



## UTILITY OF GOVERNMENT INITIATIVES IN TECHNICAL, VOCATIONAL AND TRAINING INSTITUTIONS ON STUDENT ENROLMENT IN BUNGOMA COUNTY, KENYA

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### Abstract:

The Government of Kenya lays great emphasis on Technical Vocational Education and Training (TVET) for her social and economic growth in the 21st century. Her estimated requirements for an effectual technical workforce, is in hundreds of thousands by the year 2030. The prerequisite for this milestone is pegged on attainment of a gross enrolment ratio of 20% in TVET institutions annually, whose enrolment however, continues to be far below targeted numbers. It was against these facts that the current study sought to investigate the government initiatives in TVET institutions on student enrolment in Bungoma County, Kenya. The study targeted 82 TVET institutions, 82 principals, 714 lecturers, 9098 students. The study employed proportionate stratified random sampling, simple random sampling and census to select the TVET institutions and respondents from the 9 sub-counties in Bungoma County. From the 82 TVET institutions in Bungoma County, proportionate stratified random sampling was used to select 65 TVET institutions for the study. Data collection tools comprised questionnaires for primary data which had closed-ended. The study recommended that all TVET institutions and be should utilized for learning and administration in the institutions.

**Keywords:** utility, initiatives, technical, vocational, training, enrolment

### 1. Introduction

Technical Vocational Education and Training is regarded as a form of education intended to prepare learners for the realm of work in commercial or technical fields (Ntallima,

2014). There is overwhelming evidence that Technical Vocational Education and Training (TVET) provide economies with requisite skills for growth, wealth creation and social advancement by enabling students to acquire practical skills crucial for working in a specific profession or craft (UNESCO, 2015). Due to its inclusive nature, TVET can be considered as one of those key sectors necessary for sustainability of any country's socio-economic development process. TVET also plays an essential part in economic growth and reduction of poverty if thoughtfulness is put into tailoring or steering provision of training and education to homegrown needs (Chege & Kariuki, 2016).

In recent decades, there has been a renewed governmental interest in TVET especially in African countries, where previously, greater emphasis was on university and other forms of tertiary education compared with development of technical, and practical hands-on skills. Kenya is not an exemption (Kingombe, 2013). In Azerbaijan, the TVET system was in 'a disastrous shape' prior to the policy reforms of the year 2007, but it was salvaged when the government and development organization ploughed resources into the sector, resulting in a turnaround (European Training Foundation, 2014).

In Africa, the renewed quest for a bigger TVET can be seen from the many policies and reform efforts undertaken by several African countries (Kingombe, 2013). Policy reforms and strategy implementation in Ethiopia saw increase in enrolment in TVET institutions from 17.42 percent in 2009/2010 to 40.23 percent in 2011/2012 (Kemenade, 2013). Ethiopian policy reforms emphasize the importance of TVET in cultivating efficiency of businesses and growing competitiveness universally. Making TVET free of charge raised Ethiopia's profile to one of the topmost in Africa in terms enrolment in training institutions (Krishnana & Shaorshadze, 2013).

In tandem, Kenya has also over the past decades continued to invest large amounts of its national budget in TVET sector. For example, in the financial year 2017/2018, the budgetary allocation to TVET was Kenya Shillings (Kshs) 26.6 billion while in 2019/2020 the allocation was Kshs 24.9 billion. The expenditure was for financing various requirements such as infrastructure development, human resource development, teaching learning resources development and funding for student tuition expenses in form of loans and bursaries (KNBS, 2019).

Other initiatives by the Kenya government in TVET included sector reforms in governance and policy formulation. Towards this end a raft of policy documents have been published by government since 2002. These include: The Poverty Reduction Strategy Plan (RoK, 2003); The Economic Recovery Strategy Programme (RoK, 2003); Sessional Paper No.1 (RoK, 2005), KESSEP 2005-2010 (RoK, 2005); Sessional paper No. 14 (RoK, 2012); Sessional Paper No. 1 (RoK, 2019) the Vision 2030 (RoK, 2008); The Constitution of Kenya of 2010 (RoK, 2010), TVET Act 2013 (RoK, 2013) and the Big Four Agenda (RoK, 2019). In Kenya just like many African countries, enrolment in TVET institutions has suffered a slow pace of growth. According to the Technical Vocational Education Training Authority (TVETA), enrolment in TVET institutions countrywide

currently stands at 0.3%. This percentage needs to rise to acceptable levels for Kenya to achieve her national development and economic growth (TVETA, 2019).

### **1.2 Statement of the Problem**

To encourage student enrolment in the TVET institutions government dedicates a percentage of its national budget to TVET (KNBS, 2019). Other milestones include establishment of several agencies such as Curriculum Development Assessment and Certification Council (CDACC), Kenya National Qualifications Authority (KNQA) and the creation of the State Department for Vocational and Technical Training. The mandate of the agencies is to revitalize TVET in Kenya. It is against this backdrop that this study was conceived. Several studies have been carried out on factors that affect perception, student access, student choice and enrolment trends in TVET institutions in Kenya (Edwards & Quinter, 2011; Murithi, 2013, Mursoi, 2013, Nganyi, 2014; and Kitui, 2015). However, inconsistent finding of various scholars led to the gap that this present study sought to fill hence, the need to investigate the government initiatives in technical vocational education and training institutions on enrolment in Bungoma County, Kenya.

### **1.3 Objective of the Study**

To investigate the contribution of government initiatives in technical vocational and training institutions on student enrolment in Bungoma County, Kenya.

### **1.4. Significance of the Study**

This study is hoped to provide material and data which may help to explain why enrolment in TVET institutions remains low in spite of government initiatives. Secondly, the study is also hoped to unearth and to provide useful knowledge on how types and number of courses offered, budget adequacy, ICT adoption and challenges in TVET institutions can be leveraged to increase student enrolment and be utilized by stakeholders including the government, managers of TVET and others at both national and county governments, in their effort of expanding TVET and making it a desirable choice for many young people most of whom lack sufficient skills for employment. Thirdly, the findings will contribute literature available for review in the subject of government initiatives and student enrolment. Finally, the research will also unearth new gaps which will provide new problems for additional exploration on increasing student enrolment in TVET institutions.

## **2. The Study Area**

This study was conducted in Bungoma County of Kenya, which comprises of nine sub-counties, namely: Bungoma Central, Bungoma East, Bungoma North, Bungoma South, Bumula, Chwele, Mt Elgon, Kimilili Bungoma and Sirisia. The county lies between latitude  $0^{\circ} 28'$  and latitude  $10^{\circ} 30'$  North of Equator, and longitude  $34^{\circ} 20'$  East and  $35^{\circ} 15'$  East of the Greenwich Meridian. It covers an area of  $3032.4\text{km}^2$ , and borders Trans Nzoia

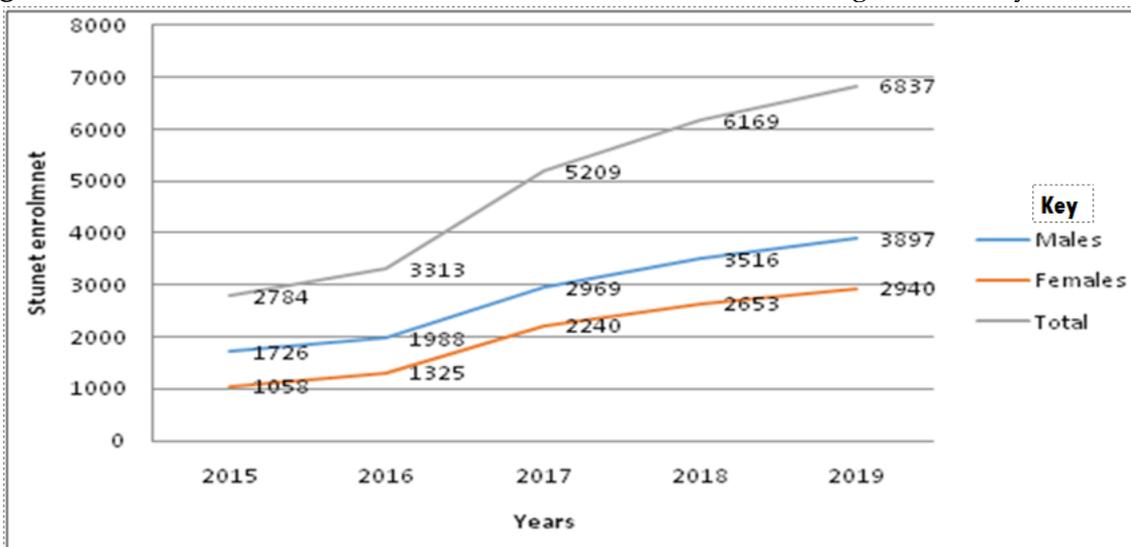
County to the North East, Kakamega County to the South East, Busia County to the South West and the republic of Uganda to the North West. According to the 2019 population census, Bungoma County had a population of 1,670,570 of which 812,146 are males 858,389 females. The demographic structure is bottom-heavy with age cohorts of 6 and 34 years being majority. Agriculture is the main economic activity with the growing of cash crops which include maize and sugarcane because of adequate rainfall and fertile soils (KNBS, 2019).

### 3. Results and Findings

#### 3.1 Trend Analysis of student Enrollment in TVET Institutions

This was the dependent variable of the study. To achieve the objective, the study first analyzed the trend of student enrollment in TVET institutions and then compared the levels of enrollment in the institutions VTCs and TTIs. To analyze the trend of student enrollment in TVET institutions in Bungoma County, the Principals were asked to give the enrolment of their respective TVET institutions and the results were presented in the Line graph shown in figure 3.1.

**Figure 3.1:** Trend of Student Enrolment in TVET Institutions in Bungoma County 2015 -2019



Source: Bungoma County Office.

Figure 3.1 shows the trend of student enrolment in TVET institutions in Bungoma County, over the years studied. The levels of enrollment were 1,726 ( 62%) for males and 1,058 (38%) for females in 2015 making a total of 2,784 and rose to 6,837 with 3,897 males representing (57%) and 2,940 females representing 43% in 2019. This implies that generally enrolment rates to TVET institutions increased in Bungoma County over the period of study. This increase in enrolment could be attributed to the contribution of government initiatives in TVET institutions.

### 3.2. Descriptive statistics for the student enrolment rates in TVET institutions for the five years in Bungoma County

Descriptive statistical analysis was used to analyze the enrolment rates for the five years from 2015 to 2019. The results are shown in table 3.1.

**Table 3.1:** Descriptive Statistics of Enrolment in TVET Institutions in Bungoma County

Descriptive Statistics					
	Minimum	Maximum	Sum	Mean	Std. Deviation
Males	1726	3897	12276	2455.2	843.280
Females	1058	2940	10216	2043.2	735.019

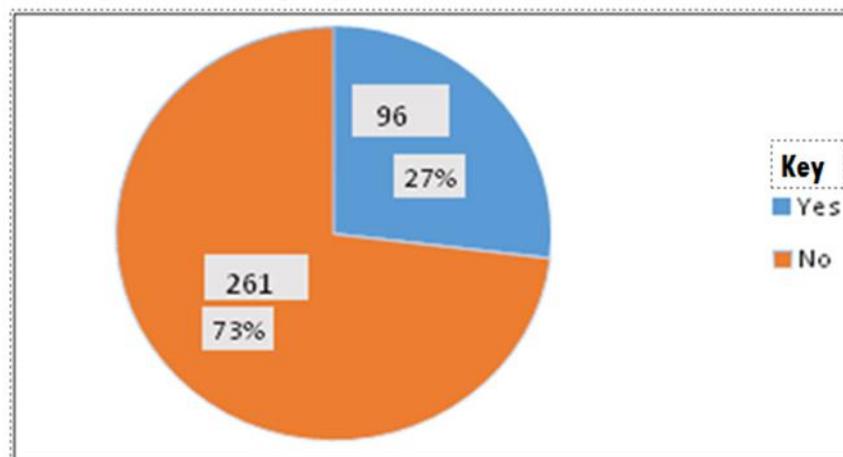
Source: Field Data (2019).

The results of Table 3.1 indicate that the mean enrolment for males in TVET institutions was 2,455.2 students per year with values deviating from this mean to the extent of 843.280. The mean enrolment rate for females was 2,043.2 students per year with the values deviating from the mean to the extent of 735.019. The results indicate higher enrolment rates for males than females in the TVET institutions in Bungoma County.

### 3.3 Adequacy of Enrolment

The respondents were requested to indicate whether the enrolment in their TVET institutions was adequate. The results are shown in Figure 3.2.

**Figure 3.2:** Adequacy of enrolment in TVET institutions



Results in Figure 3.2 show the level of adequacy of enrolment for the year 2019. (261) 73.1% of the respondents surveyed indicated that it was not adequate while (96) 26.9% indicated that enrollment in their institutions was adequate. The results from Figure 3.2 imply that majority of TVET institutions in Bungoma County were operating below capacity as they were registering low numbers of students. Further analysis of the responses indicated that the level of adequacy was distributed among respondents as shown below in Table 3.2.

**Table 3.2:** Analysis of responses on adequacy  
 of enrolment according to levels of TVET institutions

Institution level	Respondents	Yes	No
TTI and IST	Students	43	5
	Lectures	6	2
	Principals	3	1
VTC	Students	30	108
	Lectures	6	102
	Principals	8	43
<b>Total</b>		<b>96</b>	<b>261</b>

Source: Field Data (2019).

Results from Table 3.2 indicate that 96 respondents who included 43 students, 6 lecturers and 3 principals from TTIs and IST, and 30 students, 6 lecturers and 8 principals from VTCs agreed that the enrolment in their institutions was adequate, whereas 261 respondents who included 5 students, 2 lecturers and 1 principal from a TTI, 108 students, 102 lecturers and 43 principals from VTCs did not agree that enrolment was adequate. This implies that to a large extent there is adequate enrolment in TTIs and IST while there is inadequate enrolment in VTCs.

### 3.4 Indicators of inadequate enrolment in TVET institutions in Bungoma County

The respondents were also asked to state the indicators of inadequate enrolment in their TVET institutions. These results are presented in Table 3.3.

**Table 3.3:** Indicators of inadequate enrolment in TVET institutions

Indicators for inadequate enrollment	Frequency	Percent
Drop outs	54	20.7
Scrapping courses due to lack of students	84	32.2
Small class sizes	87	33.3
Availability of teaching/learning resources but no students	23	8.8
Availability of lecturers but no learners	13	5
<b>Total</b>	<b>261</b>	<b>100</b>

Source: Field Data (2019).

According to Table 3.3, respondents 54 (20.7%) out of 261 respondents agreed that low enrolment in their institutions was indicated by high dropout rates, 84 (32.2%) scrapping of courses due to lack of students. Other probable indicators were 87 (33.3%) small class sizes, 23 (8.8%) availability of teaching/ learning resources but no students and 13(5%) availability of lecturers but no learners. This implies that small class sizes and scrapping of courses has led to a situation where TVET institutions in Bungoma County are under enrolled. This scenario was mainly observed in VTCs.

### 3.5. Analysis of the Differences in Enrollment amongst the TVET Institutions

First, the study analyzed the average enrollment levels in the two categories of TVET institutions surveyed. Institution type one represents the Vocational Training Centers

(VTC) and type two represents Technical Training Institutes and Institute of science and technology (TTI and IST). The mean enrollment and standard deviation for each category and gender are shown in Table 3.4.

**Table 3.4:** Levels of Enrollment in the Two  
 Categories of TVET Institutions between 2015 and 2019

	Institution Type	N	Mean	Std. Deviation	Std. Error Mean
Males	1	51	51.36	32.952	4.660
	2	4	384.80	144.958	64.827
Females	1	51	28.70	19.301	2.730
	2	4	362.00	168.879	75.525
<b>Total</b>	<b>1</b>	<b>51</b>	<b>80.06</b>	<b>48.527</b>	<b>6.863</b>
	<b>2</b>	<b>4</b>	<b>746.80</b>	<b>312.512</b>	<b>139.760</b>

**Source:** Field Data (2019).

The results presented in Table 3.4 show the analysis indicating that the mean enrollment for males in the vocational training centers was 51.36 with a standard deviation of 32.952 while the mean enrollment for the Technical institute was 384.80 with a standard deviation of 144.958. For females, the mean enrollment rate in vocational training centers was 28.70 compared to a mean enrollment of 362 in Technical Institutes.

Overall, the enrollment rate in vocational training centers was 80.06 with a standard deviation of 48.527 while the mean enrollment for the Technical institute was 746.80 with a standard deviation of 312.512. The results indicate that more students are enrolled in the technical institute as compared to the vocational training centers. In terms of gender, it is noticeable that the enrollment rate of males in vocational training centers was almost twice that of females in the same institutions. However, for the technical institute the rates of enrollment were almost similar even though the males were slightly more than the females.

The findings in Table 3.4 concur with Puyate (2019) and Nanjoli (2019) who found out that there were fewer female students enrolled in TVET institutions compared to the males. Puyate (2019) found that among other things, that female student's poor performance in science related subjects at O' level is one of the major factors that can cause their lack of interest to enroll in technical-vocational education and training programmes. On the other hand, Nanjoli (2019) found that cultural stereo types lack of role models and socio-cultural factors were main challenges to women enrolment and good performance of women in STEM courses.

However, Puyate (2019) and Nanjoli (2019) findings were limited to generalizability since their studies focused on women participation leaving out the male counterparts, thus the gap that the current study sought to fill. The findings are also corroborated by the Kenya Economic Survey 2019 (KNBS 2019), which found that there were more males than females in TVET institutions in Kenya. For instance, in the year 2018 there were 163,519 males and 114,745 females in public TVET institutions in Kenya.

### 3.6. Independent Samples Test for Difference in Enrollment

To establish whether the difference in enrollment between the vocational training centers and the Technical institutes was statistically significant, independent samples t-test for the means was used and the results are presented in table 3.5.

**Table 3.5:** Independent Samples Test for Difference in Enrollment

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	S. E Difference
Males	Equal variances assumed	67.149	.000	-13.969	53	.000	-333.44	23.869
	Equal variances not assumed			-5.130	4.041	.007	-333.44	64.994
Females	Equal variances assumed	212.424	.000	-14.221	53	.000	-333.30	23.437
	Equal variances not assumed			-4.410	4.010	.012	-333.30	75.574
Total	Equal variances assumed	142.225	.000	-14.548	53	.000	-666.74	45.832
	Equal variances not assumed			-4.765	4.019	.009	-666.74	139.928

Source: Field Data.

The results in Table 3.5 indicate that for males a *t*-test value of -13.969 ( $p < 0.05$ ) was obtained meaning that there was no significant difference in enrollment of males between vocational training centers and TTIs. For females, a *t*-test value of -14.221 ( $P < 0.05$ ) was obtained indicating no significant difference in the enrollment females between vocational training centers and TTIs. Overall, a *t*-test value of -14.548 together with *p*-value of 0.000, were obtained signaling that there was no significant difference in the enrollment students between vocational training centers and TTIs.

This does not concur with the report of the KNBS (2019) which indicates that enrolment in Technical Universities, National Polytechnics and TTIs and was higher than enrolment in VTCs. This can be attributed to on-going government initiatives in TVET institutions under national government with the bid to boost enrolment.

## 4. Conclusion

The study concluded that the type and number of courses offered by a TVET institution determines the number of students enrolled in that institution. The study also concluded that budget adequacy in TVET institutions has a significant relationship with the overall enrollment of students in the TVET institutions. Further the study concluded that adoption of ICT by TVET institutions has a statistically significant relationship with student enrollment hence if the ICT resources are available and are put into use this will lead to an increase in enrollment in the TVET institutions. Based on the study results on the challenges to student enrollment in TVET institutions, the study concluded that TVET institutions in Bungoma County do not carry out needs assessment in curriculum development hence might be offering courses that do not meet stakeholder needs as well as the needs of industry and this is poised to be the greatest challenge to increased enrollment in TVET institutions.

### 4.1 Policy Recommendation

The study recommends that government develops a policy framework that will address resource, management, curriculum and attitude based challenges which have adversely affected student enrolment in TVET institutions.

### Editor's note

The authors refused to provide a correspondence email, a conflict of interests statement and an "About the Author(s)" section.

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