DIPLOMA IN EDUCATION LEADERSHIP AND MANAGEMENT
MODULE 7:LEADERSHIP IN SCIENCE, TECHOLOGY AND INNOVATION

UNIT 6: TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET)

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Introduction

- Technical and vocational education and training (TVET) are steadily gaining popularity in the global debates and government priorities for education and national development agendas.
- The government of Kenya is committed to revamping the education system with a view to making the lives of the youth better. Technical Vocational Education and Training (TVET) play important roles in implementing and promoting sustainable development.
- TVET institutions are major suppliers of workforce who will be at the forefront in dealing directly with sustainable issues.
- The TVET ACT 2013 was designed to address the job skills issue to ensure an increased and sustained enrolment ratio of 20% by the year 2030. TVET sub-sector in Kenya continues to produce the needed middle-level human resource for the national economy.
- Vision 2030 has placed special demands on TVET as the leading engine that the economy must essentially rely upon to produce adequate levels of middle-level manpower that will be needed to drive the economy towards the attainment of the vision.
- Education managers play a key role in promoting the TVET agenda. To perform this role, they must understand the key issues and challenges in the TVET sector.



Upon completion of this unit, you will be able to:

a) demonstrate understanding of the concept of Technical and Vocational Education and Training
b) describe the TVET program in Kenya
c) discuss the key issues and challenges concerning TVET in Kenya
d) describe cases of countries that have bridged the gap between TVET and enterprises. Science, Technology and Innovation
e) appreciate the impact of TVET on job creation.

Concept of TVET

- Technical and Vocational Education and Training (TVET) is concerned with the acquisition of knowledge and skills for the world of work.
- Technical, Industrial and Vocational Education and Training (TIVET) refers to the acquisition of Life Skills and Life Long Learning for Young People and Adults' knowledge, attitudes and skills for the world of work, particularly in engineering and scientific disciples.
- This productive work leads to sustainable livelihoods, personal empowerment and socioeconomic development for both women and men.
- TVET is offered at two levels namely Technical Vocational Colleges (TVCs) and Vocational Training Centres (VTCs).
- The TVCs constitute Technical Training Institutes, Institutes of Technology, National Polytechnics and Technical Training Colleges whereas VTCs comprise the Youth Polytechnics.



- TVET by its nature offers an ideal platform for the integration of STEM. High-quality TVET or advanced technology programmes can provide a strong foundation for, and serve as a delivery system of, STEM competencies and skills for a broader range of students.
- In other countries, TVET is referred to as Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workforce Education (WE), Workplace Education (WE), etc. A TVET that has good practices scores high on the following factors:

❖ Impact

❖ Innovation and creativity

❖ Knowledge base

❖ Stakeholder engagement

❖ Monitoring and evaluation

❖ Efficiency

The TVET program in Kenya

- Industries in Kenya should ensure that we value jobs acquired through TVET courses as much if not more than ‘white-collar’ jobs.
- We should be involved in the development of occupational standards, invest in building the skills that we would like our graduates to possess, make these jobs more lucrative and host open days where we demystify our work and educate parents on the benefits of a thriving industry for their children.
- Investing in TVETs is not just about providing a few opportunities for some, TVETs are the only sure way to secure the future of this country, guaranteeing long-term productivity, economic sustainability and inclusive growth.



- The National Education Sector Strategic Plan (NESSP) 2018-2022 had a great impact on the revamping of TVET in Kenya. NESSP is an inclusive, sector-wide plan that spells out policy priorities, programmes and strategies for the education sector for five years. The plan aims at:

i) Enhancing access and equity for education training and research
ii) Provision of quality and competency-based education, training research
iii) Strengthening management, governance and accountability
iv) Enhancing relevance and capacities for Science, Technology and Innovation (ST&I) in education, training and research for labour markets.

Objectives of TVET in Kenya

- The principal objective of TVET is to train youths and adults alike, readying them for the labour market. With technical revolution and innovations in science and technology, labour market needs have significantly evolved.
- New challenges must be met to match the education proposed with vocational demands.
- In that regard, several countries are in the process of reforming their education system, with a view to training youths to meet national, regional or international market needs.

- Other objectives of TVET in the education sector include:

a) Provision of training opportunities for school leavers that will enable them to be self-supporting.

b) Allow learners to develop practical skills and attitudes, which will lead to income-generating activities in urban and rural areas.

c) Provide technical knowledge and vocational skills training necessary for human resource development.

d) Produce skilled artisans, craftsmen, technicians and technologies for both the formal and informal sectors.

Benefits of TVET

- TVET institutions develop an effectively coordinated and harmonized TVET system that is capable of producing quality skilled human resources with the right attitudes and values required for the growth and prosperity of the various sectors of the economy.
- TVET benefits include the following:

i. Cost-efficiency of vocational education. TVET institutions are known to be less expensive than attending a college or university.

ii. Specialized programmes.

iii. Practical experience.

iv. Flexible schedules.

v. Hands-on environment.

vi. Join the workforce quickly.

vii. Well-paying career opportunities.

The TVET structure in Kenya

- Formal TVET programmes in Kenya are school-based and are offered at both schools and technical training colleges.
- The duration of school-based technical and vocational education is between one and three years.
- Besides the technical training colleges, the current primary and secondary education curriculum provides vocational skills to young people in primary and secondary schools.
- Some specialized vocational training programmes, however, also exist in various ministries and fall under the supervision of the respective sector ministries.
- TVET in Kenya is delivered by both government and private providers, which include for-profit and non-profit, NGO and church-based institutions.
- The TVET catchment population includes youth who, for various reasons, do not enrol in the regular education system, either at primary, secondary or university levels.
- TVET programmes are offered in Youth Polytechnics (YP), Technical Training Institutes (TTIs); Institutes of Technology (ITs) and National Polytechnics. Other institutions offer TIVET programmes, spread across government ministries as well as private institutions.

Achievements of the TVET sector in Kenya

By increasing access to TVET, the government with the support of development partners has achieved the following:

i. Modularization of 72 TVET curricula including 12 for Youth Polytechnics.

ii. The upgrading of Kenya Polytechnic and Mombasa Polytechnic into fully fledged Universities, allowed them to issue TVET degrees.

iii. Provision of funds to students in need countrywide to enhance access, retention and quality in public TVET programs. The target groups include orphaned children, children from poor households and persons with special needs.

iv. Identification centres of excellence among the existing technical institutions for purposes of making them centres of excellence. The centres of excellence have been funded to buy modern equipment.

v. Policy guidelines on the creation of industrial incubators have been developed.

Major challenges facing TVET in Kenya

The perception of TVET in Kenya has been managed through a deliberate rebranding process. However, challenges facing the TVET sector in Kenya include:

i. A large number of young people graduate annually from the secondary school system. Only 10% of graduates join degree training programmes leaving the remaining 90% seeking places of training in TVET and technical education.

ii. The curriculum in the majority of TVET institutions is theory-based as opposed to the desired combination of theory and competency-based courses.

iii. The supply-end -push for enrolment is prevalent instead of the desired market-end- pull for enrolment in TVET.

iv. Co-ordination mechanisms and linkages between TVET institutions under the different ministries are weak. Decision-making in TVET institutions is highly centralized at their respective ministry headquarters at the expense of the districts and institutions, where actual education and training services are delivered.

v. Relatively, the industry is offering few employment opportunities for TVET graduates. There is a mismatch between the training offered and the actual demands of the industry.

Key issues and challenges concerning TVET

To ensure 100% transition in education, the government has highly subsidized Technical and vocational training in Kenya. Similarly, there is a provision for seamless entry and exit to TVET. The following are the key issues concerning TVET:

1. **The Image and Status of TVET:**
   - There is a rewed effort to improve the public perception of TVET. Society now has a positive image of TVET and even students are now motivated to enrol in TVET programmes.

2. **TVET path**: Students leaving basic education can transit into the academic path or the TVET path.

3. **Infrastructure development and equipment in TVET**: To increase access, promote and improve the quality and relevance of TVET training, the government has expanded, rehabilitated and equipped TVET infrastructure.

4. **The Promotion of TVET for Girls and Women:** Masculine image of TVET participants and workers has changed. Women are taking up courses which were earlier conceptualized to be for men.



Key issues and challenges concerning TVET cont

5. TVET Planning: TVET institutions have improved their capacity to make use of LMI, including market signals, indicators and intelligence, for planning and curriculum modernization. TVET institutions are maintaining and enhancing their linkages with employers and developing the capacity to gather LMI to contribute to the curriculum development process.

6. TVET Facilities and Equipment: Both the national and county government has supported TVET institutions with adequate facilities and equipment.

7. The Organization and Administration of TVET: The management of change is important to ensure that TVET systems keep pace with technological advancement and the needs of each nation.

8. TVET Curriculum Reform and Development: CBET has responded to contemporary trends by enhancing the foundation ‘provided to students in mathematics, science, communications and an understanding of technology. Some exemplary new curricula have been developed in mechatronics, biotechnology, ICTs, robotics, rapid prototyping and similar new fields.

9. Teaching and Learning: As TVET becomes increasingly more knowledge oriented, the role of the teachers and instructors has changed from the didactic imparting of skills and knowledge to the facilitation of learning.

Key issues and challenges concerning TVET cont.

11. **TVET Tutors' and instructors' Conditions of Service:** Salaries and remunerations for TVET tutors and instructors are now better.
12. **Relationship Between TVET and Enterprises:** There is a need for employer participation in curriculum development. In addition, TVET personnel need to be encouraged to participate in industrial attachments to both maintain viable relationships with employers and enhance their knowledge and competencies.
13. **The Growing Importance of ICTs for TVET:** Information and communications technologies (ICTs) have become increasingly important for TVET, both in terms of content and delivery.
14. **Testing and Certification:** While national systems of testing and certification remain necessary and continue to require improvement, one salient impact of globalization has been the international recognition of qualifications. The establishment of national training frameworks in a large number of nations has begun the broader recognition of competencies and the impact of international student testing. Also, the desire of international/multinational employers to hire persons with recognized qualifications is affecting (and will increasingly continue to affect) hiring practices.

Key issues and challenges concerning TVET cont…

TVET has:

i. responded to the demands of the market and the needs of the industry. TVET institutions are developing a partnership with the industry.
ii. Promoted the priorities of the government's economic policy
iii. Been given more value than some courses in university and college tertiary education
iv. Been allocated adequate resources

Conclusion

- Technical and Vocational Education Training produce quality skilled human resource with the right attitudes and values required for the growth and prosperity of the various sectors of the economy.
- In this unit, we have discussed the concept of TVET, the TVET program in Kenya, and issues and challenges concerning TVET. We have also examined cases of countries that have bridged the gap between TVET and enterprises.

Bridging the gap between enterprises and school-based initial TVET – Case studies

Brazil:

In Brazil, apprenticeships are open to any young person aged 14 to 24, who must be in school if they have not completed their secondary education. Medium and large companies are required by law to employ apprentices, representing 5% to 15% of their employees. Apprenticeships require a specific employment contract, which guarantees a minimum hourly wage as well as labour and social security rights. Legislation from 2008 Stipulates that apprentices can work for up to six hours a day (eight hours for those who have already completed high school) and 30 hours per week, for a maximum of two years. In addition, internships in public, private or non-profit organizations are open to students in TVET and higher education institutions; some institutions have made them a compulsory part of their curriculum. The Secretariat of Vocational and Technical Education is developing a pilot project for a dual apprenticeship system in federal institutes, to enhance the employability of their graduates. Proposals are also being prepared for in-service training of teachers, which would complement theoretical knowledge with practical workplace experience (UNESCO, 2014).



China:

In China, the current policy is that each student should spend one year on workplace training, for instance, the third or fourth year of the senior secondary curriculum. Enterprises can participate in defining local curriculum content, and schools may deliver enterprise-specific certificates. Implementation varies between schools and across regions. Vocational schools in the eastern provinces have a greater choice of partners and sometimes align with the training plans of enterprises. In other provinces, relations between schools and enterprises sometimes remain minimal or depend on a single, large employer (UNESCO, 2014). Science, Technology and Innovation 88 Map showing China (Source: Geology.com)



South Africa:

South Africa is seeking to establish partnerships between TVET colleges, universities and employers, mediated by Sector Education and Training Authorities, to facilitate workplace training and student placement, as well as workplace exposure for teachers and trainers. Meanwhile, community colleges targeting youth and adults with no formal education or low qualification aim to complement classroom- and workshop-based learning with work experience gained through participation in South Africa‘s public works programmes (Expanded Public Works Programme, Community Works Programmes) (UNESCO, 2014). Map showing South Africa (Source: Geology.com



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