

Prospects of TVET for Ghana's Industrial Development

Samuel Kojo Odoom¹, Emmanuel Kobina Payne², Doris AkuaBoateng (Mrs.)³

¹(Mechanical Engineering Dept., Takoradi Polytechnic, Takoradi-GHANA)

²(Electrical & Electronic Engineering Dept., Takoradi Polytechnic, Takoradi-GHANA)

³(Assistant Registrar/Administrator, Takoradi Polytechnic, Takoradi-GHANA)

ABSTRACT: In Ghana the dissemination and use of Technical and Vocational knowledge in industry have a great importance for both national and international competitiveness. In the developed countries, improving the job skills of the work force has been a cornerstone of their economic development. Technical and vocational training in these countries receives momentous assistance with an improved resource allocation to enhance competence. The world is changing fast both economically and technologically, while global competition is not perfect in traditional raw natural resource exportation. Free trade has not yet been equated to fair trade and competition for ideas has never been stronger without the acquisition of technical and vocation skills. The principal concept of a country development is no longer the question of that country's riches in natural resources but how well industrially, established is that country and skillful technical competence of its workforce to handle and transform those natural resources to wealth for economic growth. This paper reviews the TVET prospects available in Ghana for industrial and economic development, which will attest to the fact that countries with well-developed technical and vocational education training skills lead the world in an improved economic living standard.

Keywords: Development, Economic, Industrial, Skills, TVET

I. INTRODUCTION

In recognition of the important role learning plays in the life of a nation, Article 25 Clause 1 of Ghana's 1992 Constitution states that Technical and Vocational Education shall be accessible to all by every appropriate means [1]. Third world development is sluggish and one should question why a country such as Ghana fails to make the necessary progress, regardless of the search in educational opportunities.

The major area of concern is the type and quality of education available. In view of this, some experts raise more questions than answers. Other scholars argue that the country needs well diversified educational system as part of measures to promote sustainable development of the nation. This is because a well-diversified educational system produces not just qualified but skilled workers.[2] A skilled workforce is a precondition for economic growth and Ghana should strive to amend the current economic structure that hinges on exporting natural resources in their raw state to valued addition which will promote massive industrialization engineered by varied processing efforts and this will create the opportunity for the need of TVET graduates as a boom in the economic strength of the country and make Ghana achieve beyond the middle income status as envisaged.

UNESCO has preferred TVET as an important element in any national education system since production and economic competitiveness in most areas are increasingly dependent on specialized labor which needs qualified and sufficient resources [3].

II. TVET DEVELOPMENT CHARACTERISTICS

2.1. General Characteristics

Prominent problem in education is the quality of delivery, especially its ability to serve the local needs for sustainable development [4]. One of the ways to alleviate this problem is the provision of effective TVET program policy and structure for delivery. So it is crucial to assess the policies and practices of TVET in the context of its application for the skills acquired. In view of this the following characteristics give general attributes of what needs to be achieved;

- Establishment of managements in TVET institutions to identify implementation gaps in providing demand driven TVET programs right from the training to the world of work.

- Trainers should be aware of their institutional status and initiate them to contribute to what is expected from them.
- Forming communication management system at different levels to provide important information to TVET policy and regulatory council (COTVET) for effective monitoring, evaluation and sensitization for improvement and sustainability.
- The need to initiate and bring on board other stakeholders and responsible bodies to take part in the implementation, operation and improvement.
- Means to review and amend policy and programs without bureaucratic hindrances.

2.2. Specific Characteristics

To consider the time and resource capacity for programs development and implementation;

- TVET institutions should be identified and segmented in geographical proportion to deliver the programs. These institutions can be public or private which will be mandated to create productive workforce to meet the country's middle level manpower needs and should be part from the initial stage of brainstorming to the final stage of delivery.
- Development of curricula should be of project base activity and content wise to address each geographical need which will be integrated into the overall training policy. Curricula should be in a comprehensive way from input to output, but focus should be more on examining some aspect of pre-training, while training and post training practices are also considered.
- Competence should have a broad concept comprising of possession and application of skills, knowledge and attitudes, which are necessary to successfully compete, for jobs in the labour market or for setting up one's own business. This shall be the key performance indicator for assessment.
- Adequate educational facilities such as training equipment should be available for both theoretical and practical demonstrations in TVET institutions to ensure the quality of training offered. These are training manuals, workshops, machineries and others.
- The curricula should include enterprise orientation, which will introduce trainees to the concept of how to develop and organize business activities aimed specially at growth and profit. This should explain the notion of business formation at all levels in terms of micro, small and medium as well as partnerships deals and deeds with economic and social relevance.

III. CONCEPT AND DEVELOPMENT OF TVET FRAMEWORK

3.1. Concept and Framework Attributes

Technical and vocational education and training (TVET) is often used to describe and define an educational system which is mainly designed to lead participants to acquire practical skills, know-how, understanding and field ready necessary for employment in a particular occupation, trades or group of occupations [5]. In this concept the word 'technical' is tending to give way to the term 'technological', since this type of education prepares trainees for higher education in modern context and the term 'vocational education' continues to refer to the acquisition of skills for specific occupations [6].

UNESCO [7], describes TVET on the "three Hs" context, i.e., the head, the heart and the hand and attributed that educating the head is important in order to develop a cadre of intelligent workforce, the heart, in order to mold the workforce into good citizens, and the hand for a highly skilled workforce in any work that they do. TVET aims at meeting the manpower needs of society and providing a sequence of educational and training experiences designed to prepare certain people for initial entry into the world of work to provide or respond to readily task [8].

It is an accepted fact that TVET in any society should be geared toward jobs currently available and in the near future. In this regard, there must be a framework to create new partnership between education and the world of work to address the need to develop unity between the sectors of education training and labour market at various economic sectors. Thus summarizes the role of TVET in the society as a bridge to the future. There must also be an employment road to which it leads, otherwise this tends to create other problems such as graduate unemployment which could cause social and civil chaos [9]. There is the need for new models of TVET hence linking education, training, and social welfare [10]. The dynamism of technology and the world wide globalization put TVET on top of the development agenda of every country in order to produce well-trained and qualified manpower in the shortest possible period of time to cope with the changing situation and to compete in the world market [11].

3.2. Characteristics of Successful TVET Framework

One of the most important features of TVET is its orientation towards the world of work and the emphasis of the curricula on the acquisition of employable skills, thus its delivery systems are therefore well

placed to train skilled and entrepreneurial workforce [12]. This means, it is an education that can be delivered at different levels of sophistication and respond to the different training needs of trainees from different socioeconomic and academic backgrounds, and prepare them for gainful employment and sustainable livelihoods. The youth, the poor and the vulnerable of society can therefore benefit from TVET for economic and social transformation in Ghana and also for the elite as hobby. The framework should address the training needs of respective participants or trainees.

3.3. National TVET Strategic Plan Policy

TVET has been seen as the most neglected area in the history of the Ghana's education System. In line with the adoption of a new education and training policy by Government of Ghana through Ministry of Education per the 1992 Constitution Article 25 clause 1 [1]. This outlines the importance of TVET in achieving the present and future national economic and social development goals. It focuses on increasing access to educational opportunities with enhanced equity, quality, relevance and consequently massive expansion of this sub-sector. In view of this, National TVET Strategic Plan has been developed to clearly give meaning to the objectivity of the nation's Constitution. This has given strategic thinking behind the expansion of the TVET sub-sector to meet the middle-level manpower demand of the industry, service sector and commercial agriculture which have become very essential to the overall development of the country. It is an instrument for producing technical competence and technicians, equipped with practical knowledge who could be job creators rather than seeking jobs from others.

Moreover, in thinking of its congruence with the plan for accelerated and sustained development for industrial growth, government has initiated a new push towards creating frameworks conducive to economic and social development. Such endeavors have called for a new TVET strategy which was out doored by COTVET, holding stakeholders workshop on Costed National TVET Strategic Plan in May 2015 in Accra Ghana under DSIP program [13]. During the program, the Deputy Minister for the Environment, Science, Technology and Innovation (MESTI), Dr Bernice Heloo, underscored the importance of Technical and Vocational Education and Training (TVET) in ensuring that Ghana has the requisite skilled manpower to drive and sustain its industries [13]. The new strategy reflects an important paradigm shift that TVET has to respond to the competence needs of the labor market and create a competent, motivated and adaptable workforce capable of driving economic growth and development [13].

For the realization of this new TVET strategy, the National TVET Strategic Plan clearly states the objectives and the outcome of TVET. The overall objective of TVET is to create competent, motivated, adaptable and innovative workforce to transfer accumulated and demanded technologies, which highly contributes to poverty reduction, social and economic development through facilitating demand driven training, relevant to all sectors of the economy at all levels and to all people [13]. Ghana, she said, therefore, had no option but to follow countries of the developed world by investing in the TVET sector, adding that the most important step in establishing a robust TVET system was to put in place a national strategic plan that was aligned to Ghana's national strategic goals [13].

IV. TVET CURRICULA DEVELOPMENT – COMPETENCE BASE TRAINING (CBT) AND WORK PLACEMENT

In developing the curricula for the training of TVET programs, the desire to impart critical basic skills must be considered, which implies that one must first distinguish between two groups; (a) those who are already part of the formal education system and (b) those who are part of the informal system that is those who have either dropped out and lag behind others from an educational point of view or have not attended school at all. Regarding the educational needs of the first group, the focus needs to be on basic skills and those abilities derived from the processes of globalization and technological development. Regarding the second group it is necessary to update basic skills and impart occupational training since it is ultimately not solely for the labor front that determines the educational demands and needs of this group [14].

4.1. Competence Base Training (CBT)

Improving the quality, relevance, and efficiency of training being provided as well as identifying new needs of training, it requires a proper and efficient system collecting timely data that can help to make the training program more flexible and responsive to the dynamic labor market demand. Labor market assessment may be conducted by distributing a survey instrument to potential employers, either the entire population or a representative sample and convening a focus group to collect information [14]. This gives meaning to realistic curricula development which reflect the industrial needs and attest the competence needed, for one to execute job task that can be considered as competence base training (CBT). Local labor market assessments have to be carried out by using the TVET criteria or template developed by COTVET for proper quality assurance to reflect the objectives and goals of the national TVET strategic plan.

Data collected on the type of training can also be used to estimate the rate of return to training programs. Furthermore, managers of training institutions can establish their own mechanisms and source of data concerning skill demand and success of training in fulfilling those demands by forming a proper relationship with the enterprise [15]. For the improvement of training quality and efficiency, permanent exchange of market information on the demand and supply has paramount importance. Regular tracery studies of graduates of training programs can be used to know the balance of skills and demand on the market, to evaluate training programs and to make training decisions. A frequent survey of employers can offer pertinent information on expected changes in skill needs, assessment of pre-employment training, and constraints to the productive use of skill labor.

4.2. Trainees Practical Needs and Internship Placement

TVET is an educational program which mainly focuses on the practical delivery system. In this regard it is particularly needed to relate with apprenticeship and internship program [16]. The concept of apprenticeship originates from the training of master craftsmen developed by the medieval guilds [17]. This craft apprenticeship became the model of vocational training in many modern industrial countries. It was conducted on the basis of imitative learning way, therefore, justifiably be regarded as the prototype of preindustrial vocational training. The system has provided a means of support for the poor since employers provide basic support during the training [18]. Apprenticeship is basically a process of transmitting knowledge and skills in the context of the real world of work. It has also been taken as one element of TVET [18]. This involves a formal agreement covering a definite period of time, which binds the employer to provide training in return for the work of the apprentice.

Another form of industrial formal means of acquiring practical skills is the “Cooperative formal TVET” programs [19]. This is conducted in the form of workplace internships of several months with blend of theory and practice, representing an important step forward in making the TVET system more relevant. It helps the trainee to apply the concept learned in the class through practice on actual job so as to enhance his/her skills for employment [20]. The cooperative training system refers to the mode of training for delivery of technical and vocational education that combines training in the enterprise and institution, based on a training plan collaboratively designed and implemented by industries and respective TVET institutions. Under this system, the industries or companies and the TVET institutions share the responsibility of providing the trainee with the best possible job qualifications and the essentials through practical training by securing an adequate level of specific, general and occupation related basic competency [21]. The guiding principle is that as all parties involved namely, the industry, trainees and TVET institutions will gain immediate and long lasting benefit as this will satisfy the ideals of the national TVET strategic plan.

4.3. Trainees Guidance

Vocational guidance and job placement should help individuals develop their full potential and identity, the most appropriate training needed to succeed in their education and placement in the labour market. It should support the value of increasing the educational and labour market accomplishments of all individuals, males and females, peoples of all cultures and religions, and of persons with disabilities, and thereby promote the use of the fill talents of the participants.

Trainees may fail to identify which field will provide him/her satisfaction in future life. To avoid such confusion, vocational guidance plays a vital role. To be effective in the employment and labour market, guidance and counselling helps individual trainees to assess and appreciate their potential and tendency towards growth, career development and self-actualization [22]. The collecting and organizing of information about occupations is an important phase of the guidance process. These assist trainees to be abreast with trends and fields relevant to their choice of life long occupation. Vital areas to consider are [23];

- The nature of occupations, working conditions, advancement potential.
- The minimum requirements to be met in order to enter the occupation (educational background, specific training, health, age, personality characteristics)
- The educational programs available that will prepare for entry into employment, where they are offered, the length of training, the cost, the entrance requirements
- The opportunities of employment in the occupation locally, nationwide, permanent or temporary.

4.4. Trainers in TVET

The most important prerequisite to achieve such an integrated, outcome based and decentralized TVET system is highly competent and motivated staff [25]. Without such a pool of TVET instructors (trainers), the implementation of the National TVET strategy may not be feasible. The establishment of such human resources can take various paths, such as the development of a new group of TVET trainers, the upgrading of current TVET in-Service instructors to the required standards [26]. To this effect, COTVET with its development

partners sponsoring some university and technical institutions instructors to be abreast with CBT mode of delivery for TVET programs. The professional and pedagogical competence of the instructors is crucial to the successful implementation of any TVET strategy [27]. Governments should therefore make conscious efforts, not only to train but also to retain technical instructors in the system. These instructors may be suitably motivated through equitable remuneration packages and incentive schemes that may include government subventions and special incentives for instructors in deprived areas or communities [28]. The new TVET strategic plan also argues TVET system managers, professionals and policy makers will also have to be trained and their skills upgraded to enable them confidently drive the new strategy with its various implementation structures, e.g. qualifications framework, accreditation standards, assessment guidelines, quality assurance and accountability frameworks.

4.5. TVET Employment Opportunity

Placement is the final step in the TVET process, helping trainees to find suitable employment matching the job and the skills acquired. It is the assistance given by institutions to find employment or self-employment. In the first stage, the training institution should assist trainees of formal category of program to find internship places in order to fulfil the requirements given by the curricula [24]. So as to maximize the use of placement and follow up resources, it is suggested that a job placement strategy be initiated in which trainers and guidance specialist share the responsibility for providing an organized and systematic job placement program which underpins the importance of training one has pursued.

V. TVET REGULATORY AND SUPERVISORY ROLE

Council of Technical and Vocational Education and Training (COTVET) in Ghana, plays vital role within the TVET national framework [13]. It plans, coordinates, supports and supervises the TVET provisions nationally. It also capacitates TVET coordination at all levels of trainings and delegate functions proportionate to their respective capacities [13]. In supporting this, it ensures the demand orientation of the actual TVET delivery and its linkage with the local labor market and nationwide. With this mission, the TVET system tends to delegate major responsibilities directly to the TVET institutions for operational autonomy which means planning and management are the expectation of TVET institutions for improvement of quality and learning outcomes. Therefore, in the future, TVET institutions will be held accountable for the success of their training delivery.

VI. CONCLUSION

Specifically, successive governments underlined the role of TVET in poverty reduction hence the Ministry of Education's main thrust, is to fight poverty through accelerated TVET strategy for economic growth. This could be achieved mainly through hands-on job application and employment creation through micro and SME of the private sector development. TVET is expected to play a key role in this strategy by building the required motivated and competent workforce. Government envisages TVET to provide the necessary relevant and demand driven education and training that corresponds to the needs of economic and social sectors for employment and job creation. The strategy further stresses the need for an increasing role and involvement of the private sector and non-governmental organizations as well as community involvement in the delivery of educational services. In order to avoid the mismatch between the available resources with increasing demands, measures for improving efficiency and cost effectiveness are called for. It further indicates that TVET is critical for the country's development in forwarding its goal to create competent, motivated, adaptable and innovative workforce to transfer accumulated and demanded technologies. This contributes to poverty reduction, social and economic development which is relevant to all sectors of the economy at all levels and to all people.

REFERENCES

- [1] Dzeto G. K (2014), Projecting Ghana into the real middle income economy: The role of technical, vocational educational training.
- [2] Alam, G.M. (2007), Private HE in Bangladesh: The impact On HE governance and legislation.
- [3] TVET Workshop on Vocational Education and Training for the labour market (2008), A comparative analysis of China and Germany, Germany, Magdeburg,
- [4] African Union. (2007), Strategy to revitalize technical and vocational education and (TVET) in Africa. Addis Ababa, Africa-Union.Org
- [5] Atchoarena D. & André M. Delluc. (2001), Revisiting technical and vocational education in sub-Saharan Africa: an update on trends, innovations and challenges.
- [6] Edukans foundations.(2009). Technical Vocational Education and Training in Ethiopia. Mapping, Learn for Work. SchoklandProgramme on TVET. Addis Ababa

- [7] Good, Carter, V. (1973), Dictionary of education. New York: Mc Graw-Hill Book Company.
- [8] Encyclopaedia Americana (1995). Encyclopaedia Americana. (vol. 28) U.S.A: Grolier Incorporated.
- [9] Ethio –German TVET program (2001), TVET Guidance and Job Placement System. Addis Ababa.
- [10] Evans, N. (1971). Foundation of Vocational Education. Ohio: Charter E. Marrie publishing Copmany
- [11] FGE (2002). Federal TVET policy. Addis Ababa.
- [12] Gillie, C. Angelo (1973), Principles of Post- Secondary Vocational Education. Columbus: Abell and Howell Company.
- [13] <http://www.dsip.org.gh/dsip/newsdetails/cotvet-holds-stakeholders-workshop-on-national-tvet-strategic-planning>
- [14] GTZ (2000). “Apprenticeships of Employer Organizations and Technical-Vocational Training Institutes”
- [15] GTZ. (2007), The in-service training (IST) strategy for current TVET teachers
- [16] Haimanot Yihunie, (2011), The challenges of Technical Vocational Education and Training Colleges in BenshangulGumuz Regional State. Addis Ababa (M.A Thesis). AAU
- [17] Hirche, W. (2012), Involving the young: The German approach to vocational education
- [18] Middleto, J. (1996), Skill for productivity. New York: oxford University Press.
- [19] MoE. (2002). Education sector development program-ESDPII. Addis Ababa: United Printers Plc.
- [20] MoE, (2003), Financing Technical and Vocational Educational and Training in Ethiopia, Addis Ababa: BrehanaSelam Printing Enterprise.
- [21] MoE (2008). National technical and vocational education and training (TVET) strategy
- [22] Simon Hailu (2002), Problems and Prospects of the four skilled Development Centers in Tigray administrative Region. Addis Ababa: (M.A Thesis). AAU
- [23] Strong M. and Schaefer C. (1975). Introduction to Trade, Industrial and Technical Education. Columbus: Abell and Howell Company
- [24] Venn G. (1964). Man, Education and Work: Post-Secondary Vocational and Technical Education. Washington D.C: Massachusetts Avenue
- [25] Vicinary J.C. (2000). Schooling training and transition: An Economic perspectives. Orleans:TSER-STT
- [26] World Bank. (2001). Revisiting technical and vocational education in sub-saharan Africa: An update on trends, innovations and challenges. Paris, IIEP/Prg. DA/01.320 Rev
- [27] Husen T. and Pstlethwaite T. (1995). The International Encyclopaedia of Education. (Vol. 1, Second ed.). New York: Elsevier Science Inc
- [28] L.R. Gay. (2006). Educational Research Method: Competencies for analysis and application, New Jersey, Von Hoffmann Press, inc.
- [29] Marsi. M.W. (1994). Vocational Education: The Day Ahead. London: McMillan Printing Press.