Towards Achievement of Sustainable Development through Technical and Vocational Education and Training (TVET): A Case of Middle Level Colleges-Kenya

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Abstract
Achieving sustainable development has been very elusive especially in the developing countries. This is as a result of poor infrastructure, poor governance, unutilized resources, unaccountability, lack of transparency and lack of skilled human capital which in return hinder national development. Middle developed countries like the Asian tigers, such as Singapore, Malaysia, and other East Asian countries have managed to attain economic sustainability and development through utilizing policies which emphasized Technical and Vocational Education and Training (TVET) in their learning institutions and also through Knowledge Management (KM) which is a relatively new concept in both information and industrial world which has led to knowledge getting value from the data and information and thus in the path to the realization of Millennium Development Goals[MDG’s]. Knowledge management (KM) has further led to a shift towards organizational development, intellectual capital management, and competence management. The current Education system in Kenya is exam oriented and does not provide any functional skills because it encourages rote learning, drilling of the learners and this will eventually lead to mechanical learning, and eventually lead learning not to be learner centered and creativity is not encouraged. The learning institutions eventually churn out learners who lack functional skills and lifelong employability hampered and some will even resort to uncouth ways of acquiring wealth. This paper therefore, proposes that the curricular be modified so as to meet the requirements of Vision 2030 which posits be a creation, adaptation and usage of knowledge which will become part of formal instruction. It also intends to establish how knowledge management can be utilized so as to achieve sustainable development through TVET in Kenya and in the long run curb challenges emanating from inappropriate training methods which lead to non functional education and lack of equity in some knowledge supply chains resulting in lack of lifelong employability.

Keywords: TVET, lifelong learning, lifelong employability, knowledge management

INTRODUCTION
In pre-colonial Kenya, learning of the youth was through traditional apprenticeship. Here the apprentice watched the masters and slowly developed abilities to execute practical aspects needed tasks. Later, with the coming of the missionaries, some formal learning was introduced and the Africans were taught basic literacy subjects like masonry, carpentry and agriculture so as to provide cheap labour and not make them self reliant. The European schools on the other hand, were to prepare graduants for white collar jobs while the Asians education was meant to prepare learners for accounting and book keeping. After independence, the new government wanted to put in place a strong economic base but technical knowhow was not enough since the expatriates were leaving the country. A commission was set up to look into the changes in the education system. The commission (the Ominde Report, 1964) majorly looked at national identity and unity while the Mackay commission recommended establishment of a second University in Kenya that would be technology based and this could bring to fruition vocational and training

The Mackay commission also recommended the change of education structure from 7-4-2-3 system which had adopted seven years of primary, four years of lower secondary, two years in upper secondary and three years in University and all schools had a common curriculum to the 8-4-4 system (8 years in primary, 4 years of secondary and 4 years of University education) it was vocationalised and those who exited the system at each level would have acquired skills needed to find gainful employment or self-employment and therefore be self reliant and all-rounded person who could fit any working condition. This approach did not work and most vocational subjects introduced, have quietly been let to fallow because of implementation cost and sustainability. The parents/guardians could not afford the construction equipment, teaching and learning requirements which were too costly as this would be availed under cost sharing policy.

For a country to reach the middle economy carder, knowledge and social skills are the key engines of social development and economic growth. Education
and training should be seen as a lifelong endeavor where one remains relevant and marketable as this will lead him/her to learn quickly and be innovative and in the end lead to lifelong employability. These can only be realized if the quality of training is emphasized and the trainers are willing to adapt the technological advances. All these have been entrenched in Kenya’s Vision 2030 which proposes Technology and Innovation as the main drivers to the desired goals.

Technical and Vocational Education and Training (TVET) in Kenya Today
UNESCO’s definition of Technical and Vocational Education and Training (TVET) is:
“a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of knowledge, Practical Skills, and Attitude relating to occupations in various sectors of economic and social life.” (UNESCO, 2005)

By definition, technology is “the know-how that extends human capacity” (Savage, and Sterry, 1990) it is more than knowing but also having desire to do and produce an outcome.

Technical, Vocational Education and Training (TVET) in Kenya is seen as a kind of education that provides learners with the technical skills that can be used generally in technical fields under the Ministry of Higher Education, Science and Technology. These programmes are designed to prepare skilled human resources for various positions in industry and the informal sector. The offering of the TVET subjects is at the Technical Training Institutes (TTIs), National Polytechnics, Institutes of Science and Technology (IST), and Youth Polytechnics. National Polytechnics in Kenya offer diplomas, higher national diplomas and certificate TVET (Ahmed Perej A, Kitaiinge K, Ooko Z 2012)

TVET is understood to be:
- an aspect of lifelong learning and preparation of a responsible citizenry;
- an avenue to prepare for occupational fields for participation in the world of work;
- an important part of education

Technical, vocational education and training (TVET), has been used by several developed countries as an instrument of development. However, in Africa, TVET has been given the focus it deserves and its significance has not been fully embraced. Studies show that, in Africa funding towards TVET is not satisfactorily done, TVET training centres have been neglected or overtaken by institutions concentrating on purely academic education. In addition people tend to view TVET in a negative way, as education and training meant for those who have failed in the society. This perception has been aggravated by the lower academic requirements stipulated for admission into TVET programmes.

The societal stigma of TVET has also been created by the impression that the main objective of vocational education and training is to cater for school drop-outs and those completing secondary education with minimum entry requirement who cannot find places in higher education which is a preferred choice for many youths leaves TVET Institutions the alternative choice for most.

TVET therefore offer an important strategy to train skilled workers for the employment market and for sustainable livelihoods and those already employed can take up refresher courses hence leading to a lifelong learning which is about acquiring and updating all kinds of abilities, interests, knowledge and qualifications and promotes development of knowledge and competences that will enable each graduate to adapt to the knowledge-based society and actively participate in all spheres of social and economic life, taking more control of his or her future.

In addition, TVET-based qualifications and careers are still poorly perceived and recognised in the workplace. There is a large number of skilled yet unemployed people and this is as a result of declining employment in the public and private sector. On the other hand, Africa has a large cheap unskilled labor force, because of lack of education and training. However, the core role of TVET is enhancing the informal sector and in offering skills and knowledge to the unskilled.

TVET Institutions play a very vital role in the growth and the development of the economy by producing graduates who in the long run fit into the dynamic demands of the economy. There is an increased enrollment of learners in the TVET institutions so as to undertake the practical courses like the building and construction, automotive and mechanical.

The Skills from TVET
There is a mismatch in TVET skills and demand due to globalization, changes in technology, organization of work, new development of work like worldwide, recession, international financial crises.

The current education in Kenya is exam orientation and does not provide any function skills because it encourages rod learning, thrilling of the learners leading to mechanical learning and this will not encourage creativity and this will lead to learning not being learner centered. In the long run lead to no skills being acquired but merely acquisition of a certificate showing one reached a certain level and
this will lead one not to get employed leading to some resorting to uncouth ways of acquiring wealth. While TVET overlaps general education, it has a distinctive feature because it links more directly with the workplace (Keating, 1995).

Science, Technology and Development

Science and technology are vital components of a country’s economic growth, wealth creation and poverty reduction strategy. This is valid in those countries which are industrialized or developing countries. There is an increased recognition of the added value of private sector involvement in making knowledge and technology (provided by knowledge institutes) available to low income groups in developing countries (Miedema, 2009).

In Africa, development must start with meeting the basic needs and a reduction in poverty, ignorance and disease and this can be achieved through science and technology as it will lead to empowerment at individual level. The use of technology is evident in agriculture, manufacturing, communication, energy, communication, transportation, construction and even bio-technology. High economic growth is contributing to the reduction of global poverty rate. However, high economic growth also has high economic high environmental costs Millennium Development Goals (MDG) (Global Monitoring Report, 2007).

Education for Sustainable Development (ESD) can develop critical thinking skills for evaluating and assessing the relationship between the different MDGs and globalization of capital. It will also lead to exploration of new development alternatives and also provide and supporting education and learning goals that help in the achievement of the MGDs.

KNOWLEDGE MANAGEMENT

Knowledge Management (KM)

Knowledge management is concerned with storing and sharing the wisdom, understanding, and expertise gained in an organisation about its processes, techniques and operations (Armstrong M, 2009). Knowledge management comprises of a range of strategies and practices used in an organization to identify, create, represent, distribute, and enable adoption of experiences and insights and thus result in knowledge embodied in organizations or individuals as practices or processes. KM includes courses taught in the fields of library and Information sciences, information systems and business administration business (Alavi and Leidner 1999).

Knowledge Management-KM, include the following perspective:

- **Organizational** with a focus on how an organization can be designed so as to facilitate knowledge processes best.
- **Techno-centric** with a focus on technology, mostly those that enhance the sharing and creation of knowledge.
- **Ecological** with a focus on environmental factors, identity, interaction of people, knowledge, and environmental factors.

Knowledge management therefore entails identifying relevant information and disseminating to enable learning to take place by linking people together and with information and by so doing, they are able to learn from documented evidence.

Technical and Vocational Education and Training (TVET) for Sustainable Development

UNESCO Member States today have identified that TVET as priority area within UNESCO’s range of programme activities. TVET impacts directly the world of work and can help improve the incomes of poverty-stricken citizens, provide them with more choices in their lives and help empower individuals who would otherwise have been marginalized in society.

TVET in the past has been seen as ‘second-class education’ compared to general academic education. TVET is now seen as the master key to poverty alleviation and social cohesion and a chance for countries to join in the league of development and globalization (UNESCO, 2005, P.1)

The UNESCO-UNEVOC Bonn Declaration on Learning for Work, Citizenship and Sustainability in 2004 stated that “since education is considered the key to effective development strategies, technical and vocational education and training (TVET) then must be the master key that can alleviate poverty, promote peace, conserve the environment, improve the quality of life for all and help achieve sustainable development”.

TVET has continuously helped improve the quality of human capital and has also provided the necessary knowledge and skills for the development of one’s capabilities towards the achievement of national competitiveness and sustainable development. TVET is also considered to be an indispensable instrument for improving labor mobility, adaptability and productivity, thus contributing to enhancing a nation’s competitiveness and addressing labor market imbalances.

Thus, TVET and sustainable development are inevitably connected. TVET, the process, has an essential role to play in raising awareness, and providing skills and values considered necessary to put sustainable development into practice. As the goal, sustainable development lies at the heart of the TVET system, and become the platform among the society it serves.
Kenya’s Vision 2030 is a national development plan anchored on the newly redefined development concept of ‘Sustainable Development’ by the three pillars: the economic, social and political on a foundation that aims at transforming Kenya into a newly industrialized frontier, “middle-income country providing a highly quality life to all citizens by the year 2030” (Kenya, 2007). What is needed therefore, is a workforce with the necessary technological competencies and the capacity to provide for their wants and needs for a quality lifestyle and this can only be achieved through TVET institutions which are well equipped (Kerre 2010).

TVET graduates will play an integral part in inventing and implementing practical solutions to problems like poverty, access to safe drinking water, environmental degradation and hygienic sanitation. They have role to play in helping the society to respond to environmental and development issues as they work between nature, technology, economy and society.

TVET for sustainable development must incorporate considerations that will impact on economy, society and ecology and commitments and competencies are sort.

METHODOLOGY
The data for this paper were obtained through interviews and secondary data so as to understand if TVET is relevant to the demands of the job market. Teachers of Rif Valley Technical Training Institute (RVTTI) answered the questions.

RESULTS
On the relevance of the course offered to the job market, the respondents felt that the courses give the students hands on the job. Some companies/firms even call the college for the list of learners who have recently graduated. Some even are retained after their attachment this is because of their skills and they are also disciplined this makes them preferred than those from other colleges. These people are very vital as they are on the hands on the job cooks, masoners, electricians The enrollment of students has been on the rise as majority of the graduates choose to join these colleges on their own free will because they like it. These students get employed after their diplomas and can now go to higher institutions of learning.

The courses offered though the curriculum needs to be redeveloped so as to capture the current market trends and the Vision 2030 in cooperated. The courses are technical and relevant hence will lead to the realization of the vision 2030 because they are practical.

There is a mismatch since complains are raised in the departments concerning the curriculum and are forwarded to the relevant Ministry but take long to be acted upon.

Those completing secondary education with minimum entry requirement cannot find places in higher education which is a preferred choice for many youths and this leaves TVET institutions the alternative choice for most.

TVET is part and parcel of the lifelong learning and undertaking means for personal, community and human development for active citizenship building and for improving the lives of people. It is part of building learning society at local, national and global levels. TVET should be made relevant to people’s lives and struggles. This can be achieved by coming up with a comprehensive TVET education and training strategy with financial support from the local, national and the state governments so as to bring this to a realization.

CONCLUSION
If the middle level colleges continue to offer TVET courses by churning out graduates who have hands on the job skills, then these colleges will have carved themselves a niche and hence remain afloat and a source of competitive advantage. Lifelong learning is a self-motivated and voluntary pursuit of knowledge for professional or personal reasons- it takes place throughout life and in many situations. It enhances social, citizenship, personal development, competitive and employability hence should be emphasized at all levels of learning.

RECOMMENDATION
The school curriculum should integrate technical and vocational education into the mainstream general curriculum into the early forms of learning-childhood and primary level. At secondary level, emphasis should be on orientation and exploration of technological careers while at post secondary, emphasis should be on specialization with regard for higher education and training for those willing and having the capacity to do so. Social awareness should be emphasized.

The curriculum should also be modified so as to meet the requirements of Vision 2030 which posits that there should be creation adoption, adaptation and usage of knowledge so as so that it becomes part of formal instruction as per Vision 2030. A new incentive structure should be developed so as to support Science Technology and Innovation (STI). Sustainable development is only possible if there is a critical mass of skilled people as there is increased capital returns when the levels of education goes higher and this will be push the nation out of the middle income into high economy. Technology and
Vocational Education and Training (TVET) will play a pivotal role in the provision of skilled workforce needed for the country’s economic transformation. Education and training should be made responsive to the changing needs of the globalized economy and there should be a widen access to education and training as this will reduce social and economic inequality. Those centers which train the talented and gifted learners should also be funded

There should be harmonization among the ministries of education, training and skill development; appropriate career guidance, funds for TVET and tools and equipment which meet industry standards. Positive attitude towards TVET can be achieved through favorable policy and legislative environment. The government should allocate more money to TVET institutions and the machines used are relevant to those in real place of work

The skills offered should be practical based on demand and not supply driven and the learner given a chance to be innovative this is because in exams they are given a drawing paper to reproduce a car engine instead of being given disjointed parts and allowed to be creative and come up with whatever they dim fit. The training should not necessarily for local circumstances nor be based on local practice codes.

REFERENCE


