GENDER INCLUSION IN TVET INSTITUTIONS: A REVIEW OF POLICY IMPLEMENTATION IN KENYAN TECHNICAL INSTITUTES

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Abstract

Gender inclusion is acknowledging that everyone deserves to be treated with respect regardless of gender identity and expression and ensuring that systems and processes treat all genders equally. It entails doing everything possible to ensure that systems and processes treat all genders with both horizontal and vertical equity in access to education. Inclusive education is about quality, equal participation and safety to learn without fear of discrimination or violence. Sustainable Development Goal 5 encourages all Technical and Vocational Education and Training (TVET) institutions to domesticate the model policy to their specific and contextual needs and mandates to intentionally and collectively mainstream gender across policy decisions, systems, operations, infrastructure, curricular and training and job placements. While enrolment in TVET institutions in Kenya has increased, a report by Republic of Kenya still indicates that there is persistent gender disparity in access especially in enrollment to given courses and study areas in TVET institutions. Kenya Vision 2030 also views gender as a key developmental challenge facing the country. This paper sought to establish the use of gender inclusion policy in access to TVET institutions. The study was guided by capabilities approach theory developed by Amartya Sen and human rights approach highlighting the common principles of participation, accountability, non-discrimination and equality, empowerment and legality (PANEL). The findings may help TVET institutions evaluate their practice of gender inclusion policy, identify gaps in their operations and take necessary actions.

Keywords: *Gender, Gender Inclusion, Policy, TVET Institutions*

1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Gender inclusion is a crucial component in the attainment of the United Nations (UN) Sustainable Development Goal 5 which aims at achieving gender equality and empowering of all women and girls by 2030 (Republic of Kenya, 2022). According to World Bank (2019) the loudest message coming out of Africa is that inclusion can be achieved because inequalities can be linked to unequal access to training opportunities. Women according Ngugi and Muthama (2017) total to one half of the world's population and that they represent two-thirds of the world's workers. The inclusion of girls' and women in STEM-TVET is starting to be seen as a key contributor towards poverty alleviation, better social cohesion, increased political stability and a more efficient use of human capacity. Ngugi and Muthama (2017) observed that women only earn one tenth of the world's income and own one hundredth of the property. MaKinsey Global Institute (MGI) (2019) further underscored that Africa could add $316 billion to its GDP (the equivalent of 10 per cent) by 2025 if ever country improved its gender parity score, a key element of which is women's productive involvement in the labor market. African Union (AU) (2018) expounded that enrolment into training of women, girls, boys, and men is influenced by many different factors, for example, girls and women often choose and are offered gender stereotypical soft skills training and occupation such as tailoring, secretarial studies among others. This is influenced by socio-economic and cultural factors that shape girls' preference and confidence when choosing training courses. It is however worth noting that the future of work is changing. Current jobs are being modified and new jobs emerging. UNESCO (2020) pointed out that many of these new jobs are in the areas of science, technology, engineering and mathematics (STEM). These jobs are seen as key contributors toward innovation, sustainable economic growth and social development.

The role that STEM- sector plays within society is vital, yet the links between STEM, the future of work and human capital development largely discounts the contribution of women and girls. According to UNESCO (2015) men globally outnumber women as students, educators, researchers and workers in STEM fields. This according to a study conducted by the African Academy Sciences (2020) is true for Africa. The study found that even when women do move into stem-related careers, very few (six per cent) hold managerial positions. Female under representation in Technical and Vocational Education and Training (TVET) is therefore an issue both in developed and developing countries, Kenya included.

Despite progress made over the years, many gaps, barriers and inequalities still persist therefore making this paper critical in analyzing the level of female inclusion in TVET institutions within the Kenyan context. The findings may help TVET institutions evaluate their current roles in implementing gender inclusion policy, identify gaps in their operations and take actions accordingly.

1.2 Rationale

Concerns about gender equality, equity and inclusion dominate most discussions related to education and training. While enrolment in Technical and Vocational Education and Training (TVET) has increased, there still exists gender disparities between female and male students and staff including those from vulnerable groups (National Gender and Equality Commission, (NGEC), 2022). This creates a need for a review of how gender inclusion policy has been implemented in Kenyan Technical institutions. A review would help in rekindling gender sensitivity in the TVET institutions. This may also help the institutions address underlying barriers such as gender stereotyping, gender discrimination and gender influence in career choices.

1.3 Statement of the Problem

According to Republic of Kenya (2022) research indicates that there is persistent gender disparity in access especially in enrolment to given courses and study areas in TVET institutions. As improvement in access and gender equality increases, fewer females are taking certificate courses compared to males and so there is need to promote female enrolment in different courses to enhance their competitive edge and earning in the market compared to their male counterparts (Odondi, Maina & Muhia, 2020).

RoK (2022) contends that there are challenges such as; lack of comprehensive and deliberate STEM promotion strategies for female students, lack of strategies to promote a balanced and equitable distribution of courses across different groups, lack of national, county and institutional level TVET specific gender policies, lack of policy infrastructure and system accommodation for people living with disabilities, lack of affordable accommodation, lack of clearly defined policy on TVET pathways and lack of framework linking trainees to industrial attachment. The Kenya National TVET (2021) quality report further identified weak TVET research and lack of comprehensive data on TVET as a threat. It is against the aforementioned arguments that the current study sought to examine the level of gender inclusion policy in public TVET institutions in Kenya.

1.4 Theoretical Framework

This study will be guided by the capabilities approach theory, developed by Amartya Sen (1999) as a set of interrelated theses in welfare economics, particularly on assessment of personal well-being, poverty and inequality (Dalkilic & Vadeboncoeur, 2016). It is a normative approach to human welfare that concentrates on the actual capability of persons to achieve their well-being rather than on their mere right or freedom to do so (Nussbaum, 2011). The core focus of the capability approach is on what individuals are able to do or capable of doing.

These capabilities are the alternative combinations of functioning that are feasible for a person to achieve their potential, which in the current study implies that the participants realize their potential in life, a milestone that heavily relies on their successes in their respective academic journeys. According to the capabilities approach, several indices are crucial in evaluating an individual's potential; the Gender-Related Development Index, Gender Empowerment Measure and

Gender Inequality Index. It is for this reason that gender is a key variable under investigation in this study, and will therefore be studied with respect to equality among participants in these institutions.

The study also subscribed to the human rights approach (HRA) which emphasizes turning human rights from purely being legal instruments into effective policies, practices, and practical realities (KNHRC, 2004). Details of a human rights approach as posited by the Human Rights Association (HRA) vary depending on the nature of the organization concerned and the issues it deals with. Common principles, however, have been identified as the "PANEL" principles, which include; Participation, Accountability, Non-discrimination and Equality, Empowerment and Legality. This study therefore investigated equality in access to TVET courses among male and female trainees in Kenya. The outcome of this study is to corroborate the PANEL principles that the Human Rights Approach advocates for.

1.4.1 The Capability Approach in Education

Education and literacy are considered as key factors in the capability approach. According to Otto and Ziegler (2016) both might be regarded as fundamental resources enabling people and structuring the effective opportunities of people to live a life they have reason to choose and value. Robeyns (2005) asserted that there is hardly any doubt that being literate, knowledgeable and having access to an education that allows a person to flourish is generally argued to be a valuable capability. The relation between the capability perspective and education among other things is acknowledged in UNESCO (2002) report, 'Education for all'. The report suggests that policies should be judged to be successful if they have enhanced peoples' capabilities. From this capability perspective, then TVET education should be gender inclusive. The distinctive feature of the capability approach is its assessment of policies not on the basis of their impact on incomes, but on whether or not they expand the real freedoms that people value like freedom to education. Education is therefore central to this approach. The capability approach also keeps the promise to be innovative with respect to the significance of human diversity in assessing equality. The capability approach to 'just education' is therefore more appropriate in this study than its most significant alternative, Rawlsian approach (Otto & Ziegler, 2016).

1.5 Research Questions

The current study reviewed literature guided by the following research questions:

1) How is student access to TVET education?
2) To what extent is gender inclusion in STEM courses?

2.1 Review of Related Literature

Technical Vocational Education and Training has long been recognized as a key component of Human Resource Development (HRD) and a vital tool for socio-economic development (UNESCO, 2018). More recently, the TVET sector has been identified for the potential it holds for the advancement of the SDGs on African continent as well as the achievement of Agenda 2063. Indeed it is seen as crucial to achieving these goals (African Development Bank (ADB), (2021). TVET has been hailed by ADB, (2021) as "the answer to the skills shortage and skills mismatch in Africa" and "the missing link for the training and integration of youth in the labor market".

TVET no doubt holds tremendous potential for increasing employment, economics, development and ultimately economic empowerment for young Africans in particular. Ngugi and Muthima (2019) were in agreement when they asserted that TVET helps individuals to become economically productive and therefore escape poverty and marginalization. Africa Union (2018) whose agenda 2063 is to transform the continent into a global powerhouse was also in agreement.

2.2 Student Access to TVET Education

Recruitment and enrolment of women, girls, boys and men is influenced by many different factors. According to African Union (AU) (2018) girls and women often choose and are offered gender stereotypical soft skills training, secretarial training and cooking. This is influenced by socio-economic and cultural factors that shape girls' preference and confidence when choosing training courses. Munyi and Cheruiyot (2019) did also assert that participation of women in TVET education as students has been found to be uneven across national, disciplinary and Institutional boundaries in both developed and developing countries.

The gender gap in academic attainment is also problematic and according to AU (2018) it begins at upper primary school when girls are less likely to achieve proficiency in mathematics and science and is even more pronounced at secondary level. Of girls who complete secondary education, many lack the proficiencies in numeracy, science and digital skills to enroll or excel in STEM related programs at tertiary education level.

According to Commonwealth of Learning (COL) (2021), existing data show that globally there is a 'leaking pipeline' between girls and women moving from STEM training into STEM-related careers and sub-Saharan Africa is no different. This is supported by a survey done by Bennell et al. (2006) of 2000 graduates in Tanzania. Girls and women reported having considerable difficulty utilizing their occupational knowledge and skills in the formal sector compared to men. A study done by Odondi et al. (2022), in Kenya was in agreement with COL (2021) having established that more male students were able to respond to digital skill questions compared to their female counterparts. The study recommended that there was need to ensure a targeted training of female students to be able to compete with their male counterparts in acquiring digital learning for the future of work.

In Ghana, a study by Asare et al. (2015) concluded that female owners of micro, small and medium enterprises in STEM-sectors were constrained by lack of confidence in their skills from their communities, lack of capital, inadequate equipment and machinery and inadequate training. While changes are slowly occurring across the continent according to COL (2021),

there is still some way to go. For women and girls to equally contribute toward development and innovation, it is vital to identify the factors that prevent them from pursuing training opportunities and careers in STEM.

This argument is supported by the Kenyan NGEC report of (2022) which pointed out that in many instances, female underrepresentation in TVET is due to stereotyping both at training levels and work place. A commonly held narrative is that STEM subjects were considered a natural male domain with females being encouraged to enroll. Cultural perception and stereotyping of some TVET fields are common. For example among the marginalized and vulnerable groups, girls and women's education is not a priority because they provide labor in households to subsidize the meager resources and incomes of their families. Besides, for female students, pregnancy often marks the end of training.

In Kenya, enrolment in TVET has been increasing over the years. According to the Economic Survey (2021) the total enrolment in TVET institutions grew from 142,418 in 2015 to 476,200 in 2020. The highest annual enrolment growth rate of 37.5% was recorded in the year 2016 according to the Economic Survey (2021). There after the growth rate has been declining with a record of 10.6% in 2020. For girls and women who do move into STEM-TVET, staying in the programs and completing them remains challenging. A study by Were (2020) found that 51 per cent of study participants 'strongly agree' that there is a significant drop out trend among girls and women in STEM-TVET compared to male student. The aforementioned studies created theoretical gaps that the current study intended to address by using capability and human rights approach theory to examine student access and gender inclusion in STEM courses in public TVET institutions in Kenya.

2.3 Gender inclusion in STEM Courses

Women and men have equal rights and opportunities to contribute to and benefit from national, political, economic, social and cultural development (Alinea, 2022). However, gender inequality, stereotyping, or biases happen when stereotyped qualities, roles and actions are appointed to males or females. Alinea (2022) argued that gender stereotyping perpetuates gender gaps in TVET institutions because of expectations among sexes. There are fields that are dominated by males or females due to stereotyping dictated by other contributing factors like culture, religion, school environment and the individual processing of trainees/students. She asserted that when gender inclusivity to access educational opportunities is practiced, more females can become change agents.

According to UNESCO-UNEVOC (2020) report, TVET institutional level factors are significant in girls' participation and achievement in TVET programs and leadership. Trainers play an important role in both perpetuating and challenging gender stereotypes since the way they act in the learning environment sets the tone for the class. NGEC (2022) reported that fewer women and girls participate and are represented in leadership and decision making within the staff, board council and student body.

World Bank (2017) confirmed that the under representation of women in particular is pronounced in the 'technical' and 'industrial' fields such as mechanics, electricity, construction, plumbing, carpentry and welding. In Burkina Faso for example, men outnumber women at a ratio 5:1 in the industrial sectors. In Uganda, three programs; construction, motor vehicle maintenance and carpentry account for two-thirds of male enrolment whereas cooking or catering, beautification services, business-related studies and tailoring account for two-thirds of female enrolment. This is supported by Amoamach et al. (2016) who asserted that even in cases where practices to increase opportunities for girls and women in non-traditional sectors exist, many girls and young women still choose not to.

In Kenya, Munyi and Cheruiyot (2019) reported that majority of students surveyed indicated that there were no specific programs in their institutions and departments geared towards attracting female students to STEM courses. Some of the academic staff and managers interviewed mentioned that the admission of female students with a lower cut off point as an intervention was not a consideration in their institution, although there were those institutions that considered late admissions of students from marginalized areas.

Munyi and Cheruiyot (2019) further revealed that there are a number of impediments to the implementation of sustainable gender equity interventions including inadequate funding for the activities geared towards enhancing gender equity, lack of gender awareness among students, staff and institutional managers, negative attitudes towards gender issues and lack of clear gender policy guidelines. It is against this backdrop that the current study was undertaken to add to the dearth literature on gender inclusion in TVET institutions in Kenya.

3.1 Methodology

The paper was a desk review of published works from UNESCO data bases, World Bank, AIP Conference Proceedings, Public Policy and Administration Research, Africa Educational Research Journal, Commonwealth of Learning, Africa Journal of Technical and Vocational Education and Training, Future of Education Culture and Nature-Learning to Become, International Journal of Science Technology, Education and Management Research, Interdisciplinary Research Review Advances in Social Sciences Research Journal, National Gender and Equality Commission (NGEC), Ministry of Education Science and Technology (MoES&T) Republic of Kenya (RoK) and existing internet-based information. The search for accurate data pertinent to the topic both published and unpublished data were systematically conducted. The paper examined literature in the following areas: gender inclusion in TVET institutions, access and equity in TVET, mapping the gaps in TVET, contribution of gender policies in TVET, emerging issues and knowledge gaps and strategies for enhancing female participation among others. The paper finally discussed the findings and subsequently offered the way forward.

4.1 Findings and Discussions

It is clear from a study carried out by NGEC (2022) that access and equity in TVET has improved in recent years. The trainee enrolment in TVET has more than tripled from 147,000 in 2014 to 498,326 in 2021. However the total male students in TVET institutions still accounts for 57.2 percent of the total enrolment. Notwithstanding the observed improvements, the enrolments according to NGEC (2022) are still by far not adequately aligned with the expansion of enrolment that should go hand in hand with the promotion of gender parity in TVET sector and institutions as well as improvements in access to opportunities for persons with disabilities and those in marginalized areas and communities.

Republic of Kenya (2022) on mapping technical and vocational educational and training data in Kenya identified the following knowledge gaps in access and equity: there is lack of information on dropout rates; lack of information on the reason for dropout rates; lack of information on the reason for dropouts by certain categories of trainees such as young mothers, learners with special needs among others; lack of centralized data hub to access enrolment data and lack of information on refugees in TVET in terms of gender and disability.

Economic Survey (2021) indicated that the highest annual enrolment growth rate of 37.5% was recorded in the year 2016. There after the growth rate has been declining with a record of 10.6% in 2020. TVET enrolment is still low and more youth should be mobilized to join TVET in order to attain the 1 million annual enrolment target (RoK, 2022).

The gender mainstreaming policy according to NGEC (2022) needs to provide a uniform approach towards mainstreaming gender in the institutions including among others: a framework for action in inculcating gender sensitivity in the TVET institutions' mandate and intentionally address underlying barriers such as gender stereotyping, gender discrimination and gender influence on career choices; provide a gender-friendly environment for both public and private TVET institutions with appropriate support systems and incentives.

To improve the accessibility of technical education at the national and local level, the government has continued to set up technical institutions in every constituency and vocational centers at the ward level (RoK, 2022). Nevertheless, the low enrolment rate and lack of enrolment in some of the TVET institutions' courses indicate the need for public participation in TVET implementation processes. Apart from increasing awareness, this will ensure that the institutions established are need-based, hence effective and efficient allocation of resources.

According to Commonwealth of Learning (2021), existing data shows that globally, there is a leaking 'pipe line' between girls and women moving from STEM training into STEM related careers, and sub-Saharan Africa is no different. In a survey of 2000 graduates in Tanzania, girls and women reported having considerable difficulty utilizing their occupational knowledge and skills in the formal sector compared to men.

TVET institutional-level factors are significant in girls' participation and achievement in STEM-TVET (COL, 2021). These include among others gender stereotyping within the training environment, a lack of career awareness and information and gender-friendliness of infrastructure. Teachers and trainers play an important role in both perpetuating and challenging gender stereotypes. The way the teachers and trainers act in the learning environment sets the tone for the class. Career awareness and quality career information in STEM areas is crucial for both female and male students. Female students often have fewer STEM role models and are less aware of the content of STEM fields of study and careers. Career guidance, coaching and mentorship in STEM-TVET can support girls to develop realistic and attractive images of STEM careers, make well informed choices, and discuss how to overcome gender specific challenges in their educational journey. Curricula learning materials and access to equipment also play an important role in promoting girls engagement in STEM and sense of belonging. Textbooks often fail to show female STEM professionals or portray women in subordinate roles. Gender-friendliness of infrastructure also plays a key role in the experience of girls and women.

A study by Oluinyi and Oviawe (2016) concluded that more still needs to be done to promote gender equality in access to TVET in Nigeria. Female participation in TVET program which prepares them for high-skill, high wage and high job demand is critical to ensure their economic security and close the wage gap. They further posited that the government and other stake holders in education and training need to join forces to bridge the gap so that female trainees can participate fully, contribute meaningfully and live fulfilled lives in TVET. Munyi and Cheruiyot (2019) were in agreement when they concluded that there are no interventions geared towards increasing female students' access to TVET education in general and to specific departments in selected TVET institutions in Kenya. They further asserted that there are no interventions geared towards transforming the TVET curriculum including content and teaching strategies especially in STEM courses.

5.1 Conclusions and Recommendations

Gender analysis in Kenya's TVET sector is making progress, but there is much more that needs to be done. The literature on gender inclusion and TVET tends to be disjointed and uneven and lacks connections. While studies exist on a range of gender inequality challenges in TVET, the issues are under researched and under theorized. Most notably, the connections between gender inequality in TVET and sustainable development are not well advanced in TVET literature. This is problematic as it limits the understanding of how gender responsive reforms may and contribute to Kenya's economic development, the promotion of the SDGs and Agenda, 2063.

What can be observed from this review of literature is that systems of gender inequality in society give rise to the inequalities that exist between men and women in TVET institutions. Despite an increase in enrolment in TVET institutions, gender disparities still exist between the numbers of male and female student trainees.

There is need for TVET institutions to create gender inclusive environment. It is also necessary to incorporate gender consideration into activities to develop curricula and learning materials and to capture sex-disaggregated data in all aspects of TVET. There is need to ensure deliberate action to promote or appoint qualified women to decision-making positions or position of power and influence in the TVET sectors.

Both the National and County levels of government as well as other stake holders in the TVET education sector and in curriculum development must ensure that there is integration of practical tools to support programs that address the equitable access to and retention in TVET institutions.

Money should also be earmarked by the government and other stakeholders in education and technological development, to ensure effective running of female-in-TVET programs. Implementation of affirmative action policies should be done in favor of females, especially when it has to do with admission, employment, appointments and other incentives. All harmful cultural, religious and social-based institutional practices which are anti-female should be legislated against and decisions reached fully implemented.

There is also need for TVET institutions to develop a centralized TVET data and knowledge hub. Disaggregated data by nationality, gender and disability need to be collected.

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