Policy Analysis on Ethiopian Technical and Vocational Education and Training Program: Emphasis on Relevance and Quality

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Abstract:

The purpose of this article was to analyze the Ethiopian TVET Policy in delivering relevant and quality training. The study used a systematic review method on locally and internationally published literature. Local literatures used for the Study were policies, strategies, periodic reports, abstracts and plans that are officially available from stakeholders of the TVET sub-sector. Literatures from the internationally reputable journals were also used using online searching engines such as ERIC, SCOPUS, EBSCO and Google Scholar. Searching topics used for the online search were Education and Training, Technical and Vocational Education, Quality of Education and Training, Relevance of Education and Training, Quality of Vocational Education, Relevance of Vocational Education and Ethiopian Education and Training. The investigation has revealed that the sub-sector is challenged by the problems of identifying and instilling quality and relevant skills to the country's labor market demand. These problems were exacerbated by shortage of qualified teachers, inadequate training facilities, few industries for cooperative learning and poor coordination among the stakeholders. To alleviate the current problems associated with quality and relevance of TVET programs, there seems to be a need to strengthen the linkage between the TVET providers and industries. Stakeholders in the TVET sub-sector are also required to equip the training providers with adequate training facilities and provide trainings by competent trainers.

Keywords: Education and Training policy, TVET policy, Ethiopian TVET, vocational education, TVET policy analysis, Quality and relevance of vocational education

Background

The Ethiopian education system, at large, is associated with the Ethiopian Orthodox Church that has existed in the country for generations even before the coming of modern missionaries (Seyoum, 1996). The system was credited for the development of literature, art, music, and architecture (Messay, 2006). The Ethiopian Orthodox Church was the only education agency until the twentieth century for both the church's clergy and some civil leaders and members of the nobility. Although education began earlier, trades were despised and artisans were discriminated by the society (Mesfin, 2017). This bad perception towards the artisans had impacted the development of the country's indigenous skills and thereby led to a decline in the progress of the country's vocational education system. Those people who exhibited relevant skills faced discrimination for centuries. Though the contribution of religious education was unquestioned, its extent of integrating curriculum to indigenous knowledge is still doubtful (Wondemetegegn, 2016). The researcher was unable to find credible evidence that shows the standards and qualities of training during those times but the passing of those household utensils,

buildings and hand tools from generation to generation could be a testimony for quality of skill training at that time.

Ethiopian education system continued to be traditional and religious until the opening of Menelik II School in 1908 at Addis Ababa which marked the introduction of modern education to the country. Missionary schools were then opened in 1920s in Addis Ababa, Harar and Dire Dawa to teach religious, historical and academic subjects which also incorporated remarkable vocational curriculum but confined to skills of home keeping, handcraft, embroidery and agriculture (Mesfin, 2017). School activities were highly influenced by foreign curriculum.

All the efforts of opening schools and enrolling trainees to vocational stream were halted during five years of Italian invasion that amounted to the summarily execution of educated and groomed Ethiopians and expulsion of missionaries (Adejumobi, 2007). Besides, all the schools were subsequently converted into military and concentration camps. Consequently, Emperor Hailesellassie himself was exiled to Europe for five years following the dismantling of all the country's national institutions and control of the agricultural, industrial and commercial services. Ministry of Education was later established in 1942, after the return of the Emperor. Though few in number, the Government opened vocational schools in the 1940s and 1960s. As noted by Asgedom (1998), in 1962, the Government converted some of the existing secondary schools into Comprehensive Secondary Schools where both academic and vocational education and training fields were taught. However, since most of the schools were influenced by curriculum and experts from abroad, the Ethiopian education system started losing its indigenousness.

Craft works, that were neglected professions, were skills possessed by certain groups of society in certain areas. Their products included essential household utensils like pot, knife, axe, cloth, hat, shoes, and so forth. Although their outputs were used by the whole community, they were given little attention until the 1970s. Different regimes enacted different policy measures to improve the perception towards these craft skills and bring them to the formal training agenda. More recently, a survey conducted by the African Union on 18 African nations' TVET programs, excluding Ethiopia, revealed the prevalence of poor perception of TVET, gender stereotype, poor instructor training, and poor linkages between vocational education and general education, vocational education with formal and non-formal TVET, and TVET to the labor market (Geressu, 2017). These results are in agreement with the findings reported in 2009 by the Ministry of Education on the sub-sector (MOE, 2010).

The 1994 Education and Training Policy, being the first major framework for the system's reform and transformation, gave due attention to the sub-sector (Kedir & Geleta, 2017). The Policy's significant contributions include drastic increase in the number of vocational centers and enrolled trainees in formal, informal and non-formal education, which paved employment opportunities for many.

The Education Sector Development Program V (2015/16 - 2019/20), (MOE, 2015a) proposes to improve educational quality, relevance, efficiency and equity, and expand access to education through the establishment of the Ethiopian National Qualifications Framework (ENQF). Technical and vocational education was used as a means to improve the low perception. The newly developed Education Development Roadmap (2018-30), (MOE, 2018) also incorporates vocational education and training which was initially introduced with an objective of improving the attitudes toward skilled manual work. Thus, it encourages to convince young people to seek engagement in vocational sectors rather than the white-collar jobs that are increasingly in short supply. It also encourages them to stay in the rural areas where they could contribute to the economy by participating in agriculture.

This Article explores the current education and training programs of Ethiopia by focusing on the quality and relevance of TVET by way of sticking to the procedures that follow. First, it attempts to portray the Ethiopian Education and Training Policy in general and the TVET strategy in particular. Second, it discusses the current quality of vocational education by reviewing local and international publications. The relevance of the skills being provided in the TVET programs is discussed in the literature review section of the paper. The detailed discussions of the three sections provide accomplishable pieces of evidence for the researcher to recommend for stakeholders, government and policy makers.

Statement of the problem

The sixth Education Sector Development Plan, 2021-24, indicates that the current Ethiopian Government envisions a knowledge-based society that adapts and uses new technologies to solve the current and future problems of the country through the provision of quality and relevant TVET training programs (MOE, 2021). By recognizing its significant role in the country's economy, the Government has taken different measures to mobilize financial and human resources to improve access, quality and relevance of TVET programs. According to the then Ministry of Science and Higher Education (MOSHE), there was at least one TVET center in every corner of the country in 2019 and yet there were many being under construction (MOSHE, 2019). The expansion program is a meaningful effort to meet the policy objectives of access and equal opportunities for the society. However, graduates from the sector are still tolling up the unemployed part of the population while the industries are running short of skilled manpower. This is an indication that the TVET is not providing relevant skills to the needs of the labor market. In support of this, Befekadu (2022) found skill mismatch between what employers demand and what the TVET providers train.

The TVET system strives for social inclusion by increasing overall access to relevant formal, non-formal and informal learning opportunities by all target groups, while ensuring equality of access. The equitable and proportionate distribution of the sub-sector was not convoyed with relieving the hitches that determine quality of training (MOE, 2018). The challenge gets even deeper for TVET providers in the rural and remote areas of the country. The previous neglect of people without relevant schooling, school drop-outs, people living in the rural areas, persons with special needs and people who are already in work will have to be overcome. To this end

this Study analyzed the Education and Training Policy implemented since 1994 (MOE, 1994) in delivering relevant and quality training.

A national labor force survey, conducted by the Central Statistics Agency, shows that 79.8 per cent of the population were economically active that can be turned for immediate employment by providing relevant skills training (CSA, 2011). On the other hand, the report from the Federal TVET Agency which was published by the Ministry of Science and Higher Education (MOSHE, 2019/20) indicates graduates from the TVET programs especially from the remote and rural areas did not continue their employment in the skill areas they have acquired in the colleges or they have registered for other occupational areas to be trained in similar colleges or universities. This is an indication that the skills the graduates acquired from the TVET providers are not demanded by the employers around those areas despite the strategy's promise to gear training towards local and national development corridors (MOE, 2008). Occupational areas that are relevant to the local economic context could have created better job opportunities. Not surprisingly, most employment opportunities are created in agricultural sector in rural areas (ILO, 2022) but most of the TVET institutions provide training in occupational areas other than agriculture.

The TVET program in Ethiopia employs the dual training system where the quality of the vocational training is influenced by the availability of industries in which students cooperatively learn. The dual training system is aimed to enhance students' learning and create industry attachment for future employment. A report by the Federal TVET Agency which is published by the Ministry of Science and Higher Education (MOSHE, 2018) indicates that the leadership in the industry has negative perception to accept trainees for dual training. Consequently, only a few of those trainees get the opportunity for employment in those companies. There is limited participation in TVET curriculum development by the industry representatives (ILO, 2022) and there is limited interaction between TVET institutions and factories (Yamada et al., 2018). Shortage of qualified teachers and machineries are the other problems indicated in the report. Unless the sub-sector is assisted by donors and the industry at large, it would be difficult for all the TVET providers to possess sufficient training facilities (ILO, 2022).

The researcher found only few studies conducted on Ethiopian Technical and Vocational Education and Training system with a focus on quality and relevance. Those studies concluded the system is challenged by quality and relevance (Befekadu, 2022; ILO, 2022; Mohamed, 2020; Mesfin & Neikerk, 2019; MOSHE, 2019; MOE, 2018; Wondemetegegn, 2016). Moreover, the Education Development Roadmap reports the existence of poor quality and non-relevance of occupational skills in the TVET system, it mainly praises the development of occupational standards from which the curriculum was driven and the accessibility of TVET institutions to ensure equal distribution across the country rather than analyzing the causes and showing future directions for improvement.

Perception towards TVET determines the effectiveness of the sub-sector. However, as Krötz and Deutscher (2021) noted, it remains controversial how student perception influences

achievement of the programs. Moreover, Akareem and Hossain (2016) and Mason et al., (2018) concluded that the perception of students towards the schooling system, in general, heavily affected the academic achievement of learners. In this sense, the perception towards TVET by learners, parents and community remains poor with a slight improvement in the last three decades (Befekadu, 2022).

Quality of TVET delivery is a factor of all the inputting and processing activities that includes availability of sufficient training materials, qualified trainers, effective workplace learning scheme and relevant curriculum that reflects the socio-economic status of the country (ILO, 2022; Mesfin, 2017; MOSHE, 2019). Those articles which labeled the TVET system as struggling with the challenges of perception, quality and relevance did not articulate the causes of the problems and the way forward. This article, thus, attempts to fill this gap by assuming the persistence of these problems in the past three decades by attributing to the system's failure in equipping itself with sufficient training inputs, effective TVET delivery with special emphasis on dual training system and involvement of stakeholders to improve perception towards TVET and ensure relevance of skills.

Methodology

The study was conducted to analyze the current Technical and Vocational Education and Training Policy implementation in the context of quality and relevance with a glimpse on its historical development in Ethiopia. The study uses a systematic review where previous works were collected and analyzed. Systematic review method was employed because the researcher found it convenient to portray real challenges of the TVET by integrating publications from the TVET sub-sector such as reports and abstracts with those conducted by researchers. The study design has passed through the processes of: (i) development of inclusion and exclusion criteria, (ii) selection of literature, and (iii) analysis of data and narrative synthesis.

Literature Review

Generally, there were two categories of literature: local and international. Locally categorized literature is that published and issued under the authority of TVET stakeholders such as the Ministerial offices at the federal and regional levels. These include policy, strategy, system and abstract documents made official by the concerned offices. Selection of data (studies) was started with manual listing down of key concepts. Education, Technical and Vocational Education and Training were identified as the major topics of the literature search. The topics were further cascaded to form quality of TVET, relevance of TVET, Ethiopian TVET program, etc. Top literature searching databases such as SCOPUS, PubMed, PsycNet, CCSE, Google Scholar, Eric, Springer and EBSCO were selected as sources of the publications.

Inclusion criteria

Of the available local literature only those documents pertinent to the Education, labor, and employment were selected for the review. Moreover, only those documents issued in the past five years were used for topical and update purposes. However, policy and strategic documents

are dated from 1994. The author used those documents that are officially released by their organization for reliability of the information (Figure 1).

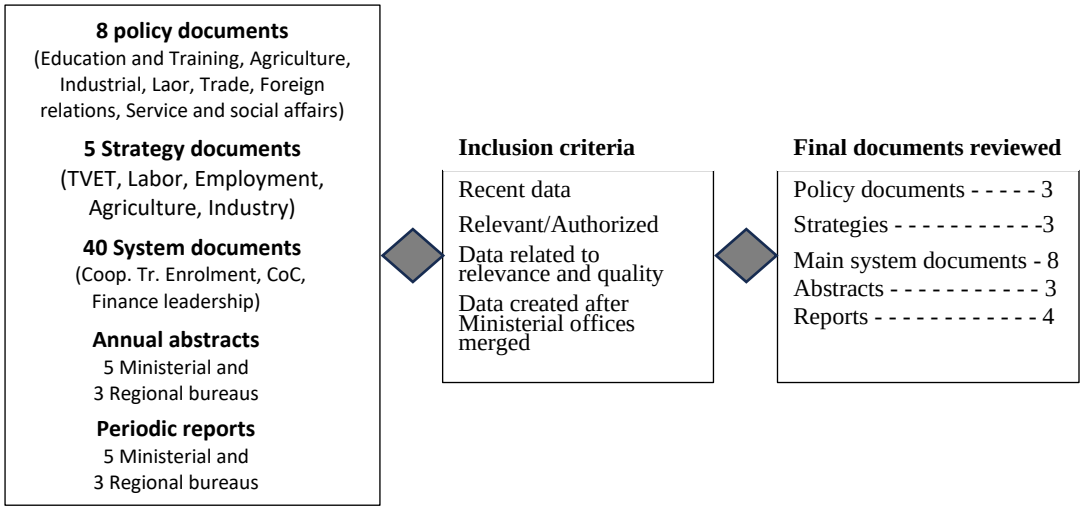

Figure 1: *Local literature search diagram*

Literatures from the international sources were searched based on the searching titles of the authors. Articles and other publications conducted on education, TVET, quality of TVET, relevance of TVET, labour and employment were included in the list of search. Keywords used for the search were vocational education, quality of education, quality vocational training, relevant vocational training, formal and non-formal education and Ethiopian education. Publications on theory of education and vocational training were included without publication year limitation for the conceptual framework. All publications included were written in English language (Figure. 2).

The author reviewed the abstracts and full texts to consider their eligibility. On deciding the selection process of certain articles, a PhD candidate in Educational Policy and Leadership was consulted for an opinion. Studies that mate the eligibility criteria but whose abstracts only available were excluded.

Policy documents, system files, strategies and abstracts collected from Ministerial office of Ethiopia served as the main instruments against which the analysis was done. Eventually, the researcher obtained (i) 8 policy documents on education and training, agriculture, industrial development, labor trade, foreign relations, service and social affairs; (ii) 5 strategic documents on TVET, labor, employment, agriculture and industry; (iii) 40 system documents on cooperative training, enrollment, competence assessment, finance and leadership; (iv) annual abstracts from five Ministerial offices and three Regional bureaus and (v) periodic reports of three Ministerial offices and three Regional bureaus (Fig. 1).

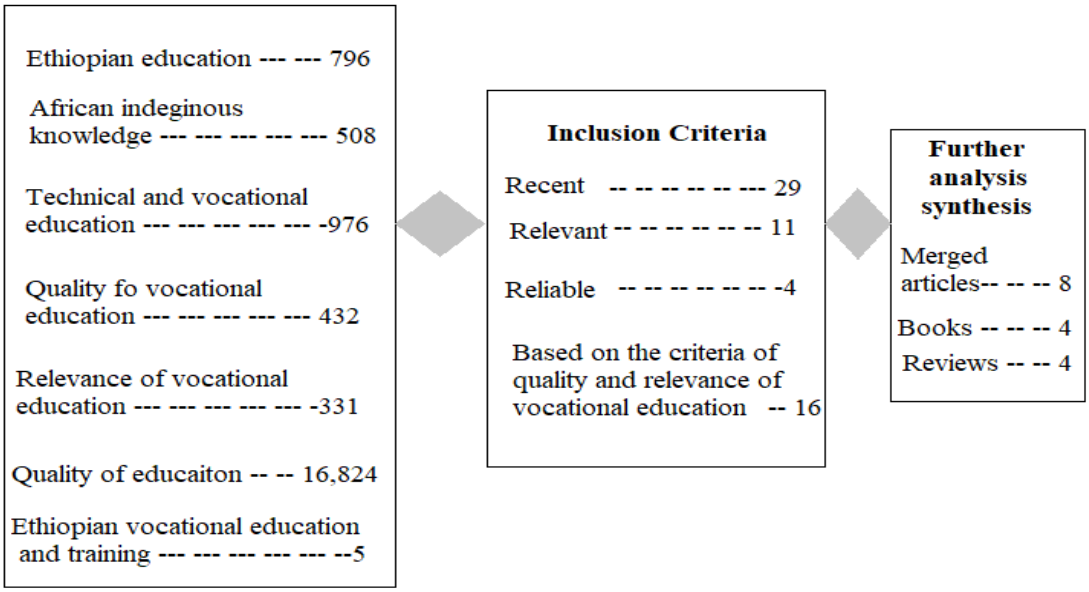

Figure 2: *International literature search diagram*

Internationally peer reviewed and published literature were searched using the searching titles of History of Ethiopian Education, Technical and Vocational Education and Training, Quality of Technical and Vocational Education, Relevance of Technical and Vocational Education, and TVET Policy. Search was also made using abstracts, keywords, authors, and publication years.

The Education Research Information Center (ERIC), SCOPUS, PubMed, American Psychological Association PsycNet, EBSCO and The Canadian Center of Science and Education (CCSE), were used for those publications. Harzing's Publish or Perish software program was used to retrieve and analyse citations. The author manually searched reference lists of articles through Google Scholar.

Policy description and outcomes

The Plan for Accelerated and Sustained Development to End Poverty (PASDEP), Ethiopia's second poverty reduction strategy paper, estimates that the Country has to raise its average economic growth rate to 8% annually in order to achieve the Millennium Development Goals PASDEP, (MOFED, 2006a, 2006b). Human capital development was identified as one of the strategic directions under the Sustainable Development and Poverty Reduction Program (SDPRP), (MOFED, 2002) to achieve the plan. Technical and vocational education is being used as a tool to achieve this. This direction required commercialization of agriculture, enhancement of private sector development, urban development and achievement of the Millennium Development Goals (MDGs) (MOFED, 2004). The Ethiopian Government has seen education and training as important factor to achieve these goals. The Growth and Transformation Plan (GTP 2010/11-2014/15) aimed to achieve the Millennium Development Goals (MDGs) by making Ethiopia reach a middle-class economy by the years 2020-2023

(Krishnan & Shaorshadze, 2013). In order to achieve these aims, the country needed to achieve annual growth rate of 11.2% for consecutive 14 years (Joshi & Verspoor, 2013).

Ethiopia is one of the poorest countries of the world, with agrarian economy and low urbanization rate. Enrollment rate to educational institutions has been lower even when compared to the sub-Saharan countries. However, after the Second Education Sector Development Program (ESDP II) and since the implementation of the Education and Training Policy adopted in 1994, data showed an encouraging increase: (i) primary level (grades 1- 8) increased from 3 million to 11.4 million; (ii) secondary level (grades 9-12) jumped from 400,000 to 953,212; (iii) TVET institutions increased from 3,000 to 106,305 until 2004/5 (MOE, 2021; Killian et al., 2009). The trend is in line with a strong argument that investment in human capital and economic development are positively related.

TVET program was provided both in the non-government and government TVET institutions in a regular (60%) and evening (40%) programs. Though enrollment rate was increasing, only 3% of the relevant age group got the chance of enrollment (MOE, 2005). The increase in enrollment rate was attributed to an increase in the number of TVET institutions providing formal training programs in the country (Killian et al., 2009). As identified on a consultative meeting in 2005, the increase in enrollment rate has created problems of quality, overcrowding of trainees in limited infrastructure, shortage of skilled manpower, and shortage of learning materials (MOE, 2005). It would be important to relate the reported achievements against the objectives of the policy (MOE, 1994), which envisioned:

- To create competent and self-reliant citizens to contribute to the economic and social development of the country, thus improving the livelihoods of all Ethiopians and sustainable reduction of poverty.
- To create a competent, motivated, adaptable and innovative workforce in Ethiopia contributing to poverty reduction and social and economic development through facilitating demand driven, high quality technical and vocational education and training, relevant to all sectors of the economy, at all levels and to all people in need of skills development.

The National TVET strategy derived from the policy (MOE, 2008) further aimed to (i) create and further develop a comprehensive, integrated, outcome based and decentralized TVET system for Ethiopia (ii) strengthen working organizations in view of making TVET institutions centers for Technology Transfer (iii) create a coherent framework for all actors and stakeholders in the TVET system (iv) establish and capacitate the necessary institutional set-up to manage and implement TVET in Ethiopia and to ensure a quality management system (QMS) (v) improve the quality of TVET (formal and non-formal) at all levels and make it responsive to the needs of the labor market (vi) facilitate the expansion of relevant TVET programs offered in Ethiopia which are crucial to national development (vii) strengthen the private training market and encourage enterprises to participate in the TVET system (ix) empower women and rural people through skills development (x) ensure equal access of women and people with special

needs to TVET (xi) strengthen the culture of self-employment and support innovation in the Ethiopian economy, in particular in the emerging regions (xii) develop a sustainable financing system for TVET with efficient and cost-effective delivery systems and management structures (xiii) and build the necessary human capacities to effectively manage and implement TVET.

Though significant changes have been emerging in achieving the objectives in the policy and the strategy in current time, the participation of skilled human power in industries was very low. The emphasis of TVET for achieving the development goals is motivated by the fact that the labor productivity in Ethiopia is very low, even as the domestic wages are about one third of the average wage in Sub-Saharan Africa (Joshi & Verspoor, 2013). According to the World Bank Assessment (World Bank., 2009), the country's labor productivity in industries is less than half of the average for the SSA countries, and even smaller fraction of that of the low income country group. The majority of young population still live in rural areas engaged in agricultural activities. The Ethiopian government has implemented the Growth and Transformation Plan (GTP I and II) that envisions to transform the agrarian to industrial economy through emphasis on manufacturing. By its nature, the manufacturing industry requires large number of employees in lower and middle level competence levels. With this background, TVET system was introduced to the country's education sector in 1994.

The Government has introduced the TVET program as an important initiative in human resource development for the anticipated overall economic development. The 2008 TVET strategy states that the Ethiopian Government has initiated a new push towards creating frameworks conducive to economic and social development. Comprehensive capacity building and human capital formation are key pillars in all these efforts. As such, this National TVET Strategy is an important element of the overall policy framework towards development and poverty reduction (MOE, 2008). The purpose of the TVET strategy was to create competent employees in the lower and middle level through strong involvement of private investors. However, TVET is considered as the last alternative to be joined by general education completers and their parents.

The strategy that took more than a decade is still in problems of awareness. Findings obtained from periodic reports indicated that there is a low perception towards the TVET program among the community. According to an analytic study by UNESCO (2011), in Ethiopia, as in many African countries, TVET suffers from a relatively poor public image. TVET is usually associated with low status job, low salary and lack of personal development opportunities, partly due to the low quality of previous TVET programs that did not allow TVET graduates to successfully compete in the labor market. TVET is generally perceived as a place of last resort for those students who failed to get into higher education. This misconception needs to be rectified.

Occupational standards

Occupational standards are baseline for all skill development programs in Ethiopia. They define the competence of a worker required by the labor market (MOE, 2008). Competence on the other hand is the ability to do something successfully or efficiently (Lester & Religa, 2017). A

typical occupational standard includes the National TVET Qualification Framework Level, unit of competence, performance criteria, training and assessment context, trainers and trainee's profile, and certification. Skills standards describe responsibilities needed for competent performance and knowledge and skills required to carry out duties (National Skill Standards Board, 2000), define graduates measurable performance developed in an educational institution and applied to a work place (Rahn et al., 1999), and bring changes in both works and the economy (Carnevale & Desrochers, 2001; Faulkner, 2002; Wills, 1998). The occupational standards are prepared by the concerned industries because they define what to do, how well to do, and the specific knowledge, skills and attitudes required to do the jobs (Aragon et al., 2005).

The TVET strategy of Ethiopia is found to use dual training method at which training takes place both in the school compound and the industry in a form of cooperative training (Figure. 3). Dual system of vocational education is a German model that is characterized by (i) contractual relations between the vocational school and employer/organization providing workplace training, (ii) apprenticeship contract between the student and the employer, (iii) practical in-organization/workplace training, and (iv) workplace training financed by the employer (Barnová, Krásna & Gabrhelová, 2020). It has many advantages as it creates an opportunity for the learner to be practically engaged in the real world of work and experience with the machine, tools, people, etc. he/she used to work with. Moreover, it has an advantage for the industry operators to train and employ the best competent graduates for their companies.

The TVET system used formal and non-formal modes of training in regular and evening sessions. Candidates for the formal TVET program are General Education 10th grade completers who wish to join TVET based on their previous experience or inclination, in general (MOE, 2008). However, the strategy also allows further training for industry practitioners to come back to the system to earn additional training. Feinstein and Hammond (2004) as cited in Barnová and Gabrhelová (2020) indicated that participation in further education is a central success factor for economic growth and societal as well as individual development. Through the Industry Extension Service department, TVET providers are required to train, support, capacitate and evaluate industry practitioners or job creators commonly called Micro and Small

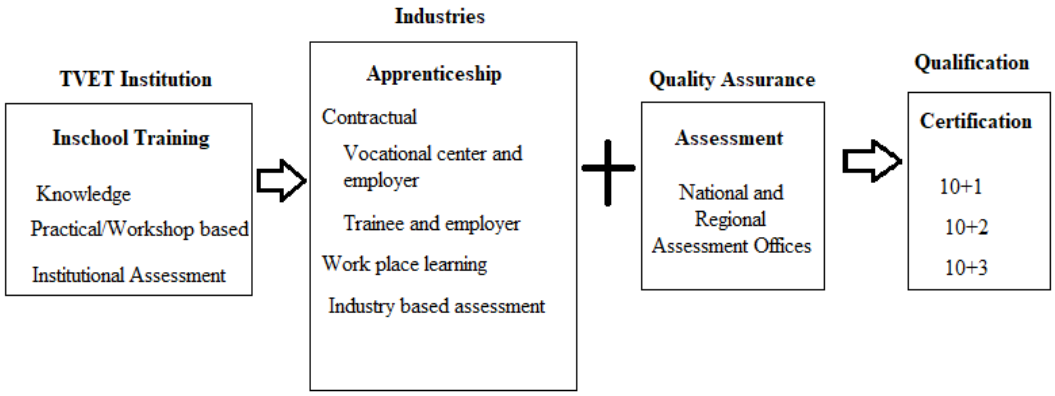

Figure 3: *Dual Training system of the Ethiopian TVET program (1994 – 2009)*

Enterprises. Further training is required for the practitioners to be competent in ever changing world economy. With technological changes, a structural transformation towards more knowledge intensive production, methods and services is to be expected. The trend seems to be brought in from abroad as it is applicable in other parts of the world. In this sense, Descy (2014) reported that as many economies are struggling with shortages in qualified labor force, which will intensify drastically in the coming years. Consequently, the need for continuous and life-long vocational training is increasing from time to time (Bonekamp & Sure, 2015).

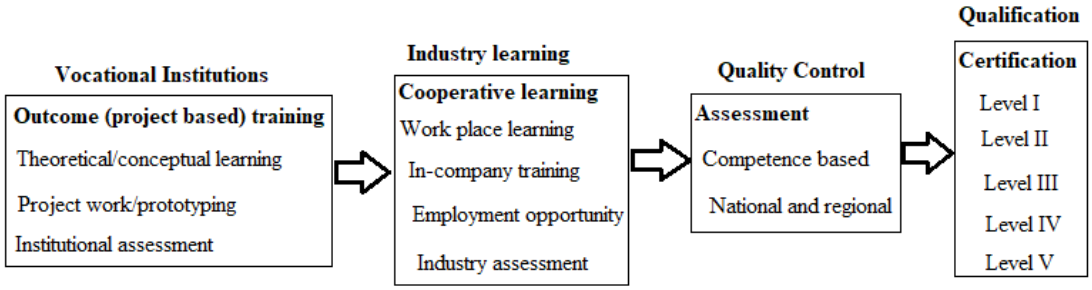

Figure 4: The current Ethiopian TVET system

Occupational assessment is another component in the system which is conducted by the industries which are the owners of the occupational standard as they are mutually responsible for the industry learning (Figure 4). Occupational qualification certificates are awarded upon passing the occupational assessments according to the qualification levels achieved. Occupational assessment and certification are accessible to all candidates who feel competent that they meet the requirements of the respective occupational standard, irrespective of how and where they were trained or learned. Contrary to past practice in Ethiopia, access to occupational qualifications is no longer dependent on attending a formal TVET program (MOE, 2021; MOE, 2008). Occupational assessment will be the major tool to integrate different TVET delivery modes and recognize prior learning, significantly increasing access to the TVET system and its qualifications for a greater section of the society. Moreover, the assessment procedure serves as a quality control mechanism in the TVET system as depicted in Figure 4.

Relevance of the Ethiopian TVET System

The survey conducted by the World Bank found that the large proportion of medium and large firms stated that worker skills are a severe or very severe constraint on business (World Bank, 2009). Similarly, according to Allais (2022), sub-Saharan African countries have low numbers of well-paying jobs requiring technical expertise and African TVET systems are 'under-resourced' and 'obsolete' with 'damaged infrastructure' and 'inadequate inter-sectorial linkages' (Geressu, 2017). The African Union, on the other hand, described the quality and relevance of Ethiopian TVET as handicapped due to stagnant employment opportunities, poor quality in the delivery of curriculum, weak leadership and meager stakeholders' involvement (Geressu, 2017). For a sector with poor/bad perception by parents, employers and politicians,

the continent continued importing skilled human power (Geressu, 2017, Powell & McGrath, 2019).

One segment of vocational education is its productivity which ensures employability to bring economic development (Giddens, 1994). In this regard, Anderson (2009) identified two key productivist assumptions: (i) training leads to productivity, to economic growth, and (ii) skills lead to employability, lead to jobs (Artess et al., 2017). The labor market highly demands workers with experience for productivity and low cost of training (Arrow, 1962; Salvisberg, 2010; Thurow, 1975). An industry prefers to hire an experienced but not holding any certificate to a fresh graduate with diploma or degree. That is how training institutions approach the problem by including exposure (experience building) curriculum in their training programs (Cranmer, 2006; Helyer & Lee, 2014; Billett, 2014; Silva et al., 2016). Nonetheless, none of the official documents from the TVET stakeholders precisely described the cause of non-relevance of skills is attributed to loose coordination between them.

Understanding the labor market trend of a specific area or country plays an important role in alleviating problems of unemployment and underemployment that are the direct causes of poverty and, in some cases conflict as well. Labor Market Information (LMI) is also very important for competitiveness and economic growth of countries, particularly, for proper growth strategies.

Labor Market Information encompasses all quantitative and qualitative facts related to a labor market. It includes statistical summaries regarding demographics, employment, unemployment and vacancy rates; industry data; occupational statistics; summary report on outcomes; and forecast of future trends. In this regard, the Ministry of Labor and Social Affairs (2009) asserted that the country has very low Labor Market Information System and a weak labor organization system. Consequently, there is a quantitative and qualitative mismatch between the TVET supply and demand of employers. Quantitatively, there is a wide spread unemployment among TVET graduates on one hand while there is a wide market vacancy for TVET graduates. Graduates' inability to fulfill the required minimum competence level and standard is evidence for the prevalence of qualitative mismatch between what is supplied and what is demanded. However, all these data can only be obtained through a coordinated system of stakeholders. Thus, the TVET sub-sector needs to coordinate its efforts with that of its stakeholders such as Agriculture, Trade and Industry and other regional stakeholders involved in the training (Lasonen et al., 2005).

The quantitative mismatch of TVET graduates and the labor demand lack valid data for justification as little publications are made available to review. Training intake should be based on the market study about the demand of the industries. According to the Ethiopian National TVET strategy, the sub-sector needs to focus on labor market demand. Labor market information shows all the demographic developments, number of school leavers at different levels, number of unemployed by region, qualification profile, etc. The analysis on labor demand side includes skill gaps, employment trends by sectors and occupations, emerging

markets, new investments, economic opportunities in rural areas, etc. Data could be obtained from the Ministry of Labor and Social Affairs, the central Statistics Agency, Ministry of Trade and Industry, Regional Micro and Small Enterprises Development Bureaus, etc. Thus, the quantitative problems of the sub-sector can only be addressed through a reliable labor market study. Yet, employers complain the quality of graduates does not meet their standard of employment. This is in part due to the fact that the occupational areas of skill development being delivered in the TVET are not relevant to the country's socio-economic context.

The commonly known skill development areas being in use are Auto Mechanics, Information Technology, Construction, Electricity, Garment/Textile and Business and Finance. For a nation like Ethiopia where more than 80% of the population is dependent on agricultural practices, there are only few occupational skill development curricula in the sub-system. In the then SNNPR, among the 52 centers contacted, only two colleges have a training program in agricultural areas. Based on an annual booklet published by the regional TVET bureau in 2019 which lists training areas of all public TVET providers in the region, the agricultural occupational areas found in a college trains in level one and two which is the lowest level of the training programs (SNNPR TVET Bureau, 2019b; MOE, 2008).

A structural analysis conducted by the Edukans Foundation (2009) indicated that vocational guidance and counseling plays pivotal role in matching training delivery with the market demand. It does this by delivering the required information regarding the world of work and the training delivery that enable the prospective student arrive at a mature decision.

The newly formulated Education Development Road Map (2018-30) also stated that the TVET strategy introduced occupational standards and outcome-based curricula to ensure relevance of the TVET for economic and social development. The initiative seems plausible but the system is still stacked by the problem of relevance. A survey on two garment and textile factories in Addis Ababa indicated that they employ TVET graduates every year but forced to provide additional training in order to upgrade their skills to the requirements of the factories.

Quality of the Ethiopian TVET System

The 1991 change in government brought significant changes on every aspect of the country. The introduction of liberal economy ignited the need for massive human resource. The Plan for Accelerated and Sustained Development to End Poverty (PASDEP), Ethiopia's second poverty reduction strategy paper, estimates that the Country has to raise its average economic growth rate to 8% annually in order to achieve the Millennium Development Goals. Although challenged by financial resources, the government vested much attention on the sub-sector and vocational schools were mushrooming in every corner. By the time of the introduction of the 1994 Education and Training Policy, around 35 million people of the Ethiopian work force are characterized by low skill levels and very low average educational attainment. Only 10% of the urban population has post-secondary school education. As a consequence, 75% of the workforce is concentrated on low skill employment sectors such as commerce, services and elementary

occupations. Less than half of the urban workforce is engaged in wage employment. A significant portion of the urban workforce works for unpaid family business. More than 40% are self-employed in the informal economy, most of which live on the edge of poverty (MOE, 2008).

Since the implementation of the Policy, however, there was a continuous complaint and criticism on the deteriorating quality of education. The challenges were beyond the capacity of government (Poluha, 2001) that include teachers' wretched work conditions; lack of textbooks, teaching aids and materials; and overcrowded schools. Quality of the vocational education deteriorates due to many reasons. Although the Government has raised public expenditure on education to 4.6% of the GDP, it will not be enough to ensure education for all (Lasonen, et al. 2005). An assessment made by UNESCO found that the quality challenges included lack of quality training materials, outdated equipment, teaching and learning methods and approach that differ from one training to another and absence of competence based training materials and assessment systems (UNESCO, 2012). The quality of education depends on teachers' pedagogical training, student and teacher ratios, educational expenditure and student achievement as indicators of quality (Lasonen et al. 2005). The source of finance for acquiring training equipment predominantly comes from donors like the World Bank, European Union, IMF, African Development Bank, etc. As the model of training was derived from best practices of other countries such as Germany, Vietnam, Singapore and Japan which have implemented the dual training system, the sub-sector required huge investment for full functioning because there were few industries for the apprenticeship. Only few vocational centers located in big cities have the chance to obtain the minimum required machineries and equipment for their training. Many of the vocational schools located in rural areas do not have such facilities and students do not have the access to practice and use. However, both the newly developed Education and Training Policy (MOE, 2023) and the Education Development Roadmap (MOE, 2018) did not show how the cost-sharing scheme between TVET providers and cooperative companies will be instrumented in improving quality of training.

If the TVET Program is to be effective, the system should ensure employability of graduates. Many countries are facing difficulties in making transition from formal schooling into employment (Euler, 2013) and this can be addressed through the proper implementation of German dual training model. Inability in implementing the dual training program aimed to conduct training both in the school's workshop and in nearby companies, has created a problem on the overall quality of the sub-sector because there were no such companies operating adjacent to the vocational schools. For some, who have the access in large cities, like Addis Ababa, Hawassa, Kombolcha, Debre Birhan and Dire Dawa, the companies were not well informed about the policy and resisted the application of dual-training. Because of this, the vocational schools were forced to rely on their own workshop-based training which was challenged by shortage and outdated facilities (MOSHE, 2018).

The TVET system was implemented on an empty ground with regard to competent trainers. Although there were some teachers who were serving in comprehensive schools, they were

incomparable with the number of newly inaugurated vocational schools. Moreover, the expansion of educational system has created shortage of teachers even to meet the minimum teacher-student ratio (Lasonen et al., 2005). Highly competent, qualified, motivated, flexible and creative TVET teachers and instructors are the backbone of any TVET system, capable of adjusting to changing technological environments and creating conducive learning environments for different target groups. To this effect, the Government of Ethiopia was in the process of fundamentally overhauling the system and provision of TVET teacher/instructor training. The aim of this process was to create a corps of TVET teachers/instructors capable of preparing trainees to successfully pass occupational assessment. If Ethiopia is to improve quality of education and achieve its universal objectives, it must engage a great number of new teachers annually (Lasonen et al., 2005). A working paper published by Froyland (2001) and Abebe (2009) also showed there was a shortage of TVET teachers, and hence the government was forced to contract many TVET instructors from abroad.

Systematic training, education and further training was provided to teachers and instructors in the TVET system at all levels in the formal programs. Official reports obtained from the concerned stake holders in the Ethiopian TVET system between the years of 2001 to 2005 showed the system had shortage of qualified trainers in lower and upper levels of qualification (MOE, 2005, 2010; SNNPR TVET Commission, 2002, 2003). However, the system seemed to create its own trainers through learning with their learners. Alternative training of teachers for the vocational stream was provided through summer in-service programs to upgrade existing diploma holders into first degree. Additional TVET experts and teachers were brought from Germany, India, China, Nigeria and Cuba to bridge the deficiency (Lasonen et al., 2005). The Country did not have any single higher education institution that provides training for teachers of vocational education. Thus, the quality of vocational education was heavily halted by availability of qualified and competent teachers.

The preparation of TVET institutions by equipping with the necessary training materials was started soon after so many vocational schools were opened. With an objective of strengthening vocational teachers' training and further training at NCTTE, the national TVET teacher training college was established through the financial aid from the World Bank in 1997/98 and later joined by the Ethio-German TVET program in 1999 to train a two-year program for TVET teachers and a two-year program for training technicians in 1999 (MOE, 2005). Though the effort was considered as a relieving measure, the attrition rate for TVET teachers was as high as 20% (Froyland, 2001). The National TVET Strategy (MOE, 2008) stated that increasing the supply with relevant training and further training, TVET teacher training at higher education institutions is currently being strengthened and new programs are being developed. Furthermore, new TVET teacher/instructor training faculties or departments will be established at the respective Ethiopian universities.

Coordination among stakeholders is very low. A report obtained from the FDRE TVET Agency (FTVET Agency, 2017) indicated the cooperative work among different stakeholders of the sub-

sector is the major problem in the academic year. Although a few committees were formed, the agency reported, there was no binding plan prepared in consent of the parties and hence, at the end of the year, it was found that there was no coordinated output.

The Ethiopian TVET Strategy states that TVET operates at the interface of different sectors of society, notably the education sector, the labor market, industry, MSE sectors, agriculture and rural development, and public administration. In order to serve all these sectors through high quality and demand-responsive instruments, the TVET system must be steered and implemented with the involvement of a wide stakeholder group. Different stakeholders contribute their own expertise, experience and capacities, in order that their combined efforts improve the relevance and effectiveness of the TVET system (MOE, 2008). The ESDP-V further insisted that the industry leads the TVET sub-sector during the program's period, guiding revisions to Occupational Standards (OS), calling for adjustments and improvements when the sector needs change.

The involvement and active engagement of the stakeholders highly determines the quality of delivery of TVET programs. In the first place, these stakeholders are the owners of the occupational skills and need to ensure the proper implementation. To this effect, they should facilitate the way the trainees should be sent to the industry for practical engagement and final assessment against the occupational standard because they are the employers of the graduates from the TVETs. Cooperative training has the advantage of systematic learning in and exposure to workplace realities, making training more relevant, holistic and sustainable (Barnová, 2020; MOE, 2015b). Using industry trainers either in the form of Supervisors or Dual Employment could be enhanced through the cooperative engagement of stakeholders in the training process. Nonetheless, no report was found from any stakeholder on its performance and about future plans.

The stakeholders, on the other hand, could be sources of finance for expansion and acquisition of training facilities which have a direct impact on quality of training. The TVET system naturally uses comparatively expensive resources and it requires huge capital for uncompromised quality of training. This burden can only be relieved by the involvement of stakeholders to share cost of training. The stakeholders could provide finance or training machineries in support of the sub-system. Moreover, trainees can be sent to these well-organized organizations for practical training in modern machineries.

Since the stakeholders are the owners of the occupational competencies, they are expected to assess the TVET graduates against their standards. However, since there is little coordination among the TVET providers, the assessment is being conducted by an agent established for this purpose. Most of the assessors are trainers and few industry practitioners. Therefore, it is too difficult to ensure quality of training while the industry is not fully overtaking the responsibility of assessment. Reports obtained from two regions (Addis Ababa City Administration and the then SNNPR State Administration) indicated that they are conducting occupational assessments with non-professionals and mostly with TVET trainers.

Conclusion

Human resource development is a key in Ethiopia's future economic and social developments. As indicated in the TVET strategy (MOE, 2008), with the Plan for Accelerated and Sustained Development to End Poverty (PASDEP), the Industrial Development Strategy and other sector development strategies, the Ethiopian Government has initiated a new push towards designing frameworks conducive to economic and social development. Comprehensive capacity building and human capital formation are key pillars in all these efforts. As such, this National TVET Strategy is an important element of the overall policy framework towards development and poverty reduction. However, the contribution of the TVET sub-sector to the country's development depends on the relevance of the TVET programs to local needs of the country and quality of training.

Initially, the TVET program focused on eight priority sectors: agriculture, industry, economic infrastructure, health, hotel and tourism, trade, mining, labor and social affairs. The current situation, nevertheless, shows the TVET sectors' main focus is on industry and labor and social affairs. Moreover, the newly adopted Ethiopian Education Development Roadmap 2018-2030 (MOE, 2018), shows that the TVET strategy introduced occupational standards and outcome-based curriculum to ensure relevance of the TVET for economy and social development. This initiative seems plausible but the system is still stacked by the problem of relevance. Ironically, what the TVETs produce is not being employed and what the industries need to employ has not been produced yet.

Ethiopian skills are not aligned to the local needs of the country's economy. Every TVET institution opens common occupational areas such as Information and Communications Technology, Construction, Automotive, Metal Work, etc. without or with little investigation of the local skill demand. If proper investigation is conducted on skills demand of the local economy, graduates may have a greater opportunity to get employed in these industries. The Ethiopian economy is characterized as dependent on agriculture; crop and livestock production. According to the Report of World Bank (2009), the rural agriculture sector accounts for about 85% of the country's population engagement. In addition, the agricultural sector is characterized by the use of traditional, manual, labor based and inefficient mechanism of production. Yet, research shows that the Country is endowed with numerous mineral resources.

The quality of vocational training is impacted by a number of factors that include training facilities, trainers, cooperative industries, leadership, among other things. The expansion program has to reach each Woreda and has to have at least one TVET center. However, they are challenged by shortage of updated training facilities, qualified trainers and cooperative industries around them.

The quality problem of the TVET providers has an impact on the industries. For instance, the industries are not getting graduates who can satisfy their standard. The quality of training is measured through assessment conducted by the industry, TVET authorities and an independent

agency (Center of Competence, COC) at each region. The assessment results show on average that less than 42% of the graduates are competent in each academic year.

The quality parameter also differs from region to Woreda levels due to unequal distribution of training facilities, workshops and cooperative industries. TVETs that are found in big cities have a big chance of getting better training facilities. In addition, since a lot of industries are operating around these cities, trainees enrolled in these TVETs have a better chance to go for apprentice and practical engagements in these factories than those found in rural areas.

Recommendations

For a country that aspires to transform from agriculture to the mechanized industrial economy, the skills training program is significant in increasing productivity and increased input for the industry and export. In the Ethiopian context, rural unemployment is increasing because of backward farming techniques, dependency on rain fall and limited development of farming infrastructure. Demand driven and market based TVET of formal and non-formal programs, therefore, need to be extended to equip rural youth with relevant skills for self-employment or engagement in micro-economic activities at family level as well as in cooperatives (Educkans Foundation, 2009). Occupational skills on mining and mineral works also help to boost the revenue generated from the sector.

Involving the stakeholders in TVET operations is essential for the success of the sub-sector. The government alone cannot fulfill all the training facilities including trainers. As stated in the ESDP V and Strategy, the stakeholders or industries should take the responsibility to own the TVET sub-sector in developing occupational standards, facilitating the cooperative learning process and assessing the performance of graduates in particular and TVET providers in general. Moreover, the industry should assist training programs by providing updated and sufficient training facilities which are difficult for the Government to avail.

Awareness programs must be carried out among the community members about the occupational areas the Country demands at large. Agriculture, mining, forestry, etc. are considered as secondary options of training by the trainees and the community. As indicated above, however, they are the backbones of the Country's economy and can employ large number of graduates each year. Thus, the perception of the society towards these training areas must be shaped.

The expansion program of TVET centers should be accompanied by sufficient training facilities and competent trainers. Training facilities can be obtained from the government, donors, industries or internal revenues. Trainers should be prepared for the occupational skills. Quality of trainers could be improved through their engagement in the industries for practical training. The sub-system needs to have its own source of trainers like Technical Universities. Trainers should also be exposed to the ever-changing technological environment.

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