

## **Improving Technical and Vocational Education and Training in Kenya for Sustainable Development**

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### **ABSTRACT**

The quality of workforce that a country produces determines the progress that it makes economically, socially and politically. Technological advancement has influenced the decisions that employers make with regard to the workforce that they employ. To be able to make progress and to improve its economy, a country needs a workforce with specific skills that are instrumental in driving its economy to greater heights in the advent of an ever changing labour market. Achievement of such a dream is dependent on Technical and Vocational Education and Training (TVET) Institutions whose core mandate is to give individuals opportunities to acquire the much-needed technical skills. Technical and Vocational Education and Training in Kenya has for a long time been relegated to the periphery with the center of focus being put on the basic, secondary and higher education (university being the major beneficiary in the latter This could be attributed to the fact that technical institutions have been viewed negatively by the public in general and the youths specifically. Despite the challenges faced by these institutions, they are critical for the advancement of economies and improvement of the Gross Domestic Products of nations. They are also vital in the provision of skills aimed at reducing the skill gap that has resulted in different organizations importing labour because of the challenges of getting employees with the required skills. Kenya as a country has not made significant strides in the technical sector thus a lot has to be done with regard to TVET. The study was guided by the following objective: to discuss the ways in which Technical and Vocational Education and Training Institutions can be improved in order to meet the demands of the changing labour trends. The main data collection instrument was an interview schedule and the sampling technique that was used was stratified random sampling method. Respondents were sampled from different strata. Data was analyzed both qualitatively and quantitatively.

**Key words:** Technical and Vocational Educational and Training, technological advancement, workforce, labour market, Gross Domestic Product

## **INTRODUCTION**

Nyerere (2009) opines that education is instrumental in the modification and approval of communities. Through it the youth attain skills, knowledge and attitudes to enable them become productive members of the society. Since education contributes to sustainable development, it is acknowledged in Kenya as an area of developmental intervention; Poverty Reduction Strategy Plan of 2002 and in the Vision 2030. African continent is heavily endowing technical and vocational education and training because of the benefits that accrue from it. Technical and Vocational Education and Training (TVET) is regarded as the chief project that the economy must elementally lean on to produce sufficient middle level technicians required to precipitate the economy towards the achievement of vision 2030. According to Muthama (2015), technical and Vocational Education and Training is an extensive system that entails those aspects of the educational process that encompass general education, the study of knowledge, practical skills and attitudes relating to occupations in various sectors of economic and social life.

TVET is crucial for a variety of reasons. A research conducted in Brazil to find out whether TVET yields economic gains found out that the labour-market positioning of individuals who completed a technical-vocational course is higher than for individuals who pursued more general types of education (Park, 2005). Moreover, there are positive and statistically significant impacts of technical education, especially at the upper secondary level (Almeida et al., 2015). Sigu (2017) notes that TVET helps in meeting the soaring demand of resources to avoid incidences of discord between what is learnt and what is required. This is crucial in ensuring that the skills that are obtained are pertinent for the job market. In addition, the courses offered at the technical and vocational training institutions equip the students with a variety of skills namely: self-awareness, communication, problem-solving, entrepreneurship, time and stress management as well as green skills for sustainable use of resources.

TVET institutions are also instrumental in curbing the menace of unemployment. Unemployment figures in Kenya are a justification that the education system may not be effectively preparing the youth for the labour market, hence the need for the intensification of the TVET programme. Biko (2019) confirms that TVET empowers the youth with the skills needed to access the job market, obtain decent jobs and cultivate an entrepreneurial spirit. TVET offers students opportunities to acquire soft skills such that graduates from these learning institutions play a crucial role in formulating and executing feasible solutions to challenges such as environmental degradation, waste, access to safe water and hygienic sanitation in overcoming poverty (UNESCO- UNEVOC, 2012).

### **Statement of the problem**

Until recently, the technical and vocational education echelon in Kenya has received minimal attention as compared to the other echelons of education. This to some extent could be attributed to the negative perceptions that the public has had with regard to technical and vocational training. Moreover, government reforms on education have been concentrated on the basic, secondary and university levels relegating the technical component on the fringe yet technical skills are principal if any country is to make positive and sustainable economic strides.

Research has revealed that expeditious technological advancements witnessed across the world which has led to an inordinate demand for skilled labour can be achieved through technical and vocational education and training and capacity building. Such kind of training is a prerequisite for the socio-economic development of a nation as it is one of the principal tools that can be used by a country to substantially reduce the levels of poverty and to address the grave problem of unemployment. In order to increase their Gross Domestic Products to commendable levels, countries have invested (Fernando, 2011) in technical and vocational training for various reasons namely: it is a platform through which opportunities in the labour market have been expanded, it has provided tenable upkeeps to a majority of the population and it has led to individual and societal emancipation in diverse settings. It is therefore the onus of a country to improve and strengthen its technical sector of education so that the needs of its citizens can be fulfilled. It is from this perspective that the study discussed the ways in which Technical and Vocational Education and Training institutions can be improved in order to meet the demands of the changing labour trends.

### **Specific objective**

The study was guided by the following objective:

To discuss the ways of improving TVET institutions in order to meet the demands of the changing labour trends.

### **Literature review**

The need to improve the training in TVET institutions has been prompted by the challenges that have been faced in various countries. For example, there is lack of regular refresher courses to help the teachers in TVET centres keep up with the changing tendencies (Kirior 2017; Anindo et al., 2016; Ngure, 2015 & Nyerere, 2009). UNESCO- UNEVOC (2012) points out that one of the key pointers to success of different economies is the qualification that its skilled workers have to be able to handle challenges in their sectors. These skills are disseminated by the teachers or trainers. The professionalization of TVET teachers and trainers as well as that of TVET teacher educators is widely regarded as a crucial issue that influences the functionality and quality of any TVET system. At the centre of the success of any TVET system is the essence of reciprocity between teachers or trainers and the trainees. It is this interaction that dictates the end result. However, some teachers or trainers at the TVET institutions do not have industrial background and have often not had the opportunity to get hands-on experience of the work place that they are preparing the students for. Similar gaps are also witnessed in the job market where experts in industries lack education background and structures to enable them engage in teaching processes, hence there is no interaction between learning and professional practice.

Konayuma (2008) notes that TVET delivery system in Africa is denoted by low quality with undue emphasis on theory and certification rather than skills acquisition and competencies testing. Another challenge is that there is biased enrolment of students to different courses offered by the TVET institutions with regard to gender. Females tend to choose career paths that are traditionally designated as feminine while men choose those that are masculine. According to a study conducted by Onyango et al. (2017), familial responsibilities especially among females and other gender constraints influence the structure and career choice decisions made by them.

Teachers trained to teach general and technical education are both exposed to similar methodologies despite the fact that they are being prepared to handle learners pursuing different

interests. The same procedures that they are subjected to are the same ones that they cascade to their trainees. This becomes a challenge especially to those learners in TVET institutions because they are not adequately prepared to receive technical skills and competencies that are principal to the labour market (Konayuma 2008; Woyo, 2013 & Anindo et al., 2016). The cost of offering TVET programmes as compared to other forms of education is high. Fullan (1991) argues that TVET is a more exorbitant system of learning than academic education. This is compounded by the preposterous cost of equipping vocational classrooms and work-shops.

### **Theoretical framework**

The study employed the Functional Context theory by Sticht et al. (1991). This is a cognitive learning theory based on the premise that students learn better when instruction is based on prior knowledge base making use of long-term memory. Sticht notes that the instructional strategies developed require students to make use of their language and problem-solving skills. He further postulates that learning has everything to do with a person's environmental influences. Learning is accomplished through the context of the student's activity, giving them the ability to transfer their classroom learning successfully to their daily work tasks.

This theory is grounded on four principles. The first is that instructions must reach the goals of the lesson and help the student use his/her prior information. Second, educators can improve literacy by: good content knowledge, information processing skills or design of the learning tools. Third, educators have to use tools and materials that match what the students are learning. Last, a new assessment of learning requires the measurement of context. It is thus the obligation of TVETs to expose their learners to a setting that is homogenous to the one that they will come across in their work places to enable them apply the skills that they have learnt successfully.

### **Methodology**

The study adopted a descriptive research design. This design was deemed meaningful because it enabled the researcher obtain facts on the problems facing TVET institutions and the strategies that can be used to improve these institutions to enable them be used as platforms for the attainment of technical skills that are crucial for the fulfillment of the needs of the Kenyan society. The target population for the study was TVET trainers in Homabay County. A sample of fifty respondents from five TVET institutions was selected. Out of these, ten were heads of departments. Data was collected using an interview schedule and it was analyzed both qualitatively and quantitatively. The former involved coding, classifying and interpreting the content in terms of the established themes and patterns. The latter, involved using simple quantitative analysis in which a table was used to show the number of respondents who mentioned the constraint in question and the percentage. A graph was also used to present the same information.

### **Findings**

There are several challenges that the TVET institutions experience in their quest to provide technical skills that are principal in driving the economy of the country. From the interviews conducted with the respondents, the following were mentioned as the challenges affecting the TVET institutions in Kenya:

#### **Insufficient funds**

90% of the respondents interviewed mentioned insufficient funds as one of the impediments to realizing the goals of TVET institutions. They noted that without funds, the institutions cannot function effectively as most operations will be hampered. The quality of services offered will also be affected and the students will not be in a position to acquire the skills that will help them be competitive in the labour market.

### **Use of obsolete equipment**

This was another major challenge that affects the TVET institutions as pointed out by 98% of the respondents. One of the trainers who was also a head of department had the following to say:

*The idea of technical education has always been a noble one. It gives the youth opportunities to acquire skills that are instrumental in the job market. However, the trainer finds himself/herself in a dilemma especially during practical lessons. Some of the equipment that we use in the workshops are outdated. They no longer serve their purposes because of their limited applications. Some of them have broken down and the costs of repair are high. In other cases, it is difficult to get spare parts for some equipment and the trainer is thus at pains to teach practical concepts which require demonstrations. Had we sufficient funds, modern equipment would be purchased. I once went out on attachment at a certain industry whose name I will not mention. When I talked to my student's immediate supervisor, inquiring about the progress of my student, he was shocked that my student was unable to operate what he termed 'a simple' equipment. I got curious and requested that I see the equipment in question and he gladly took me to where it was stationed. To my shock, I had neither seen such equipment nor handled it for that matter. That experience troubled me and when I went back to my institution, I discussed the issue with the principal and we agreed to purchase a few modern equipment because of the limited funds that we had, for the benefit of the trainers and the trainees. Had the government allocated adequate funds for TVET institutions, I believe such an incident would not have happened.*

There is still a huge deficit in terms of funding in the TVET institutions. This fact is acknowledged by the Principal Secretary in the state department of Technical and Vocational Education and Training in the Ministry of Education. According to a report filed by Matete (2019), the principal Secretary in charge of TVET notes that the centres suffer a deficit of Kshs 64 billion. These funds are crucial for the extension of infrastructure, employment of enough tutors and the purchase of more equipment to cater for the rising enrolment which has increased by 130 percent.

### **Inadequate mentorship**

Another challenge that was mentioned by 80% of the respondents was inadequate mentorship. A respondent observed that students who enroll in TVET institutions should be given sufficient guidance on the choices of careers, how to behave while on practicum as well as how to develop professionally once in the job market. She noted that some students choose courses not because of their interests and capabilities to undertake them but because of the influence of their parents, peers or mentors. She narrated an incident which exposed the challenges that trainees go through in making decisions on the kinds of courses to enroll in when they are admitted at the TVET institutions. She had the following to say:

*I was appointed the career mistress in my institution and I realized that most students faced challenges in making decisions with regard to the courses that they pursue. I once had an encounter that bothered me for several months. It was after attending several counselling sessions that I overcame it. Mary was a promising student going by the grades that she had attained in her Kenya Certificate of Secondary Education examination. When she joined our institution, she enrolled for a diploma in mechanical engineering. During one of our class sessions, she told me that she was looking forward to being a mechanical engineer just like her guardian who had cared for her ever since her parents died when she was still in lower primary school. Two terms into her course, I realized that her performance had deteriorated and she was asked to retake some of the units that she had failed. When I asked her what was happening, she revealed to me that the course had proved very difficult for her and she was struggling to understand most of the concepts the reason why she had several failures in the varied units. I advised her to drop the course and enroll for one that she could manage but she said that her guardian would hear none of that since he was the one paying the school fees and the one who had coerced her into enrolling for that course. I asked her if I could talk to her guardian on the issue but she refused. Mary never reported back to college after the long holidays. Sadly, word reached us that her lifeless body was found hanging on a tree behind her late parents' house.*

From the narrative, it is clear that proper guidance should be given to the students who join TVET institutions to enable them make informed decisions about the courses they wish to undertake. Once these decisions have been made, the students should be assigned mentors who will walk with them in their quest to acquire skills in their areas of specialization.

### **Poor teaching methodology**

The teaching methodology used to disseminate information to the learners was another challenge that was mentioned by 74% of the respondents. The respondents admitted that most of them were still using the same approaches that they used when they got employed despite the dawn of advanced technology. To emphasize on this challenge one respondent had this to say:

*I have been teaching in my institution for the past thirty years. In that period, I have used the same materials and same methods to deliver the content. Sometimes I do not carry any book to the classroom because the information is at my fingertips having taught for several years. I must admit that times are changing and we should revise our teaching methods because the concepts being taught and the skills to be acquired have changed. If we could undertake refresher courses, then we will be better placed to deliver the theory as well as the practical as expected and improve our competencies. It is only then can we expect better results from our trainees.*

### **Inadequate trainers**

92% of the respondents mentioned inadequate trainers in some technical subjects as a constraint affecting the TVET institutions. This problem meant that the number of students enrolling in the courses in question was restricted. In serious situations, students were not admitted in some others because they completely lacked trainers. Related to this limitation was the level of qualification of the trainers. It was established that some trainers were diploma holders while others were first degree holders. A limited number were master's degree holders. Sang et al. (2012) note that the trainers' level of qualification is cardinal in discerning the effectiveness of the training process. Aduda (as cited in Sang et al., 2012) stresses that the trainers should possess higher qualification to coherently enforce the training duties.

### **Poor management of resources**

Another challenge that was mentioned during the interviews by 80% of the respondents was poor management of finances. Some respondents noted that the funds that are allocated to these institutions for the purposes of development are at times embezzled or used for the purposes for which they were not intended. When funds are misappropriated, it is the trainers who suffer the most because they are deprived of the opportunities to use modern infrastructure and equipment. Consequently, they are inadequately prepared and this impacts negatively on their performance in the labour market.

### **Limited partnership with the private sector**

This was another challenge that was mentioned by 96% of the respondents. Some of them pointed out that they had problems posting trainees for practicum because some industries were reluctant to take them in. This was to some extent attributed to lack of partnerships between the public institutions and the private sector. The respondents acknowledged the role that the private sector plays in technological advancement and they were of the opinion that the government should bring them on board if meaningful strides are to be made in the technical sector.

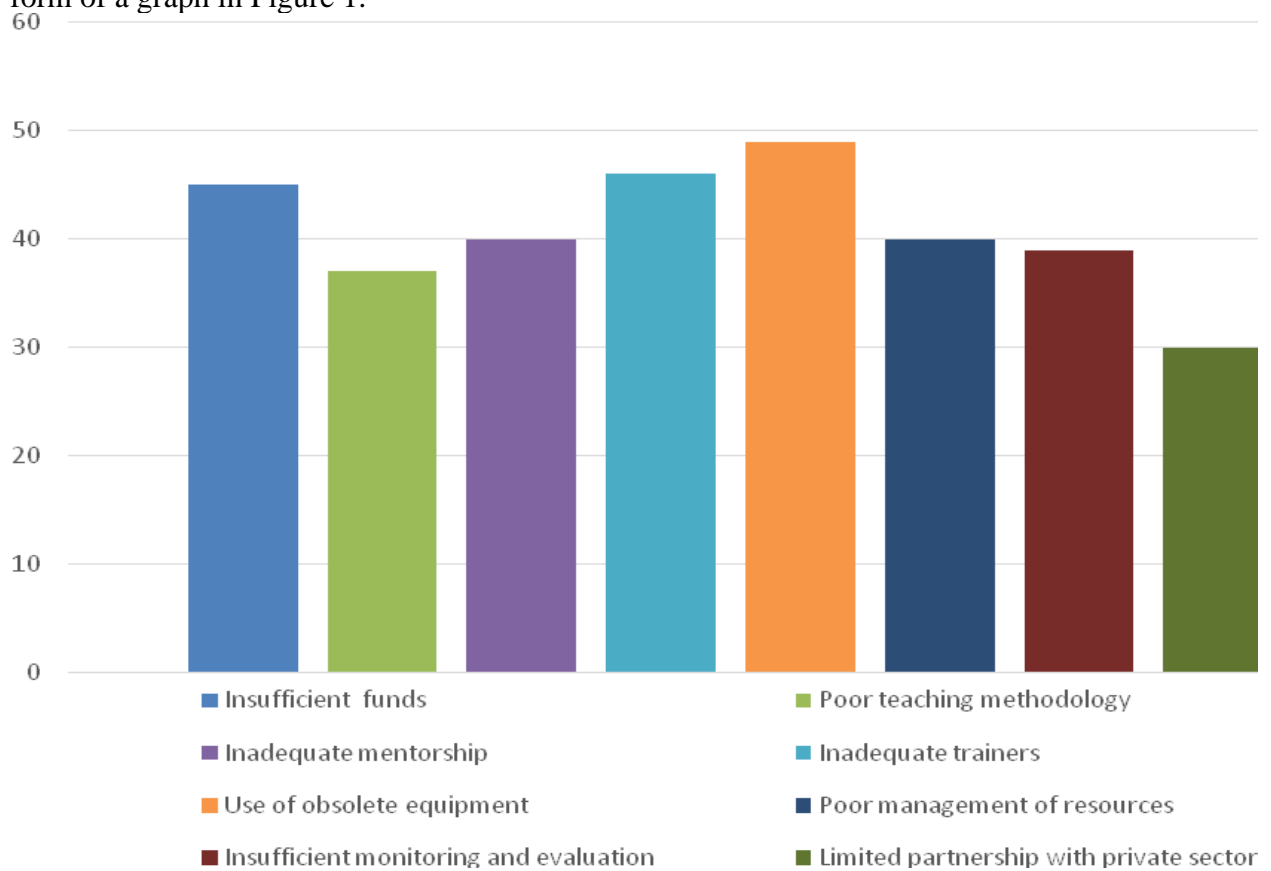
### **Insufficient monitoring and evaluation**

One of the main challenges in TVET institutions is misappropriation of funds by some managers. They fail to be accountable to the stakeholders on how the funds given to them have been used. 78% of those interviewed noted that in many of the institutions where development funds are embezzled, the persons in charge do not monitor how the funds are used. The progress of the projects under construction are also not monitored to find out if they are within the time lines or if there are issues that need urgent interventions so that the funds are not wasted. In other cases, the managers collude with other personnel to write good reports for them when they visit the institutions to monitor the progress of the projects being developed even when there are problems that need urgent interventions. Table 1 shows the summary of the challenges discussed.

***Table 1: Challenges experienced by TVET institutions***

Challenge	Frequency	Percentage
Insufficient funds	45	90
Limited partnership with the private sector	48	96
Poor teaching methodology	37	74
Inadequate mentorship	40	80
Inadequate trainers	46	92
Use of obsolete equipment	49	98
Poor management of resources	40	80
Insufficient monitoring and evaluation	39	78

It should be noted that the frequency in Table 1 shows the number of respondents out fifty who mentioned the problem stated. The information in Table 1 is further presented in the form of a graph in Figure 1.



**Figure1: Challenges experienced in TVET institutions**

There are several strategies that can be put in place to improve TVET institutions based on the challenges that have been pointed out in the interviews conducted with the respondents as well as the reviewed literature. The strategies are as follows:

### **Provision of adequate funding**

TVET institutions require adequately funded to enable them carry out their operations smoothly. The funds are derived from various sources for example the Government of Kenya through the Ministry of Education provides funding for these institutions. Donor funds can



also be sourced by the government or individual institutions to facilitate the operations of such institutions. Foundations also play a principal role in financing the programmes in TVET centres.

Kawira (2019) notes that the core duty of such foundations is to find a solution to the gap that exists between the education sector and the job market. Different Foundations such as Safaricom, Kenya National bank, Barclays bank, and Equity bank among others have been in the fore front in financing TVET through various initiatives. Some of these foundations have paid fees for individual students pursuing different courses others have offered the students in their programmes opportunities for practicum. There are those that have established TVET programmes where the youth can get the needed pedagogical and technological skills to enable them compete favourable in the labour market.

The role that foundations play in facilitating TVET is captured by Kawira (2019). She asserts that different foundations have come on board to address the acute skills gap in Kenya. For instance, the Housing Finance (HF) foundation has introduced a programme called 'TVET on Wheels' training which is designed for artisans that are both unskilled and semiskilled. It selects youths from local communities specifically those living in the vicinities of construction sites. The classroom training is conducted in construction sites and tents that act as temporary classrooms. The trainer uses a tool kit to disseminate knowledge while the students use the tools in the construction site for the practical experience. The purpose of the programme is to produce skilled manpower in the shortest time possible to meet the growing demand of the construction industry.

### **Improving the school environment**

This is another strategy that can be used. Most TVET institutions in the country do not have modern infrastructure and this poses challenges to both the trainers and trainees. The learning environment can be ameliorated by constructing modern workshops and improving those in existence so that trainers and trainees can have a favourable environment to conduct their practical lessons. Modern equipment should also be purchased. The equipment in many of the TVET institutions are obsolescent others have broken down and they may take long to repair because of unavailability of spare parts. Therefore, modern equipment comes in handy because they are not only effectual but also effective. They are also instrumental for the teaching of the contemporary courses being offered in such institutions.

### **Strengthening mentorship programmes in the institutions**

Mentorship programmes are run in the Guidance and Counselling departments. The mentors should work hand in hand with the counsellors. The services of the latter can be used to improve the enrolment of students in the TVET institutions. These services will come in handy because some of these institutions have been negatively perceived as such, students shy away from enrolling in them to pursue their studies. In addition, students often choose courses because of the influence that they get from peers, parents or mentors. Most times they do not consider their interests or capabilities in the courses chosen for them and this may pose challenges. The former is very critical in the holistic development of the trainee.

According to the Ministry of Education taskforce (2012), mentorship is the relationship between an older person (mentor) who is adept and disposed to journey with a younger person (mentee) to assist and steer the mentee's development. Muchiri (2013) opines that mentorship is significant in the contemporaneous job markets as it works to extend employability of

young graduates. It assists the graduates exposed to it to increase their competitiveness in the job market thereby making mentoring an important link between formal education and the job market. Drake (2011) posits that mentorship builds associations with students, pinpoints spaces where they get detached and helps them revitalize when needed. It also helps in the well-ordered transformation from the world of study to that of work (Wuetherick et al., 2017). Mentoring constructively impacts student results such as sense of belonging (O' Brien et al., 2012); dexterity for socially accountable leadership (Campbell et al., 2012); self-reliance in professional skills and abilities (Thiry et al., 2011) and ameliorated cognitive and socio emotional growth, teaching and communication skills (Dolan & Johnson, 2009). A study conducted by Yeung, Nuth and Stiell (2010) on academic physicians in emergency medicine further brings to perspective the value of mentorship. The research found out that 98% of the respondents enumerated paucity of access to mentoring as an impediment to their career progress. They however reported a rise in career gratification and advancement rates of mentored faculty members who participated in a group tele mentoring program.

Muchiri (2013) observes that mentorship is an effectual social sustenance scheme for advancing individual achievement in skills and proficiencies as well as personal and social development in different settings. Despite the fact that mentorship is a reputable undertaking, there are challenges with the implementation of this program. Muchiri (2013) notes that there are very few adults who are willing to assist in the mentoring of young people. This is given to the fact that mentoring is usually an act of voluntarism requiring time, patience and personal devotion. In addition, Dubois et al. (as cited in Muchiri, 2013) notes that there is a constraint in the procedure of enlisting and singling out mentors. Being a highly personal relationship, mentorship can be exploited and mentees mistreated by malevolent persons. Moreover, the cost of running such a programme is also high. However, foundations such as the Equity bank, Safaricom and Housing Finance among others as well as the Private Sector Alliance (KEPSA) could be brought on board to sponsor the mentorship programmes.

For the success of the programmes rolled out in TVET institutions, mentorship is key. Despite the costs involved in running such a programme, the results are promising. Mentees gain a lot from such programmes especially with regard to professional development and career advancements. The mentees hinge on their mentors to gain knowledge, experience and achieve their potentials not only in the school setting but also in the workplace. Mentors aid the mentees to fill the gap between the world of academia and that of the work place. To achieve best results in mentorship programmes, TVET institutions should partner with the private sector in running mentorship programmes. Once the TVET institutions have identified the industries where their students can undertake practicum, they can liaise with employees that have undergone rigorous vetting to act as mentors to their students. The identified personnel will help the students gain experience and acquire employable skills that will make them become competitive in the job market. To reduce the cost of mentoring even further, group mentoring can be adopted.

### **Adoption of effective teaching approaches**

Technology is dynamic and there is need to embrace new methodology in the teaching of the contemporary skills in the technical sector. To be effective in the delivery of content, there is need to offer refresher courses to trainers in the TVET institutions to enable them be cognizant of the contemporaneous inclinations in the job market. Such courses could be offered through workshops or in-service training. The trainings should be undertaken regularly to

help the trainers improve their competencies in curriculum delivery. The training programmes should be made operational by the National Industrial Training Authority (NITA). They should also be tasked with offering professional development courses and regular in-service training to the trainers. The trainees on the other hand, should also be given opportunities to engage in practical lessons in order to sharpen their skills within and without the TVET institutions.

### **Employment of trainers in technical subjects**

The government should employ more trainers to cater for the shortfall in varied technical subjects in the TVET institutions. Different institutions can also come up with ways of filling the gaps in their own institutions. For example, some graduates who have performed exemplarily well could be absorbed in their institutions to act as teaching assistants. The institutions could also get funds through income generating projects for instance, to enable them employ some teaching staff to take care of the shortages.

### **Quality management of finances**

There should be proper management of funds disbursed to the TVET institutions for the development of projects. According to Paramasivan and Subramanian (2009) 'Financial management is concerned with the efficient use of an important economic resource namely, capital funds. Financial management is significant for a variety of reasons namely: it assists in the proper management of funds leading to revamped operational efficiency of the institution or business in question; it also makes the institution/business make sound financial resolutions that affect the running of the entire organization. Moreover, it helps in advancing and mobilizing savings. These savings can then be used in other projects with the intention of improving the institution in question. Since the management of finances is a process, the government through the Ministry of Education should make it mandatory for all the managers of TVET institutions to have background knowledge on how to manage finances. A policy should be put in place to capture this requirement. A course on finance management will enable them have the appropriate know how so that they use the monies in their jurisdictions stupendously. This course could be offered through other government agencies such as Kenya Education Management Institute (KEMI).

### **Encouraging partnerships/ collaborations with the private sector**

Partnerships are important for the strengthening of TVET institutions in Kenya. When these institutions partner with the private sector, numerous gains are realized. Ayonmike et al. (2015) notes that this kind of consociation is valuable to the TVET institutions, their personnel, students, partner communities, industries and the general public. A collaboration between the institutions and the private sector creates a 'win-win' situation in the sense that the former and their trainers can be used by the latter to train and retrain their staff. On the other hand, the TVET institutions can provide the TVET trainees with opportunities to conduct practicum in their establishments thereby acquiring occupation skills that will enable them compete favorably in the labour market. A major concern of stakeholders has been the deteriorating standards of some TVET institutions that were initially in the fore front in generating skilled labour. Some of the challenges that these institutions have experienced are attributed to lack of avenues where the trainees can sharpen the skills acquired in their respective institutions as well as obsolete equipment. Thus, the collaborations between these institutions and the private sector can enable the trainees get opportunities to put in practice the skills learnt and also interact with advanced technology to enable them be conversant with what is going on in the contemporary world. Moreover, the private sector can fund some of the projects in these in-

stitutions with the aim of improving their infrastructure to the benefit of the trainers, trainees and the communities in which they are located.

Ayonmike et al. (2015) argues that the collaborations between the TVET institutions and the private sector should be properly designed and mechanisms put in place to avoid financial and policy risks. There is a raft of measures that need to be considered to improve partnerships between the TVET institutions which are public entities and the private sector. One such strategy is the revision of the policy on public private partnerships that had already been formulated to accommodate more sectors among other concerns. The government of Kenya through the relevant agencies should encourage industries to collaborate with the TVET institutions so as to inject pertinent skills, perspectives and efficacies to the trainees in order to prepare them sufficiently for the challenges of the labour market. Appropriate monitoring and evaluation tools should also be put in place to take care of such collaborations so that the industries that get into such partnerships are competitive in terms of their inputs in the TVET institutions and they also observe transparency and accountability in their dealings.

Another strategy that can be put in place to promote public private partnerships is by offering incentives to the industries that enter into partnerships with the TVET institutions as a way of motivating them to continue offering support to these institutions. The national as well as county governments could give tenders to these industries to provide goods and services as a way of showing appreciation to them for having partnered with the TVET institutions. The government can also provide a conducive environment for the industries in such partnerships to enable them carry out their operations smoothly. This is critical because research has proved that the private sector plays a principal role in the development of any country's technical sector.

A policy that instructs county governments to give a certain percentage of tenders to TVET institutions should be developed. If county governments give tenders to these institutions to supply them with the goods that they produce or the services that they offer, it will go a long way in building the financial bases of such institutions. This will enable them fund their own projects and employ additional staff to cater for the deficits experienced in some crucial departments without having to rely on financial assistance from other stakeholders. The county governments will also gain from such arrangements because they will have created employment opportunities and eradicated poverty albeit to some degree thereby improving the lives of citizens. Such ventures will also give the county governments the opportunity to collect taxes that will enable them run their affairs smoothly. In this way, various stakeholders will benefit directly or indirectly and the economy of the country will improve. The significance of partnerships could also be brought to the fore by conducting sensitization programmes among stakeholders on the need and gains of such partnerships. Various channels such as print and electronic media and *barazas* organized by the provincial administration at the grass root levels among others could be used to sensitize citizens.

### **Conducting sufficient monitoring and evaluation**

In the recent past, the government, donor organizations and other stakeholders have injected a lot of funds to TVET institutions with the intention of improving them to enable them meet their goals. These funds have been used for various activities key among them being the construction of modern laboratories and workshops as well as the renovation of the existing ones to meet the standards. Without adequate monitoring and evaluation of the projects that have

been initiated in these institutions, they may fail to be completed within the stipulated period of time hence fail to serve their purposes.

Biwott, Egesah and Ngeywo (2017) define mentoring as the continual evaluation of a programme or project in relation to the entrenched scheme. It is a management tool that provides continual response on the enactment of the project as it pinpoints prospective successes and limitations that may guide in timely decisions. Monitoring assesses physical and financial progress of projects or programme activities against established schedules and indicators of success. Cartland et al. (as cited in Biwott et al., 2017) note that projects are monitored for the following reasons: to ascertain that stakeholders discern the project; to reduce the danger of project failure; to boost systematic and professional management and to assess advancement in implementation. Cabrera, Colosi and Lobdell (as cited in Biwott et al., 2017) defines evaluation as a process which establishes fastidiously and objectively the pertinence, efficacy, organization, verifiability and effect of the activities in the light of a project/ programme performance focusing on the analysis of the progress made towards the achievement of the stated objectives. Hang (as cited in Biwott et al., 2017) opines that evaluation does the following: determining the degree of the achievement of the objectives; determining and identifying the problems associated with programme planning and implementation; generating data that allows for cumulative learning which, in turn, contributes to better designed programmes, improved management and a better assessment of their impact; assists in the reformulation of objectives, policies and strategies in projects/ programmes. Evaluation therefore is a process that determines the viability of programmes/ projects and facilitates decisions on further resource commitment.

Monitoring and evaluation are effective tools that can be used by the government through the Ministry of Education to gauge whether the funds disbursed to varied institutions are being used for the projects for which they were allocated. These tools can also aid stakeholders in making informed decisions on the measures to take in case of misappropriation of the monies allocated for different projects. The reports from these processes can also assist in mitigation thereby reducing the losses in the event that loopholes are identified in good time. Monitoring should be done frequently so that appropriate adjustments are made if need be to ensure the success of the projects. In the TVET institutions, monitoring should be done by the Principal. He/she can also appoint a team to be in charge of the monitoring process and report back to him/her on regular bases. The report compiled after such an exercise should also be sent to the relevant stakeholders for action. However, the government or the institution that sponsored the project should also send its personnel to monitor these projects frequently. The essence of such a venture is to ensure that the projects are brought to completion within the stipulated timelines and that the monies expended are used purposely for what they were allocated for.

Project reports are critical for any organization because of the roles that they play in monitoring and evaluation. Otieno (2000) highlights the various uses of project reports as follows: they provide regularized flow of information needed for decision making; they provide a history of the project which can be the basis for lessons learnt and evaluation of the project; they pin point important variations from the plan; they disclose complications to stakeholders; they help in restorative decision making; they oversee execution of corrective actions; they pin point challenges of existing management and monitoring systems and they proffer reference material for planning of successive projects. Since evaluation is mostly done by external consultants, the government through the Technical and Vocational Education and Training

Authority (TVETA) which is in charge of the TVET institutions in Kenya should send its assessors in three phases that is when the project is half way (short term evaluation), when the project is completed (final evaluation) and after a number of years have passed since the finalization of the project (post terminal evaluation). According to Otieno (2000), the last type of evaluation is usually done to evaluate the effect of the project on the lives of those who use it either directly and indirectly. When monitoring and evaluation is done effectively and conducted at the appropriate time, it ensures the success of the projects. They also inculcate in the stakeholders a sense of transparency and accountability in the use and management of funds bestowed in their care as well as acting as springboards for the attraction of more funds from the government and other stakeholders.

### **Promoting research in Technical and Vocational Education and Training**

Research plays a vital role in the development of TVET institutions in Kenya. The government through the National Research Fund should empower researchers by allocating them research funds that can be used to conduct studies aimed at improving TVET institutions for sustainable development. The funds should be given to deserving researchers on needs bases. Too many bureaucracies that may inhibit scholars from obtaining such funds should be done away with. Loopholes that can be exploited by unscrupulous individuals to acquire these funds for personal gains should be sealed. The Technical and Vocational Education and Training Authority (TVETA) in conjunction with the National Industrial Training Authority (NITA) should also organize regular seminars and conferences where current research findings can be discussed and solutions on pertinent issues ailing the technical sector given and recommendations made.

### **Instilling in the learners the need to adopt greening skills**

Equipping the learners with greening skills which are principal for sustainable development is another critical strategy. Greening skills are important in the face of stupendous deterioration of the environment leading to poor quality of life and the depletion of resources that have come about as a result of poor practices. Without greening skills, sustainable development is not likely to be achieved. UNESCO- UNEVOC (2017) supports the idea of equipping learners with the greening skills. Dubbed 'greening of TVET institutions,' the organization notes that TVET institutions need to incorporate in their curricula greening skills which are instrumental in developing a green economy. It notes that students should be encouraged to espouse practices that are environmentally friendly. Some of the skills that it advocates for are promoting the study of technologies that lead to as far as possible the use of invaluable raw materials, recycling waste, reducing energy use and avoiding adulteration of the environment. The conservation of the environment through the use of the best practices should be at the centre of any TVET institution if social justness and environmental restoration are to be attained.

### **CONCLUSION**

TVET institutions hold the key to advanced technology and skilled human resource which are the driving forces of development. They act as avenues through which vital skills that are key in achieving sustainable development through quality education are acquired. To ensure that the institutions play their role in empowering the youth with appropriate technical and soft skills to enable them compete in the labour market, they need to be maintained. Attainment of such skills can only be achieved if best practices such as increasing funds; purchasing and maintaining modern equipment; strengthening mentorship programmes in the institutions; adoption of effective teaching approaches; employment of adequate trainers in technical sub-

jects; quality management of finances; encouraging partnerships/ collaborations with the private sector; conducting sufficient monitoring and evaluation; promoting research in technical and vocational education and training and instilling in the learners the need to adopt greening skills among other strategies are employed. The realization of the critical mandate of TVET can only be possible if prominence is put on skills acquisition.

## RECOMMENDATIONS

The following recommendations were made from the study:

- ▶ There is need for more partnerships between the TVET institutions and the private sector in order to fill the gaps between the education sector and the job market.
- ▶ Greening skills should be inculcated in the learners right from the basic level of education.
- ▶ The mentorship programmes in the TVET institutions should be strengthened.
  
- ▶ Members of the public should be sensitized on the need to embrace TVET. This exercise should be conducted regularly and intensely right from the grassroots. All major stakeholders should be involved in such an exercise.
- ▶ Foundations and other crucial partners should develop more programmes in different sectors to support TVET for sustainable development.
- ▶ Some of the best practices from other countries that could be applicable to the needs of the Kenyan society should be adopted.
- ▶ Capacity building to all TVET trainers and correct mentorship is required to work against the stereotypes and perceptions around technical courses
- ▶ More elaborate engagements of TVET institutions and industry can be enhanced to improve the relationship between academia and workplace

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