This impulses for paradigm shift in TVET from the government dominated mechanism to equal contribution and cooperation between industry, government and TVET providing institutions.

Content Analysis of Nepali TVET Curricula

Nepali TVET curricula is developed by following a systematic approach of the occupational curriculum development process as portrayed in figure 4 and as detailed below.

The upper loop leads to a product for work context called a *'Task Catalog'*. A task catalog contains the title of the occupation, a list of duties and tasks that need to be performed, the performance standard expected by the industry and the procedure for performing the task. The task catalog has inputs only from industry. Task catalog is useful to develop job descriptions, standards, and training programs at different levels. The curriculum development experts, normally called the process experts, in association with employers identify the potential occupation for employment. The Technical Advisory Committee (TAC) consists of leading employers in the field under development provides input and suggestions into all phases of the curriculum development process. One of the job analysis approaches, *'Developing a curriculum (DACUM)'* is followed to identify the current duties and tasks that are performed by a successful worker in the occupation under study. After the job analysis, task analysis is carried out for each task to identify the performance standard required by the industry, the procedure to perform the task, related technical knowledge, specific tools and equipment and safety precautions to be observed during the performance of the task.

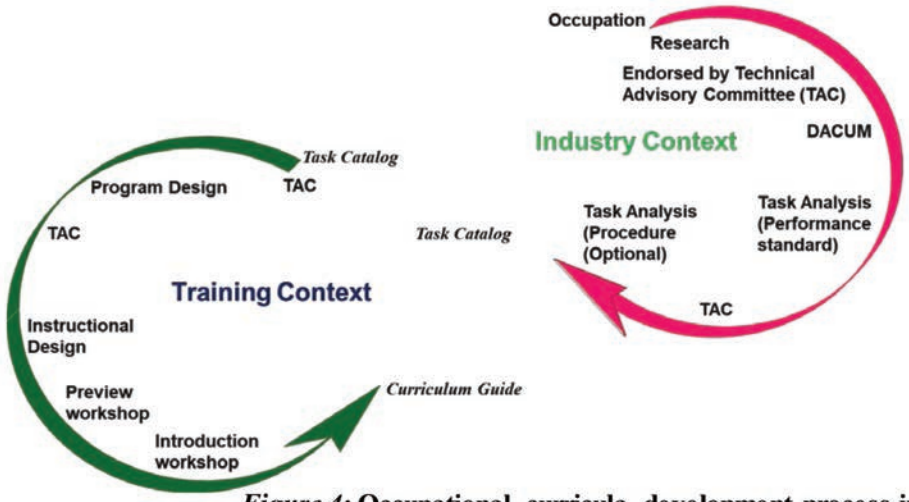

***Figure 4:* Occupational curricula development process in Nepal**

(Source: Unpublished Article of Dr. John Collum, Swisscontact, Nepal)

The lower loop leads to a product for education and training context called a *'Curriculum Guide'*. Before designing the program, TAC reviews the task catalog and provides initial recommendations into the modules in the program, the length of the program and desired program outcomes. The Subject Matter Experts (SMEs) take the tasks from the DACUM Chart, add, delete and modify these tasks based on other research and personal experience, and group related tasks into modules for instruction. These modules are then sequenced for effective learning. TAC makes recommendations to the module design and contents and provides additional input for program information such as TVET teacher's qualifications, facilities requirements, entry-level learner qualifications, etc. Performance objectives, suggested theory and practical times, a theory outline, and instructional suggestions are developed during the instructional design. Normally, a preview workshop with some selected TVET teachers is organized to examine a draft copy of the products and make final input, suggestions and recommendations. No curriculum guide is released without providing the users with an introduction

workshop. Nepali TVET curricula heavily focuses on the occupational specific tasks.

Skills required for success in today's world of work at all employment levels and in all sectors are foundation skills, vocational/technical skills, professional/personal skills and core work skills. Foundation skills are a prerequisite for continuing learning such as literacy and numeracy skills. Vocational or technical skills are specialized competencies needed to perform occupation specific duties or tasks. Professional or personal skills are individual attributes relevant to work, such as honesty, integrity and work ethic. Core work skills are the abilities to learn and adapt; to read, write and compute competently, to listen and communicate effectively, to think creatively, to solve problems independently, to work in team or groups; to handle basic technology and to lead effectively (Brewer & Comyn, 2015). During content analysis of Nepali TVET curricula, it is found that Nepali TVET curricula heavily focus on vocational or technical skills and less emphasis is given to other key factors of employability (Neupane & Pradhan, 2014). This urges Nepal to reform TVET curriculum development process so that equal emphasis is given to all foundation, vocational/technical, professional/personal and core work skills. Additionally, all these required skills for the world of work are best learned and assessed in the workplace (Australian National Training Authority, 2004), this urges for the paradigm shift of Nepali TVET system from the institute based to the workplace-based one.

Technical and Vocational Education and Training (TVET): Theoretical Understanding

TVET is the integral part of the national education system in all societies. It involves the study of technologies and related sciences, and acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life and prepares people for the world of work. It is an integral part of general education and may occur in a variety of learning contexts (UNESCO-UNEVOC, 2013). It is an aspect of lifelong learning. The definition provides the framework to design TVET courses and matches with the concept of four pillars of education as prescribed in the Delor's report. Delor's report (1996) has identified four pillars of education: learning to know, learning to do, learning to be and learning to live together. The first pillar: learning to know focuses on the development of skills and knowledge needed to take benefits and function in this world. Acquisition of literacy, numeracy, critical thinking and general knowledge are some of the examples. The second pillar: learning to do highlights the learning of skills that would enable individuals to effectively participate in the global economy and society. It is the acquisition of applied competencies

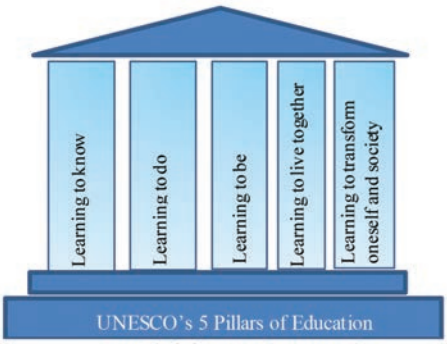

Figure 5: **UNESCO's 5 Pillars of Education**

linked to professional success. The third pillar 'learning to be' emphasizes the learning that contributes to a person's mind, body and spirit. The fourth pillar 'learning to live together' places emphasis on the development of social skills and values such as respect and concern for others, and the appreciation of cultural diversity (Delors, 1996). UNESCO's Education for Sustainable Development Initiative (2012) added one more pillar: learning to transform oneself and society as shown in Figure 5. When individuals and groups gain knowledge, develop skills, and acquire new values as a result of learning, they are equipped with tools and mindsets for creating lasting change in organizations, communities, and societies. TVET, if designed and implemented based on the five pillars of education, increases the availability of viable human capital, who can

contribute to the overall development of the national economy. Likewise, another theoretical perspective relevant to TVET is the Triple Helix Model as suggested by Leydesdorff and Etzkowitz. Leydesdorff and Etzkowitz (1995) proposed the Triple Helix Model that describes the triadic relationship among the government, industry and academia or TVET providing institutions as shown in Figure 6

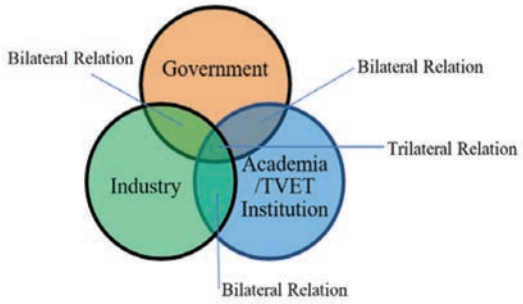

***Figure 6*: Triple Helix Model**
(Source: Etzkowitz and Leydesdroff (1995)

The Triple Helix theoretical framework prospects three modalities: Triple Helix I, Triple Helix II and Triple Helix III. In Triple Helix I modality, the government takes the lead role and drives the industry and academia whereas in Triple Helix II, the industry is the driving force with the other two spheres as secondary support structures. Triple Helix III foresees equal contribution and cooperation between academia, industry and government. Government facilitates academia-industry relation by providing adequate policies, plans, regulations, strategies and quality assurance mechanism. Industry and academia collaborate with government by involving and supporting the creation of educational strategies. Academia collaborates by providing the learner with real-life cases and problems, problem-based learning, work-based learning and according to the needs specified by the partners from industries. The industry supports academia to shape their curriculum based on their expectations of graduates' competencies. In this way, the industry operates in the Triple Helix as the locus of production; the government as the source of contractual relations that guarantees stable interactions and exchange; and the academia as a source of the production of the competent and relevant workforce (Etzkowitz & Leydesdorff, 2001). Nepal if transits from Triple Helix I modality to Triple Helix III modality and incorporates five pillars of education in TVET curricula as proposed in Figure 7, domestic employers would initiate hiring Nepali TVET graduates. As a result, Nepali youths would not have to subject themselves into forceful migration abroad in search for job opportunities. Domestic TVET providers can produce workforce based on the industry requirements and reduce the mismatch between demand and supply of semi-skilled and skilled workforce.

Conclusion

The linkage of industry with TVET will serve in the optimum utilization of the productive age-group. This will also help mitigate the adverse impact on social sector caused by fragile economic conditions and forceful migration of the country. Although Nepal has observed significant growth and development in TVET sector, there is an inadequacy in production of enough market responsive competent workforce. Passive participation of industry in TVET is the cause behind workforce not getting enough industrial exposure. On the other hand, even domestic industries are hesitant to onboard TVET graduates because existing TVET curricula lacks focus on employability skills. The absence of adequate industry linkage has resulted in dearth of workforce in certain occupation. Hence, it is in need to reform the TVET system of Nepal by adopting Triple Helix III modality and five pillars of education. If this were the case, domestic employers would noticeably initiate hiring Nepali TVET graduates rather than opting for cross border workforce. As a result, Nepali youths would not have to subject themselves into forceful migration in search for job opportunities. The workforce would be developed based on the industry requirements. Similarly, this would also eradicate the issue of workforce torrent in some occupations, and the issue of workforce scarcity in other occupations, caused by the mismatch in industry jobs and workforce produced. In order to systematically align education

with skill, skill with labour, labour with production, production with decent job and job with prosperity TVET reform and equal contribution and cooperation between government, TVET providers and industry is crucial. Similarly, this cooperation is also important to effectively utilize the available workforce, and to sustainably develop TVET.

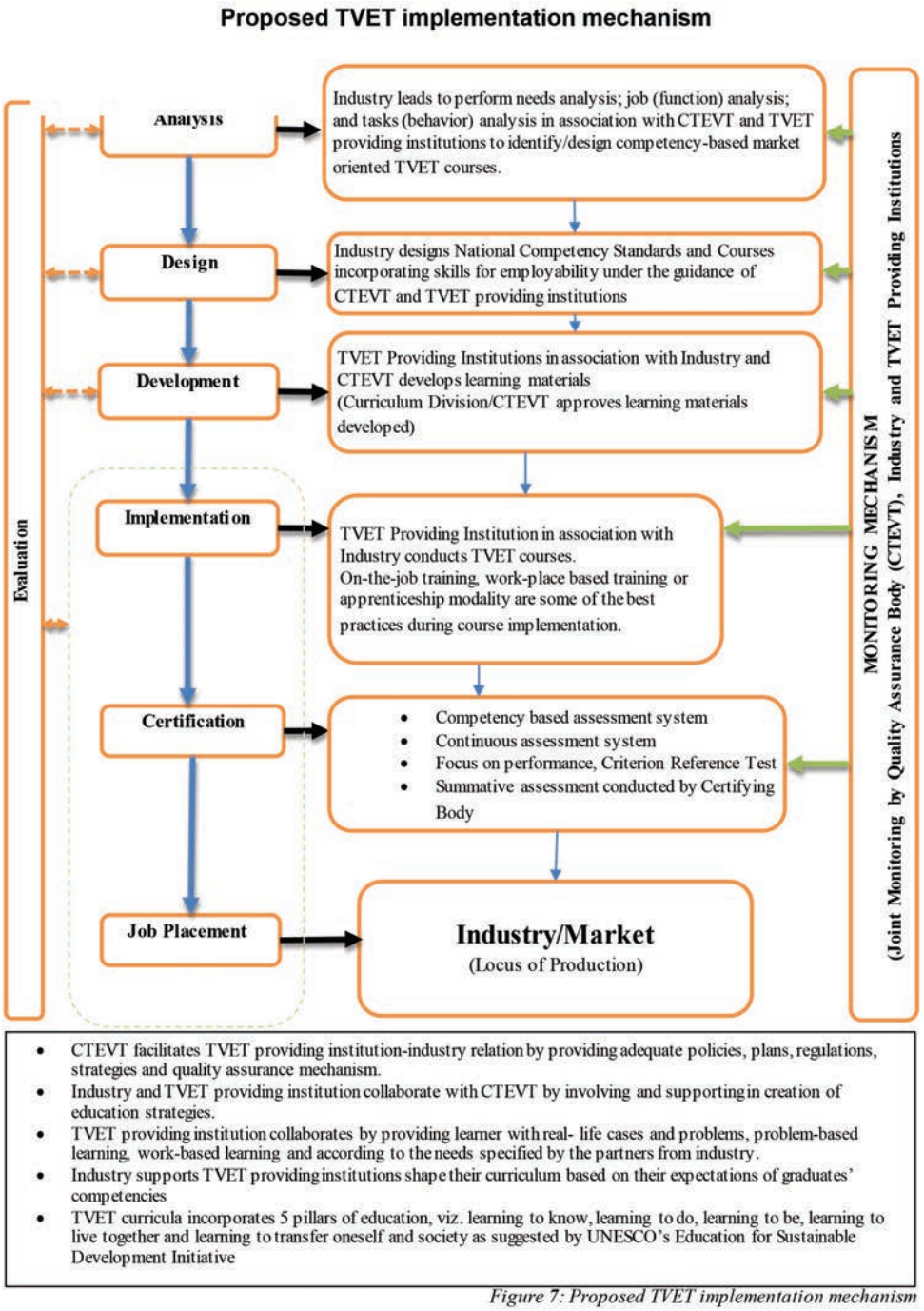

Figure 7: Proposed TVET implementation mechanism

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