



# The Challenges of Quality and Relevance of TVET Teacher Education in Kenya

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### ABSTRACT

Quality of Education and training is a major consideration worldwide. It is even a more crucial issue in the technical vocation Education and training (TVET). The determinants of the quality of education and training include among others the quality of teachers, learners, the learning environment, facilities for learning and the curriculum. This paper articulates briefly the historical development of the TVET and TVET teacher training in Kenya with a view to highlighting how quality of education and training may be promoted. It looks at the organisation of education and training and lessons that may be advanced. It is based on literature review for historical developments and an analytical survey that was carried out to establish the views of presently serving TVET teachers in Kenya. The paper concludes that there is a need for continuous reform and upgrading of teacher skills, that the facilities for training should be as close and similar to the facilities found at the workplace, and that the institution–industry links should be strengthened and be made more mutually beneficial.

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### Introduction

#### The Political, Social and Economic Context

Since attaining independence in 1963, Kenya has experienced various changes in its social, economic and political development. In the first ten years there was rapid economic growth. Increasing access to education was viewed as an important pillar for achieving sustained development. To accommodate the increase in enrolment the government encouraged communities to build school facilities through community participation (*harambee* - pulling together in Swahili language). The following decade saw a slowing down of the economic growth which coupled with the rapid growth in population resulted in increased unemployment. The government resorted to different measures to alleviate the problem. In the 1980s for example, government abolished the advanced level (A Level) in the education cycle and introduced the 8-4-4 system (8 years of primary, 4 years of secondary and at least 4 years of University education). The 8-4-4 curriculum was vocationalized with the expectation that those who left school at each cycle would have acquired essential skills to be able to find salaried employment or self-employment (Mackay report, 1981). The initiative was difficult to implement in much of the country due to the cost of implementation and sustainability and most of the vocational subjects introduced being quietly let to fallow.

Since 2002 there has been a relatively steady growth in the economy which was partially interrupted by the post-election violence of late 2007 to early 2008. The country has since returned to improved political and economic stability which culminated in the approval of a new constitution in August 2010. The adoption of the new constitution is a key pillar of the country's development strategy 'Vision 2030.' The new constitution calls for a devolved government structure and more accountability by public officials.

#### The Development of TVET in Kenya

In pre-colonial Kenya, learning for each generation of youth was through traditional apprenticeship. The elders were the instructors and ensured that youth were introduced to the fundamentals of their community. Some of the skills that were taught were in farming, fishing and hunting. This form of education was based on need. Children in the community were taught what was thought to be relevant for its survival. This is the environment that the colonialists found when they arrived to the territory, which later became known as Kenya. The missionaries introduced formal education to the people of Kenya as a strategy for their evangelical campaign. The missionaries dominated the provision and administration of education throughout the colonial period (Eshiwani, 1990). Another goal of missionary education was the enhancement of social stratification (Kivuva, 2002) for the different groups in the country. Their main aim was to make converts and catechists as well as the creation of labour for the exploitation of the natural resources. Education and training as a way of improving the livelihood of the locals was never of a serious consideration. This stratification created differential political, economic, social and academic facilitation, with the Africans getting the least, even though they were the majority. During this time it was wrong for an African to attempt to aspire to equality with the colonial masters (Eshiwani, 1990).

#### Post independence TVET

The period from political independence in 1963 to 1985 witnessed rapid change in the development of TVET. The new government wanted to put in place a strong economic base but was limited by available qualified technical skills. This was compounded by departing skilled expatriates who chose to leave the country. Various commissions were set up to provide insight on the way forward with human resource development. Several post-independence commissions were appointed at various times to review the education system.

They include the Kenya Education Report (Ominde Report 1964), The National Commission on Educational Objectives and Policies (Gachathi Report, 1976) and The Commission on the Establishment of the Second University (Mackay Report 1981). The wider theme running in their recommendations was the opening of TVET to a wider population through provisions of more institutions. Among other things was the call for curriculum revision to make it more relevant; with more emphasis to be placed on practical subjects. In later years the Mackay commission (1981) report, came at a time when the country was facing severe youth unemployment, TVET was viewed as the panacea and recommendations included the vocationalization of the curriculum in primary and secondary education. An expectation of this recommendation was to have graduates terminating at each cycle able to secure employment or be self-employed.

A consequence of the rapid development of general education after independence was the creation of a large number of youth who completed primary education and could not find secondary school placing. There were not enough schools to admit all primary graduates. The National Christian Council of Kenya (NCCCK) in 1966 conceived the idea of Village Polytechnics to address this problem. These institutions were located close to the rural communities for easy access and provided skilled training to meet the needs of these communities. Courses, whose duration ranged from a few months to two years, included building construction trades, auto mechanics, welding and fabrication, electrical wiring and agriculture.

While TVET overlaps general education, it has a distinctive feature because it links more directly with the workplace (Keating, 1995). The workplace is one of the fastest changing in the world today due to the rise of communication and information technology (Mitchell, Wood & Young 2001). The skills required to cope are in a constant flux (Billett, 2001; ILO, 2003) that require education and training throughout life. As technology changes, there is need for training institutions to change their ways of training (Virgona, Waterhouse, Sefton & Sanguinetti, 2003) and incorporate flexible scheduling to accommodate the concept of lifelong learning. This has a major impact on the quality and training of the TVET teacher required.

Even as Kenya develops a modern TVET system that can enable its economy to compete globally it is beset by an informal economy that literally runs parallel to the formal dominated by small businesses that absorb a large number of persons that would otherwise be unemployed (ILO, 1972). The informal sector has been efficient at utilizing waste materials such as old tyres, scrap metal, etc. to produce goods that have found a ready market in the low-income sector of the society and, increasingly, the middle classes. The innovativeness and ingenuity of the craftsmen in the informal sector have been responsible for services being provided to the society that would have been imported or otherwise too expensive (Darrow and Saxenian, 1986). In Kenya, there has been a concerted effort by the government to encourage individuals to enter into self-employment as an alternative to wage employment, and to also create employment for others (Ferej, 2000). Within the informal sector a training system based on the apprenticeship model is thriving. It is estimated that the sector provides training to more youth than all the formal systems put together (King, 1977). Informal apprenticeship in Kenya has no rigid rules, time constraints,

fixed fee structure and certification requirement (King 1977; Ferej, 1994).

### **TVET Teacher Training**

The training of TVET teachers for the various levels and programs have evolved as the TVET has developed in the country. The following section reviews the key training systems that have been put in place over time to meet the needs of the TVET institutions. As stated before, the colonial government mandated compulsory vocational training in segregated primary schools for the Africans. These schools offered carpentry and agriculture in institutions based in the rural areas. Teachers of agriculture were prepared in primary school teacher training colleges around the country while those who taught carpentry were trained at Jeans School in Kabete near Nairobi. There is scant literature on this programme. But it could be expected that they were trained in the trade as well as instructional techniques. Instructors in two-year post primary trade schools were usually holders of government trade test in their area of competence. These teachers often lacked pedagogical training.

At independence, the new government appreciated the need to accelerate the development of qualified human resources to lead in the economic expansion that was necessary for the development of the nascent nation. Education in general and TVET in particular was seen as key to this vision. To provide teachers for the rapidly growing technical institutions in the 1960s, the government created the Technical Teacher Training department at the Kenya Polytechnic in 1969. The department admitted students who had completed secondary level education either from the technical schools or general secondary schools. In the model adopted a trainee took about 5 years to complete the programme and earn the Technical Teacher's Certificate. In the first three years teacher trainees completed an approved technician course alongside regular industry sponsored candidates. When industry trainees returned to their employers during college vacations or during scheduled work attachment part of the training, the teacher trainees were posted to various industries for work experience commonly known as industrial attachment.

After the successful completion of the technician training, teacher trainees were posted on a full time basis with an industry for about one year of work internship. They then returned to college for a one-year pedagogical training. Upon graduation the new TVET teachers were posted to technical secondary schools. In parallel with the long five-year programme and to accelerate the production of TVET teachers, qualified technicians were recruited directly from industry to join the one-year teacher training. Untrained technical teachers with appropriate technician's certificate also joined the programme for pedagogical training. To attract qualified individuals for technical training, the government offered generous incentives to the trainees. They received free education as well as attractive stipends while on training. As demand for TVET teachers reduced, the incentives were gradually phased out.

### **TVET Diploma Teacher Training Programme**

The programme at Kenya Polytechnic was transferred to the purpose built Kenya Technical Teachers College (KTTC) in 1978. The model initially adopted by KTTC was different to the Polytechnic one. In this model the technical competencies, industrial work experience and pedagogy were

integrated. Nevertheless TVET teacher training still took about 5 years to complete.

In addition short training programme was offered for instructors sponsored by Youth Polytechnics, industries and security services that have TVET training. In subsequent years with the adequate supply of qualified technicians, the KTTC programme has reverted to the one-year pedagogical training model similar to the old Kenya Polytechnic system. KTTC also undertook the training of business and catering teachers.

#### **Technology Education Degree Programme**

With the adoption of compulsory vocational education in the 8-4-4 system of education in 1985, the demand for qualified teachers to handle the courses became acute. The supply of new teachers from KTTC was inadequate to meet the demand for teachers required in the thousands of secondary and primary schools in the country. As a response to this critical demand the first four-year degree programme in Kenya, for Technology Education teachers was established at the Moi University in 1989. The University programme follows the integrated model. The University programme also provided upgrading opportunities for TVET teachers already in the field.

#### **Survey of TVET Teacher Training in KENYA**

As Kenya marches forward with its implementation of Vision 2030 development blue print, it must improve the quality of its human resource development. Vision 2030 has placed great stock on the improvement and provision of TVET as an important objective in achieving economic progress. TVET teacher training is an integral component of national skills development. Without effective and efficient teachers, achieving the objectives of Vision 2030 of being a middle income economy might not be realized. Thus evaluating the performance of the TVET teacher training system in the country is critical towards the implementation of TVET reform.

To ensure quality TVET programmes the quality of the teacher is critical among other important considerations such as training equipment and learning and teaching materials. To get a clearer picture of TVET teacher training in Kenya a survey was conducted in August to December 2014. The respondents of the study were TVET teachers in TVET institutions at various levels. In total 150 respondents were reached to provide data for the study. This study was limited to only those TVET teachers in the engineering type professions.

#### **Analysis of Data**

##### **Profile of the TVET Teacher**

The TVET teacher in the study was likely to be between the ages of 26 and 39 (57%), predominantly male (71%) and holder of Diploma certificate 37% or degree 33%. Between 20% and 10% respectively held a certificate and a Masters degree as their highest qualification. As much as the profile is one of youthfulness there is a good blend of maturity as 41% were reported to be in the ages between 40 and 60. The duration of teaching was almost equally divided between those who had logged 5 years or less at 44% and those greater than 5 years at 56%. Over 95% of the TVET teachers interviewed were found to be employed at the tertiary level. A large number had undertaken their training at KTTC, 42%, Moi University 21% and the remaining in various colleges and universities in the country. Underpinning the youthfulness of

the TVET teacher, 59% had completed their training between the years 2000 and 2011.

#### **Model of TVET Teacher Training Undertaken**

Kenya has generally practiced two types of TVET teacher training. The first is where trainees are recruited after secondary cycle of education and put through an integrated curriculum featuring, subject matter specialization, pedagogical courses and industrial attachment before one is certified as a diploma or degree holder TVET teacher. The second model is where the trainees initially obtained subject matter specialization and industrial work experience before undertaking pedagogical training to become a TVET teacher. In the survey, 54% of the respondents had undertaken their teacher training after acquiring their subject specialization while 19% undertook the integrated model, 23% were degree holders that passed through an integrated model with only 5% taking a post graduate teacher training.

The majority of the respondents, 84% indicated that undertaking pedagogical training after acquiring subject matter expertise was the most effective model for training TVET teachers. This model allows the trainees to complete their technical training, undertake a prescribed period of work experience before committing to a career in TVET teaching. At this point the trainee is more mature and presumably in a better position to identify teaching as a career of their choice unlike the integrated model where the learner is usually a school leaver with little knowledge of careers.

#### **Further Training of TVET Teachers**

Since completing the initial training, 44% of TVET teachers indicated that they had subsequently upgraded their qualifications. The most popular routes was the Bachelor of Education in Technology or Higher Diploma at one of the National Polytechnics. The majority (84%) of those who had not taken further training or upgraded their qualifications gave lack of finance as their reason for not doing so. Slightly less than half indicated that there were incentives for professional upgrading that included paid leave, salary increments and promotions.

#### **Work Experience of the TVET teacher**

A large number of TVET teachers interviewed, 38%, reported that they had acquired industrial work experience of only 6 months or less; 26% had work experience of between 12 months and 36 months and 16% had work experience of over 36 months. The majority of the respondents worked at the tertiary level and were responsible for training learners preparing for direct entry into the workforce. All the teachers acknowledged the importance of industrial work experience. Without adequate initial work experience and regular updating a teacher will fail to reflect and demonstrate the appropriate work context to his or her students. It is encouraging, however, that a good proportion of teachers, 53%, reported that they have had at least 3 months industrial work experience since they started teaching, while 25% reported to have had more than a year of industrial experience. Industrial attachment was also ranked the highest at 81% as the most effective way of retaining relevance in a specialization. A full two thirds of the respondents indicated they felt more comfortable teaching theory than practical. This could be a reflection of their inadequacy of industrial work experience. In spite of reporting relevance of industry as important to their professional development, most of the respondents, 89%, indicated that their links with industry was either weak or very weak. Clearly much needs to be done to improve links and

better working partnership between institutions and industry to ensure training remains relevant. To improve relations with the labour market, respondents proposed that industrial attachment 30%, exchange programmes 24%, providing market driven curriculum 20% and quality of training 19% were the strategies to adopt.

#### **Coping with Technological Changes**

TVET teachers constantly face changes in technology within their teaching domain. This aspect of the profession is inherent in the field of technology and every TVET teacher needs to adapt to ensure that their trainees meet the needs of the labour market. The alternative is to gradually become irrelevant professionally. Respondents indicated that they stayed up to date with changing technology through the Internet 54%, workshops and seminars 34% and through research 7%. It is interesting that over half of the respondents proposed the internet as their avenue for staying in touch. It would be the most up to date in the materials available but more importantly allows for individually driven self-learning, clearly suggesting that respondents are already aware of the need to personally be responsible for their lifelong learning. When asked how they reflected new technology in their teaching, 30% of the respondents said they would wait for it to be reflected in the syllabus while 48% said they would update their teaching notes and 15% citing appropriate examples. Clearly the majority appreciated the need to adjust the contents of their teaching and not necessarily wait for curriculum changes which have generally a longer revision cycle than the evolving technology.

#### **Summary of Key findings**

Based on the results of the survey the following important lessons can be gleaned:

1. The average TVET teacher in the system is young or in mid-career with the majority being diploma holders. This has implication on the kinds of in service training or further education that could be organized to ensure that teachers are continually exposed to new technology, teaching strategies and industrial work experience.
2. Most teachers expressed the desirability of active links between training institutions and the labour market to ensure the relevance of their training programmes. Unfortunately the same teachers reported weak links currently existing between the two. Indeed institution managers and policymakers speak about this situation often. Much needs to be done to achieve the desired cooperation between institutions and the labour market.
3. The majority of teachers had a small industrial work experience, which is clearly an undesirable situation. With the reported weak institution-industry links, these teachers are unlikely to find viable opportunities for acquiring more work experience. Teachers with inadequate industry exposure provide few practical examples to their trainees.
4. A good number of TVET teachers had taken advantage of existing opportunities in the country to further their professional training mostly at their own cost and time. The government needs to provide incentives and rewards for TVET teachers to access further training. This is absolutely critical in a TVET teachers' profession due to rapidly developing technology.
5. Nearly half of the respondents used the internet to access information about new technology. This is important in cultivating the concept of lifelong learning, relevance of TVET training and appreciation of the developments of ICT.

They also indicated that they used the acquired knowledge directly in their teaching without having to wait for syllabus changes. This is a positive development as curriculum changes tend to lag behind technological changes. Teachers of necessity must be managers of their own learning and the teaching and learning environment of their trainees.

6. The model of training most preferred by the respondents was one where an individual first acquired subject matter expertise and industrial work experience before undertaking pedagogical training. This has the advantage of individuals entering the teaching profession when they are more mature to make the right career decision. Care must be taken however, in the selection of would-be trainees. From the puny industrial work experience cited it would appear that many entered the profession immediately after acquiring their technician diploma without adequate work experience.

#### **Comparative Analysis with other Developing Countries**

The findings of this survey are supported by others particularly in the African context. A UNESCO Review of TVET in Malawi, for example, found that much was lacking in the quality preparation of TVET teachers (UNESCO, 2010, p.7). The report states,

*... gaps between supply and demand are so immense that a coherent ... plan is needed ... [in] the development of a competent TEVET [Technical Entrepreneurial Vocational Education and Training] teacher workforce. As a key priority ... TEVET Authority should explore the possibility of bridging the ... gaps through industry placements of TEVET teachers, combined with a flexible and modular training programme.*

The report further adds that, "UNESCO could be a partner in transferring promising models from other countries whilst also exploring opportunities to collaborate on TEVET teacher education and training within the whole SADC region, for cost and quality reasons" (P.7). Quality issues in Kenya can also be exported to other countries in the region as many TVET teachers have moved to fill gaps in those countries either individually or through intergovernmental agreements. Countries that have taken advantage of the surplus in Kenya include Rwanda, South Sudan, Botswana and Uganda. Therefore as Kenya recognizes and corrects quality issues in its TVET teacher training, it would inadvertently be improving the situation in other countries in the region.

Association for the Development of Education in African (ADEA, 2012) has also raised concern with the quality of TVET teacher training where it is reported that many teachers were more comfortable teaching theory than practical subjects. This might be a reflection of lack of adequate practical skills. ADEA therefore recommends that:

*In order to equip [TVET] teachers to deliver quality skills training it is important ... to support ... teachers with opportunities ... for continuous professional ... and practical skills ... development [further] it may be more cost effective for ... colleges to focus on offering mainly pedagogical training to students who already have the requisite level of subject mastery and some enterprise [work] experience (P.24).*

#### **Conclusion**

This paper examined the TVET trends in Kenya over several decades with emphasis placed on developments since the country gained independence in 1963. It specifically incorporates findings from TVET teachers on the models of teacher training used to prepare practitioners in the field and what needs to be done to improve quality to better address

market demands. Based on the results of the survey the following important lessons can be gleaned.

The average TVET teacher in the system is young or in mid-career with the majority being diploma holders. This has implication on the kinds of in service training or further and industrial work experience. A good number of TVET teachers had taken advantage of existing opportunities in the country to further their professional training, mostly at their own cost and time. The government needs to provide incentives and rewards for TVET teachers to access further training. This is absolutely critical in a TVET teachers' profession due to rapidly developing technology. Lifelong learning must be made an integral part of the life of TVET teachers.

Most teachers expressed the desirability of establishing active links between training institutions and the labour market to ensure the relevance of their training programmes. Unfortunately the same teachers reported weak links currently existed between their institutions and the labour market. Indeed institution managers and policymakers speak about this situation often. Much needs to be done to achieve the desired cooperation between institutions and the labour market. Clearly the initiative must come from the institutions reaching out to industry or the labour market.

The majority of teachers had inadequate work experience, which is clearly an undesirable situation. With the reported weak institution-industry links, these teachers are unlikely to find viable and conducive opportunities for acquiring more work experience. Every effort should be made to ensure that before recruitment into the TVET teaching profession trainees have been exposed to a prescribed working experience in relevant environment. This will form the necessary threshold to build upon once they become teachers.

Although the respondents have passed through various models of teacher training, most preferred by the was one where an individual first acquired subject matter expertise and industrial work experience before undertaking pedagogical training. This has the advantage of individuals entering the teaching profession when they are more mature to make the right career decision. Care must be taken however, in the selection of would-be trainees. From the puny industrial work experience cited it would appear that many entered the profession immediately after acquiring their technician diploma without any work experience.

Finally it was observed that nearly half of the respondents used the internet to access information about new technology. This is important in cultivating the concept of lifelong learning, maintaining the relevance of TVET training and appreciating the developments of ICT. The acquired knowledge was used directly in teaching without having to wait for syllabus changes. This is a positive development as curriculum changes tend to lag behind technological changes. Teachers, of necessity therefore, must be managers of their own learning and the teaching and learning environment of their trainees to ensure the relevance of training offered.

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