



**TECHNICAL AND VOCATIONAL EDUCATION
AND TRAINING AUTHORITY**

**TVET INSTITUTIONS' ANNUAL RETURNS 2024
(Institutional Self-Assessment Report)**

May 2025

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VISION

To deliver competent workforce for sustainable development

MISSION

To develop a TVET system that meets national needs and aspirations

CORE VALUES

- *Integrity*
- *Professionalism*
- *Accountability*
- *Public Participation*
- *Teamwork*
- *Efficiency*

FOREWORD

The Technical and Vocational Education and Training (TVET) subsector in Kenya has experienced a robust growth over the last 15 years, driven by progressive government initiatives aimed at providing a skilled workforce to support accelerated industrial development. Despite this progress, the subsector faces notable data gaps that hinder effective planning, decision-making, policy formulation, and implementation. To address these challenges, there is a critical need to establish a comprehensive database and strengthen the existing data management systems. These efforts are essential to support evidence-based decision-making in education, research, and training. Consequently, regular publication of data and information related to TVET programs across the country is imperative. rarely

The compliance to Section 41 of the TVET Act Cap 210A that require all accredited training institutions to submit annual reports to the Authority has been relatively low. Many institutions are yet to meet this legal requirement or at certain times submit incomplete data. The **TVET Annual Returns Reports** provide a significant contribution in creating a detailed and reliable database for the subsector. As the second annual report in a planned series of publications, this report is an improved version of the 2023 annual report. The subsequent reports are envisaged to provide a broader coverage, by incorporating a larger, if not all the accredited TVET institutions in the country, thereby improving data quality, validity and reliability.

This second annual report presents comprehensive data disaggregated by gender and disability and covers enrolment, graduation, dropout rates, and staff qualifications in all the main categories of public and private TVET institutions in all parts of the country:

- National Polytechnics (NPs)
- University TVET Institutions (UTVETIs)
- Kenya School of TVET (KS-TVET)
- Technical and Vocational Colleges (TVCs)
- Vocational Training Centres (VTCs)

The Authority plans to enhance future data collection and institutional compliance through improved sensitization, and development of a simplified and more robust online data collection tool. This will streamline reporting process and ensure more reliable and timely data collection across the TVET subsector

Timothy Katiambo Nyongesa
Ag. Director General/CEO

EXECUTIVE SUMMARY

The TVET annual report 2024 provides information on trainers, gender disaggregated enrollment, trainee graduation, dropout levels, and PWD in the four main categories of TVET institutions in Kenya; National Polytechnics (NPs), Kenya School of TVET (KS-TVET), Technical and Vocational Colleges (TVCs), and Vocational Training Centres (VTCs). The report has six main chapters, with chapter one providing a preliminary overview of TVET institutions. Chapters two, three, four, and five provide detailed self-evaluation information on the NPs, KSTVET, TVCs, and VTCs respectively. The last section provides a general National Outlook on TVET institutions and a conclusion on this report. The report also made a brief comparison between the data obtained in 2024 and that of 2023 to determine some general trends in the TVET institutions.

The data analyzed in this report was provided by 1,238 institutions, which represented 46% of the accredited TVET institutions as of 31st October 2024. The relatively low response rate could be attributed to the fact that nearly 50% (1,250) of the accredited institutions had expired registration licenses. However, most of the institutions with the highest enrolments, such as NPs and other public institutions registered high response rates implying that the information in this report was representative of the TVET institutions in Kenya. The failure of more than half of the institutions to provide their self-evaluation reports could hamper effective monitoring, planning, and policy formulation within the subsector. It also shows potential gaps in enforcement mechanisms or capacity challenges within institutions that need to be addressed to support data-driven decision-making. The Authority should ensure that all institutions comply with the requirements of the TVET Act Cap 210A.

The STEM courses recorded much higher enrolments (532, 224) than the non-STEM courses (82,592), with a ratio of STEM-to-non-STEM of 58:9, which was nearly equal to the ratio of 7:1 recorded in 2023. Despite the reduced proportion of respondents, the overall enrolment of trainees in the institutions that responded increased from 532,329 in 2023 to 614,816 trainees in 2024, indicating a significant increase in enrolment. The ratio of Male: Female enrolment in the public institutions was 13:9 for the STEM courses and 1:2 for the non-STEM courses while the corresponding proportions for the private institutions was 2:3 and 6:7 respectively. The enrolment ratio for STEM: non-STEM in the public and private institutions was 58:8 and 2:1 respectively, showing that more trainees were enrolled for the STEM programs than the non-STEM programs in both public and private institutions. Similarly, the overall enrolment ratio of Male: Female in the STEM and non-STEM courses was 11:8 and 1:2 respectively while the overall ratio of STEM: non-STEM enrolment was 58: 9.

The enrollment of persons with disabilities (PWDs) in the TVET institutions was generally low. The proportion of PWD enrolled in the Public TVCs and NPs were 0.65% and 0.18% respectively. The private TVCs were more inclusive at 0.69% than the VTCs where the proportion of trainees with PWDs was 0.58. Although the proportion of PWD trainees enrolled in private institutions increased from 0.25% in 2023 to 0.67% in 2024, that for the public institutions reduced from 0.56% to 0.50% respectively. This change resulted in a reduction in the overall proportion of trainees with disabilities from 0.54% to 0.51%.

The overall proportion of graduates across all TVET institutions was 26%. Public institutions recorded a graduation rate of 25%, while private institutions had a higher rate of 51%. Among public institutions, KSTVET recorded the highest graduation rate at 74%. NPs, TVCs, and VTCs recorded lower graduation rates of 17%, 23%, and 41% respectively. The overall dropout rate across TVET institutions was 6%. KSTVET reported no dropouts. NPs and public TVCs had low dropout rates of 3% and 4% respectively. In contrast, public VTCs recorded a dropout rate of 17%. Private TVCs and VTCs recorded dropout rates of 10% and 11% respectively.

Most institutions complied with the Trainer Qualification Framework (TQF) requirement, with 92.56% of the trainers having qualifications above craft certificate. The highest proportion had bachelor's degree qualification (45.27%) followed by Diploma at 25.97%. However, it was noted that a significant proportion of trainers had qualifications below Craft Certificate (7.44%) in contravention of TQF requirement. The KSTVET and National Polytechnics had the most qualified trainers with Diploma and above qualifications accounting for 100% and 98.72% respectively. The proportion of male trainers in STEM programs was higher than that of female trainers across all categories of TVET institutions. In non-STEM programs, the proportion of female trainers was higher in all public institutions except in National Polytechnics. In private institutions, however, male non-STEM trainers outnumbered their female counterparts. Overall, the gender disparity was more pronounced among STEM trainers (60% male, 40% female) compared to non-STEM trainers (52% male, 48% female).

Public TVET institutions reported a higher trainer-to-trainee ratio in STEM programs than the recommended 1:20, implying a shortage of trainers in the programs. However, private institutions had adequate STEM trainers. However, both public and private TVET institutions had sufficient trainers for non-STEM programs. These findings highlight the need for public TVET institutions to recruit more qualified trainers for the STEM courses to address the staffing gap and enhance the quality of training. The data further revealed that, 63% of trainers in public institutions were engaged by the PSC while 37% were engaged by respective institutions boards/ councils. The significant proportion of trainers employed by the institutional boards/councils confirmed the shortage of trainers in the institutions.

The annual returns data showed that 2.13% and 0.42% of the trainers employed in private and public institutions respectively were PWDs. The overall mean proportion of PWD trainers employed by the TVET institutions registered a significant increase from 0.80% in 2023 to 1.92% in 2024. Despite this increase, there is still need for increased advocacy to progressively employ more PWD trainers in the TVET institutions to achieve the recommended proportion of 5% by Persons with Disability Act, 2015 and hence conform to the statutory requirements.

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LIST OF ACRONYMS

BETA	Bottom-Up Economic Transformation Agenda
BoM	Board of Management
CBET	Competency Based Education and Training
CBETA	Competency-Based Education, Training and Assessment
CDACC	Curriculum Development, Assessment and Certification Council
CPSBs	County Public Service Board
KASNEB	Kenya Accountants and Secretaries National Examinations Board
KATTI	Kenya Association of Technical Training Institutions
KENAPCO	Kenya National Association of Private Colleges
KNEC	Kenya National Examinations Council
KNQA	Kenya National Qualifications Authority
KPHC	Kenya Population and Housing Census
KSTVET	Kenya School of TVET
MoE	Ministry of Education
NITA	National Industrial Training Authority
NP	National Polytechnic
NPSEB	National Polytechnics Schools Examinations Board
ODeL	Open, Distance and e-Learning
PSC	Public Service Commission
PWD	Persons with Disability
QAIs	Qualifications Awarding Institutions
RPL	Recognition of Prior Learning
STEM	Science, Technology, Engineering and Mathematics
TQF	Trainer Qualification Framework
TVC	Technical and Vocational Colleges
TVET	Technical and Vocational Education and Training
VTC	Vocational Training Centres
UNESCO	United Nations Educational, Scientific and Cultural Organization
UTVET	University TVET Institutes

DEFINITION OF TERMS

Graduation: is the completion and sitting for the final stage/ module examinations for a given course of study.

Dropout: refer to trainees who leave without sitting the end of module/ final examinations in TVET institution.

STEM: In this report, STEM includes all Engineering and related courses, Health and Applied Sciences, Hospitality, Hairdressing, Tailoring and Dressmaking, Computer courses, Agriculture

Non-STEM: Includes Business courses, Languages

CHAPTER ONE INTRODUCTION

Background Information

Technical and vocational education and training (TVET) institutions provide important pathways for addressing socio-economic challenges by equipping trainees with essential skills for employment, decent work, and entrepreneurship. The institutions play a key role in steering the transition towards sustainable societies and greener economies and have been undergoing numerous transformations in many countries to meet the changing needs of the labour markets for sustainable development. The institutions have also developed innovative strategies to tackle current challenges and prepare for an evolving future of work (UNESCO-UNEVOC, 2020). The analysis and use of TVET data has been identified as a key component for skills planning and development. The TVET data provide important information on the inputs, processes, outputs and outcomes of TVET systems and programmes as well as characteristics and needs of trainees and the labour market. The data can support evidence-based policy and practice by informing the design, implementation, monitoring, and evaluation of policies and interventions, as well as adoption of good practices and innovations. The data can help in enhancing trainee achievement and learning outcomes, transition from school to work, and eradicating gaps between skill supply and demand (UNESCO, 2024).

Kenya has a vibrant and economically viable youth population that can be actively engaged in productive ventures to make significant contributions to the national development. The employability of the youth can be improved by providing them with appropriate skills required by the labour market, hence mitigating their vulnerability to anti-social activities that threaten their livelihoods. The TVET system in the country can fulfil this mandate by improving its access and relevance to the labour market. However, one of the main barriers that hinder evidence-based decision making and policy making process for effective delivery of demand-driven TVET skills is lack of accurate information to guide the decision making and policy formulation (Republic of Kenya, 2022). There is an urgent need for the establishment of a harmonized database for effective planning and management of TVET. The TVET Annual returns report is envisaged to make significant contribution in the provision of comprehensive and reliable data that will help in sealing data gaps in the Kenyan TVET subsector for effective planning and improved efficiency in the subsector

The Technical and Vocational Education and Training Authority (TVETA) is the lead agency mandated by the TVET Act Cap 210A of the laws of Kenya to regulate training and compile the annual institutional self-evaluation reports (TVET annual returns). The annual returns provide information on important outputs such as enrolment, graduation, drop out, trainer qualification and inclusion of persons with disability (PWD) in TVET. This data is crucial for assessing the performance of the TVET subsector as well as making informed decisions and policy formulation by various stakeholders in TVET. The Authority is committed to providing data on TVET and all the TVET Annual Returns report and other information shall be shared on the TVETA website. It is envisaged that policymakers, practitioners and researchers in TVET will harness information periodically provided by the Authority to accurately forecast the future patterns in TVET development, anticipating market labour and trends and revising the existing programs for effective labour market anticipation. The report provides a

detailed general overview of TVET landscape in Kenya and data on enrolment, graduation, dropout, staff qualifications, and inclusion of PWD in main categories of TVET institutions.

1.2 Objectives

The general objective of the TVET Annual Report is to provide comprehensive information on the enrollment, staffing, graduation and dropout levels in Kenyan TVET institutions. The specific objectives of the report are to:

- i. Provide gender disaggregated enrolment, graduation and dropout in STEM and non-STEM courses for all the categories of TVET institutions;
- ii. Provide information on the trainers' employers, and qualifications;
- iii. Provide gender disaggregated data on trainers for STEM and non-STEM courses;
- iv. Provide information on the PWD inclusion in TVET enrolment.

1.3 Classification of TVET institutions

Section 26 of the TVET Act Cap 210A categorizes the TVET institutions into four broad categories, Vocational Training Centers (VTCs), Technical and Vocational Colleges (TVCs), National Polytechnics (NPs), and Technical Trainer College. The classifications are based on the levels of courses offered. The VTCs offer training at basic levels up to Artisan (KNQA Level 4), TVCs offer training up to Diploma (KNQA Level 6) while NPs are permitted to offer training up to Higher National Diploma and may collaborate with universities to offer bachelor's degree (KNQA Level 7). There is currently only one technical trainer college, the Kenya School of Technical and Vocational Education and Training (KS-TVET)

1.4 The Kenyan TVET landscape

The TVET Authority had accredited a total of 2,724 institutions in various parts of the country as of 30th October 2024. The distribution of the accredited institutions per county is as shown in table 1:

Table 1: Accredited TVET institutions

County	NPs	TTC	Public TVCs	Public VTCs	Private TVCs	Private VTCs	Total
Baringo	1	0	6	14	6	0	27
Bomet	0	0	5	21	12	0	38
Bungoma	1	0	8	68	10	1	88
Busia	0	0	8	17	3	1	29
Elgeyo Marakwet	0	0	4	16	2	0	22
Embu	1	0	4	21	16	0	42
Garissa	1	0	2	3	10	0	16
Homabay	1	0	5	26	4	2	38
Isiolo	0	0	1	4	3	1	9
Kajiado	1	0	5	5	46	3	60
Kakamega	2	0	12	60	16	1	91
Kericho	1	0	4	12	15	0	32
Kiambu	1	0	10	38	147	6	202
Kilifi	0	0	4	41	25	7	77

Kirinyaga	0	0	6	15	14	0	35
Kisii	1	0	6	57	21	0	85
Kisumu	1	0	6	22	40	2	71
Kitui	1	0	8	56	12	12	89
Kwale	0	0	4	36	6	2	48
Laikipia	0	0	4	11	7	2	24
Lamu	0	0	1	8	0	0	9
Machakos	0	0	9	36	39	10	94
Makueni	0	0	6	44	15	1	66
Mandera	0	0	2	7	0	0	9
Marsabit	0	0	2	7	0	1	10
Meru	2	0	11	35	18	1	67
Migori	0	0	8	22	12	3	45
Mombasa	1	0	9	3	62	12	87
Muranga	1	0	7	58	12	1	79
Nairobi	2	1	42	10	386	21	462
Nakuru	2	0	19	35	74	5	135
Nandi	2	0	5	14	7	1	29
Narok	0	0	6	7	7	0	20
Nyamira	1	0	4	33	4	1	43
Nyandarua	1	0	5	16	3	1	26
Nyeri	1	0	8	10	23	1	43
Samburu	0	0	2	1	6	0	9
Siaya	0	0	7	22	10	4	43
Taita Taveta	1	0	3	31	5	1	41
Tana River	0	0	3	8	1	0	12
Tharaka Nithi	0	0	4	21	5	1	31
Trans Nzoia	1	0	3	36	14	2	56
Turkana	0	0	5	8	15	2	30
Uasin Gishu	1	0	12	12	59	6	90
Vihiga	1	0	2	28	4	1	36
Wajir	0	0	3	8	3	0	14
West Pokot	0	0	1	7	6	1	15
Grand Total	30	1	301	1070	1205	117	2724

The institutions offer a wide range of programs at various levels, assessed by recognized national and international examining bodies such as NITA, KNEC, KASNEB, NPSEB, CDACC, National Polytechnics, and City and Guilds. In addition to accrediting institutions, the Authority has also licensed 9,990 trainers. To uphold training standards, the Authority conducts periodic quality audits of all accredited institutions using prescribed tools and standards. The Authority has gazetted 14 regulatory standards to guide the TVET in the country.

1.5 Limitations

The Authority requested all the accredited TVET institutions to provide self-evaluation reports (annual returns) in accordance with Section 41(1) of the TVET Act CAP 210A. The communication was made through institutional emails and other networks that included training institution associations and

social media platforms. Periodic reminders were made through telephone calls to facilitate data collection. Despite these efforts, some institutions failed to submit the required data, contravening legal provisions. Despite the general low response rate, the institutions with the highest enrolment had very high response rates, hence making the data collected to be representative of all the TVET institutions in the country.

1.6 Methodology

The Department of Research developed a data collection tool in accordance with section 41 of the TVET Act Cap 210A, which requires all TVET institutions to submit annual returns to the TVET Authority. The data that was collected from the institutions included institutional particulars, gender-disaggregated enrollment of trainees in each course, number of trainees graduating, dropouts, Persons with Disability (PWDs), and staffing data as of 30th October 2024. The data collection tool was developed using google forms to facilitate online data collection. The google form link was circulated to all 2754 registered TVET institutions. All the TVET institutions were reached directly through email. Additionally, VTCs were reached both through respective County Directors of Vocational Training while TVCs were also reached through their associations, such as KATTI and KENAPCO. Follow up calls were made by TVETA officers to the institutions that had not submitted data by the set deadline. The data was sorted, cleaned, analyzed, summarized, and presented in the form of tables, bar graphs, pie charts, and narratives.

CHAPTER TWO NATIONAL POLYTECHNICS

2.0 Overview

National polytechnics (NPs) are established under the TVET Act Cap 210A by the Cabinet Secretary responsible for TVET through a legal order. The NPs are authorized to offer training from artisan to higher national diploma. They can also offer undergraduate courses in collaboration with accredited universities.

2.1 Response Rate and Distribution of National Polytechnics in Kenya

All the National Polytechnics submitted their annual returns as requested by the Authority. The distributions of the NPs in various counties are as shown in Table 2 and Figure 1.

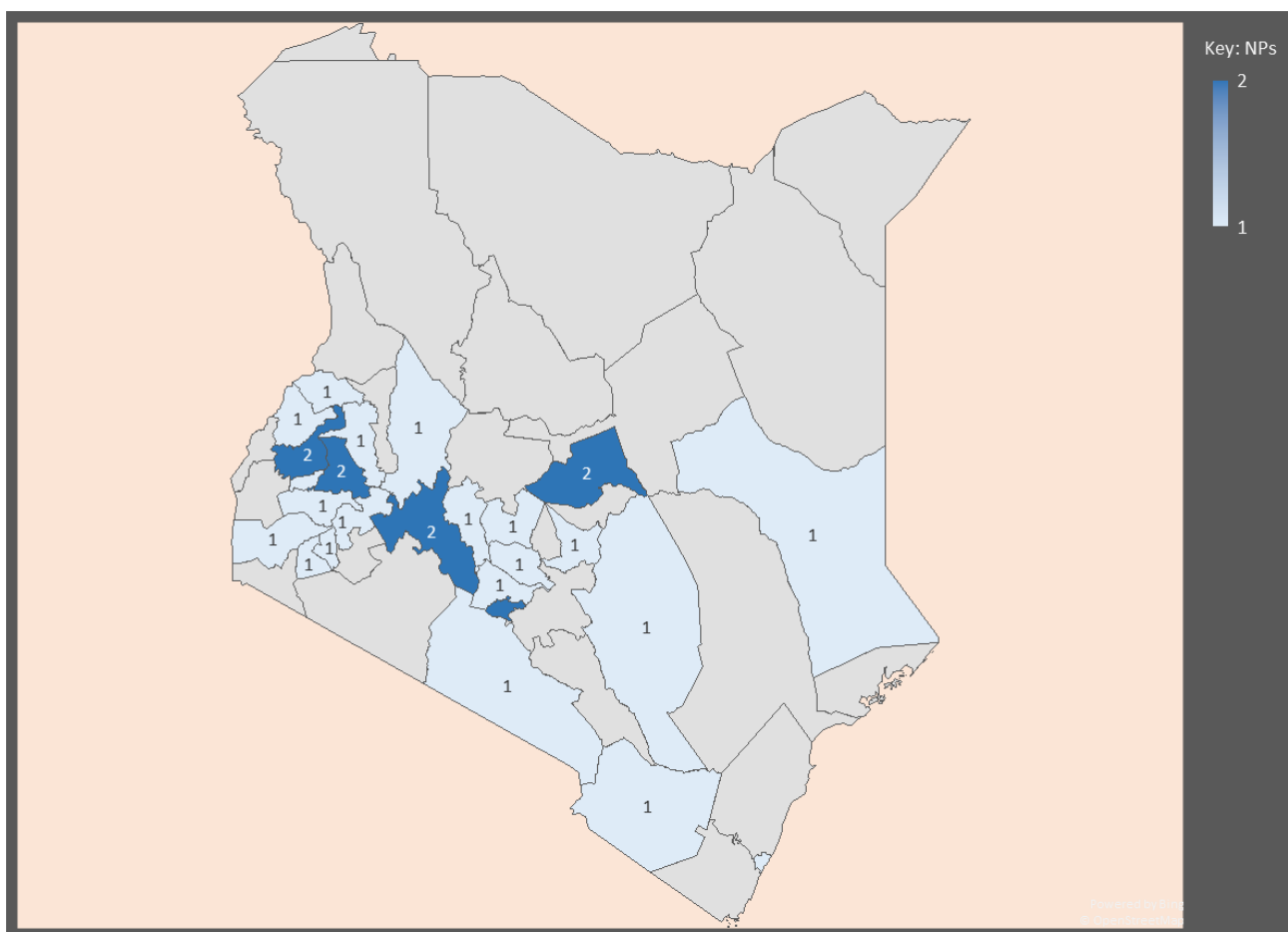
Table 2: Distribution of NPs per County in Kenya

Name of National Polytechnics	County
Baringo	Baringo
Bungoma	Bungoma
Jeremiah Nyagah	Embu
North Eastern	Garissa
Mawego	Homa Bay
Maasai	Kajiado
Shamberere	Kakamega
Sigalagala	Kakamega
Kericho	Kericho
Kiambu	Kiambu
Kisii	Kisii
Kisumu	Kisumu
Tseikuru	Kitui
Meru	Meru
Mitunguu	Meru
Kenya Coast	Mombasa
Michuki	Murang'a
Kabete	Nairobi
Nairobi	Nairobi
Rift Valley	Nakuru
Morendat	Nakuru
Kaiboi	Nandi
Ol'lessos	Nandi
Nyamira	Nyamira
Nyandarua	Nyandarua
Nyeri	Nyeri
Taita Taveta	Taita Taveta
Kitale	Trans Nzoia
Eldoret	Uasin Gishu
Kaimosi Friends	Vihiga

The 30 National Polytechnics (NPs) are distributed in 25 counties, with some counties such as Kakamega, Meru, Nairobi, Nandi, and Nakuru each having two NPs. The lack of NPs in some regions may limit access for trainees from the respective counties. Furthermore, since NPs are expected to provide innovative solutions to local challenges, the absence of these institutions in certain counties could hinder their pace in socio-economic development.

The Standard and Guidelines for National Polytechnics developed by the Authority have been employed in guiding the elevation of 20 TVCs to NP status over the past 5 years to promote regional equity. The Legal orders establishing NPs authorize them to develop and implement curricula, as well as assess and certify qualifications. However, most NPs still offer programs examined and certified by other Qualification Awarding Institutions (QAIs). This may be attributed to limited awareness or inadequate capacity to independently develop, assess, and certify their own programs. There is an urgent need to empower NPs to develop their curricula to foster the development of specialized programs that address specific challenges within their respective regions. The distribution of the national polytechnics is presented in Figure 1.

Figure 1: Distribution of NPs in Various Regions (Counties) in Kenya



2.3 Enrolment in National Polytechnics

Technical and Vocational Education and Training (TVET) plays a pivotal role in equipping learners with practical skills aligned with labour market demands. As Kenya continues to prioritize industrialization, innovation, and youth empowerment through skills development, monitoring enrollment trends in National Polytechnics becomes critical for shaping informed decisions at both institutional and policy levels. Table 3 summarizes the overall and individual enrolment for all the NPs for the year 2023 and 2024.

Table 3: Overall Enrollment in National Polytechnics

National Polytechnics	2023	2024	% Variance
Baringo	3047	3230	6%
Bungoma	6041	8458	40%
Eldoret	7043	17789	153%
Friends Kaimosi	5083	6047	-2%
Jeremiah Nyagah	4126	6939	68%
Kabete	8817	10048	14%
Kaiboi	2506	2596	4%
Kenya Coast	5750	8570	49%
Kericho	3682	6379	73%
Kiambu	9187	9742	6%
Kisii	15694	12768	-19%
Kisumu	10926	7984	-27%
Kitale	12025	12451	4%
Maasai	1978	2068	5%
Mawego	5586	6844	23%
Meru	9678	9745	1%
Michuki	5360	4714	-12%
Mitunguu	3596	3151	-12%
Morendat	33	112	239%
Nairobi	7126	9161	29%
Northeastern	1274	1611	26%
Nyamira	2181	2678	23%
Nyandarua	2633	10199	287%
Nyeri	9166	9517	4%
Ollessos	5260	7829	49%
Rift Valley	10646	14268	34%
Shamberere	2273	5838	157%
Sigalagala	14176	13436	-5%
Taita Taveta	3036	3302	9%
Tseikuru	318	997	214%
Total	178529	218471	22%

The findings indicated a substantial increase in trainee enrolment in several NPs, with Nyandarua leading with a remarkable 287% growth. Tseikuru and Morendat followed closely with increases of 214% and 239% respectively. Other institutions such as Shamberere, Eldoret, and Kericho also reported significant growth rates of 157%, 154% and 73% respectively.

Conversely, a few National Polytechnics (NPs) experienced a decline in enrolment. Kisumu recorded the most significant drop at 27%, followed by Kisii, Michuki, Mitunguu, Sigalagala, and Kaimosi, which registered decreases of 19%, 12%, 12%, 5%, and 2% respectively. These declines may be attributed to increased competition from neighboring NPs and newly established TVCs that offer similar programs and are more accessible to potential trainees due to their closer proximity.

Overall, the data revealed that despite a few declines, the majority of NPs experienced growth in enrolment between 2023 and 2024. Total enrolment increased by 22%, rising from 178,529 to 218,471 trainees. This growth can be linked to the upgrading of six additional NPs and the growing recognition of TVET as a critical pathway for skills development and improved employability in Kenya.

2.4 Enrollment in STEM and Non-STEM in National Polytechnics

Understanding the distribution of students by gender and program type (STEM and non-STEM) is critical for addressing inequalities and enhancing the responsiveness of Kenya’s TVET system. The gender disaggregated enrollment for STEM and non-STEM courses is presented in Table 4.

Table 4: Enrolment in STEM and non-STEM Courses

Institution	Male STEM	Female STEM	M: F	Male non-STEM	Female non-STEM	M: F	Total STEM	Total non-STEM	STEM: non-STEM 2024	STEM: non-STEM 2023
Baringo	1652	1108	3:2	114	356	1:3	2760	470	47:8	47:8
Bungoma	3666	3678	1:1	164	950	1:6	7344	1114	33:5	31:5
Eldoret	8357	5177	8:5	1205	3050	2:5	13534	4255	19:6	134:9
Friends Kaimosi	2133	2619	4:5	282	1013	2:7	4752	1295	11:3	29:8
Jeremiah Nyagah	4216	2427	7:4	71	225	1:3	6643	296	202:9	145:6
Kabete	5400	2781	2:1	586	1281	1:2	8181	1867	35:8	41:9
Kaiboi	1665	560	3:1	53	318	1:6	2225	371	6:1	28:5
Kenya Coast	4080	2547	8:5	701	1242	4:7	6627	1943	17:5	21:4
Kericho	3067	1574	2:1	1033	705	3:2	4641	1738	8:3	6:1
Kiambu	5639	3071	11:6	286	746	3:8	8710	1032	76:9	39:8
Kisii	6646	4700	7:5	266	1156	2:9	11346	1422	8:1	37:5
Kisumu	3960	1578	5:2	467	1979	1:4	5538	2446	9:4	33:7
Kitale	4755	4524	1:1	2005	1167	12:7	9279	3172	3:1	4:1
Maasai	1060	905	7:6	50	53	1:1	1965	103	19:1	67:9
Mawego	3521	2300	3:2	222	801	2:7	5821	1023	17:3	29:5
Meru	5193	3427	3:2	280	845	1:3	8620	1125	23:3	36:5
Michuki	2567	1930	4:3	72	145	1:2	4497	217	145:7	84:1

Mitunguu	1617	1240	4:3	34	260	1:8	2857	294	68:7	32:1
Morendat	70	42	5:3	0	0	-	112	0	-	-
Nairobi	5540	2487	20:9	436	698	5:8	8027	1134	7:1	43:9
North Eastern	716	303	7:3	161	431	3:8	1019	592	12:7	27:7
Nyamira	1548	863	9:5	6	261	1:44	2411	267	9:1	37:2
Nyandarua	6068	3694	5:3	133	304	4:9	9762	437	67:3	14:1
Nyeri	4970	3715	4:3	216	616	1:3	8685	832	94:9	77:9
Ollessos	3362	3273	1:1	430	764	4:7	6635	1194	50:9	34:7
Rift Valley	6944	5159	4:3	528	1637	1:3	12103	2165	28:5	47:9
Shamberere	3095	2053	3:2	151	539	2:7	5148	690	15:2	6:1
Sigalagala	5906	5755	1:1	494	1281	2:5	11661	1775	46:7	5:1
Taita Taveta	1503	883	12:7	262	654	2:5	2386	916	13:5	9:4
Tseikuru	534	329	13:8	48	86	5:9	863	134	58:9	13:7
Overall, 2024	109450	74702	3:2	10756	23563	1:2	184152	34319	43:8	
Overall, 2023	88707	64157	11:8	6820	18845	1:3	152864	25665	6:1	

There were more male than female trainees in STEM-based courses in all NPs. The non-STEM programs however had more female than male trainees, except for Kericho and Kitale, where the number of male trainees exceeded that of the females. The overall enrolment of male to female trainees was 3:2. The number of female trainees that were enrolled for the non-STEM programs was more than double the number of male trainees enrolled for the same programs. The overall enrolment ratio between STEM and non-STEM programs was 16:3.

Compared to 2023, enrollment in STEM programs increased for both male and female students, with the trend of higher male participation remaining consistent. In non-STEM programs, overall enrollment also rose, and the gender gap narrowed, with the male-to-female ratio shifting from 1:3 to 1:2. Overall, total enrollment increased, with STEM enrollment changing from six times that of non-STEM to five times, indicating a relative increase in non-STEM participation.

2.5 Graduation Levels in National Polytechnics

Graduation refers to the completion of a course of study and the sitting of the final stage or module examinations. Graduation rates are a key indicator of both the effectiveness of training programs and the overall efficiency of the training system. Data collected from National Polytechnics was disaggregated by gender and course classification (either STEM or non-STEM) and is presented in Table 5. The figures reflect the proportion of graduates by gender within each course classification and not the overall graduation rates.

Table 5: Proportion of Graduates by Gender in STEM and Non-STEM Programmes in NPs

National Polytechnic	Male STEM	Female STEM	Overall STEM	Male non-STEM	Female non-STEM	Overall non-STEM
Baringo	50%	39%	89%	3%	8%	11%
Bungoma	47%	37%	84%	4%	12%	16%
Eldoret	36%	35%	71%	7%	22%	29%
Friends Kaimosi	28%	55%	83%	4%	13%	17%
Jeremiah Nyagah	57%	27%	84%	7%	10%	16%
Kabete	38%	40%	77%	7%	16%	23%
Kaiboi	57%	18%	75%	10%	14%	25%
Kenya Coast	50%	29%	79%	8%	13%	21%
Kericho	53%	20%	73%	16%	11%	27%
Kiambu	43%	35%	78%	6%	17%	22%
Kisii	44%	44%	87%	2%	10%	13%
Kisumu	62%	17%	79%	5%	16%	21%
Kitale	26%	42%	68%	12%	20%	32%
Maasai	45%	25%	70%	9%	22%	30%
Mawego	50%	35%	85%	5%	10%	15%
Meru	32%	67%	99%	1%	0%	1%
Michuki	51%	49%	100%	0%	0%	0%
Mitunguu	55%	33%	88%	2%	10%	12%
Morendat	7%	93%	100%	0%	0%	0%
Nairobi	47%	33%	79%	7%	14%	21%
North Eastern	59%	11%	70%	13%	17%	30%
Nyamira	55%	26%	82%	6%	13%	18%
Nyandarua	65%	31%	95%	1%	4%	5%
Nyeri	39%	49%	88%	3%	10%	12%
Ollessos	45%	36%	82%	7%	11%	18%
Rift Valley	39%	47%	86%	5%	9%	14%
Shamberere	42%	35%	78%	4%	19%	22%
Sigalagala	30%	45%	75%	6%	19%	25%
Taita Taveta	63%	18%	81%	7%	13%	19%
Tseikuru	46%	19%	65%	10%	25%	35%
Grand Total	42%	40%	82%	5%	13%	18%

Findings show that 82% of graduates from all the National Polytechnics were from STEM programs, while 18% pursued non-STEM courses. Within STEM, male and female graduates accounted for 42% and 40% respectively. In non-STEM, male and female graduates comprised 5% and 13%, respectively. This distribution reflects a growing emphasis on STEM which aligns well with government policy aimed at scaling down non-STEM programs in TVET. The policy to scale down non-STEM programs in TVET institutions is driven by labor market demands and aligned with national development priorities. STEM fields are directly aligned to Kenya’s Vision 2030 and the Bottom-Up Economic

Transformation Agenda (BETA), particularly in advancing industrialization, fostering innovation and enhancing employability.

2.6 Dropout Levels in National Polytechnics

Dropouts refer to trainees who leave institutions before sitting for the summative assessments/ examinations. The dropout rates can provide crucial information on investment wastage in the training system. The factors that can result in high dropout rates in a training system include unaffordable cost, mismatch between training curricula and industry skill needs, poor training delivery, and lack of trainee support systems. Analysis of trainee dropout levels can therefore be used to identify initiatives for mitigating the dropout levels. The overall and institutional dropout proportions for the national polytechnics in 2024 is shown in Table 6. The figures reflect the proportion of dropouts by gender within the STEM and non-STEM programs.

Table 6: Dropout rates by Gender in STEM and non-STEM programmes in NPs

National Polytechnic	Male STEM	Female STEM	Overall STEM	Male non-STEM	Female non-STEM	Overall non-STEM	Overall 2024	Overall 2023
Baringo	4.72%	3.43%	4.20%	9.65%	3.93%	5.32%	4.37%	4.30%
Bungoma	1.96%	2.04%	2.00%	23.78%	3.47%	6.46%	2.59%	0.00%
Eldoret	3.21%	2.18%	2.82%	1.99%	2.89%	2.63%	2.77%	0.50%
Friends Kaimosi	6.94%	7.52%	7.26%	1.42%	2.17%	2.01%	6.14%	0.98%
Jeremiah Nyagah	0.43%	0.99%	0.63%	0.00%	0.00%	0.00%	0.61%	1.09%
Kabete	0.91%	0.50%	0.77%	0.68%	0.94%	0.86%	0.79%	0.57%
Kaiboi	15.98%	26.25%	18.56%	32.08%	24.53%	25.61%	19.57%	0.28%
Kenya Coast	2.16%	3.65%	2.73%	3.14%	1.69%	2.21%	2.61%	4.75%
Kericho	3.20%	5.72%	4.05%	3.48%	4.11%	3.74%	3.97%	0.43%
Kiambu	7.89%	5.50%	7.05%	9.79%	18.10%	15.79%	7.98%	1.76%
Kisii	0.15%	0.15%	0.15%	1.13%	0.61%	0.70%	0.21%	0.02%
Kisumu	-	-	-	-	-	-	-	-
Kitale	0.69%	0.13%	0.42%	3.44%	0.51%	2.36%	0.92%	4.21%
Maasai	0.94%	0.44%	0.71%	28.00%	1.89%	14.56%	1.40%	0.56%
Mawego	8.66%	8.96%	8.78%	10.81%	5.99%	7.04%	8.52%	2.36%
Meru	2.25%	1.46%	1.94%	0.71%	0.95%	0.89%	1.82%	0.00%
Michuki	5.34%	6.79%	5.96%	8.33%	3.45%	5.07%	5.92%	0.22%
Mitunguu	9.71%	7.18%	8.61%	0.00%	10.38%	9.18%	8.66%	1.49%
Morendat	-	-	-	-	-	-	-	-
Nairobi	1.05%	1.49%	1.18%	1.61%	0.57%	0.97%	1.16%	1.38%
North Eastern	-	-	-	-	-	-	-	-
Nyamira	1.55%	5.10%	2.82%	0.00%	1.92%	1.87%	2.73%	3.39%
Nyandarua	2.19%	2.76%	2.41%	1.50%	7.24%	5.49%	2.54%	1.18%
Nyeri	0.70%	0.62%	0.67%	0.00%	0.00%	0.00%	0.61%	0.72%
Ollessos	3.96%	5.68%	4.81%	0.70%	2.09%	1.59%	4.32%	2.36%
Rift Valley	1.61%	0.99%	1.35%	1.52%	1.34%	1.39%	1.35%	1.63%
Shamberere	8.43%	6.92%	7.83%	3.31%	4.82%	4.49%	7.43%	2.46%

Sigalagala	1.39%	1.22%	1.30%	1.01%	1.33%	1.24%	1.30%	0.71%
Taita Taveta	1.40%	0.68%	1.13%	0.76%	0.61%	0.66%	1.00%	0.16%
Tseikuru	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.63%
Overall	2.89%	2.83%	2.86%	3.11%	2.76%	2.87%	2.86%	1.25%

The proportion of trainees who dropped out from the NPs ranged from 0% in Morendat and North Eastern NP to 8.66% in Mitunguu NP. The overall dropout rate in 2024 was 2.93% while the rate in 2023 was 2.35%

The proportion of male trainees who dropped out from STEM and non-STEM programs ranged from 0% to 15.98% and 0% to 32.08% respectively while that for the female trainees ranged from 0% to 26.25% and 0% to 24.53% for the STEM and non-STEM programs respectively. The proportion of male trainee dropouts was generally higher than that of the female dropouts in STEM programs in most of the NPs while that of the female dropouts was higher than that of the male trainees in the non-STEM programs in most of the NPs. Kaiboi recorded the highest overall dropout rate of 19.57% followed by Mitunguu and Mawego at 8.66% and 8.52% respectively. Tseikuru recorded the lowest dropout of 0% followed by Kisii at 0.21%, and Nyeri and Jeremiah Nyaga both at 0.61%. Generally, the STEM programs and non-STEM programs registered similar proportion of dropouts of 2.87 and 2.86% respectively. The overall dropout proportion of dropouts for 2024 was more than double that of 2023.

2.7 Comparison of Enrollment, Graduands and Dropouts in National Polytechnics

The primary goal of National Polytechnics is to equip learners with industry relevant skills and release them into the labour market as competent, work-ready graduates. In this regard, the completion rate, which refers to the proportion of students who complete the training programs, is a key performance indicator for both NPs and the broader TVET system. Table 7 presents enrollment, graduation, and dropout data for NPs.

Table 7: A Comparison of Enrollment, Graduands and Dropouts in NPs

National Polytechnic	Enrollment	Graduands	Dropouts
Baringo	3230	790(24%)	141(4%)
Bungoma	8458	1051(12%)	219(3%)
Eldoret	17789	3242(18%)	493(3%)
Friends Kaimosi	6047	555(9%)	371(6%)
Jeremiah Nyagah	6939	689(10%)	42(1%)
Kabete	10048	2478(25%)	79(1%)
Kaiboi	2596	373(14%)	508(20%)
Kenya Coast	8570	590(7%)	224(3%)
Kericho	6379	411(6%)	253(4%)
Kiambu	9742	1989(20%)	777(8%)
Kisii	12768	3484(27%)	27(0%)
Kisumu	7984	167(2%)	0(0%)
Kitale	12451	1740(14%)	114(1%)
Maasai	2068	467(23%)	29(1%)

Mawego	6844	1728(25%)	583(9%)
Meru	9745	1810(19%)	177(2%)
Michuki	4714	1522(32%)	279(6%)
Mitunguu	3151	483(15%)	273(9%)
Morendat	112	14(13%)	0(0%)
Nairobi	9161	1641(18%)	106(1%)
North-Eastern	1611	208(13%)	0(0%)
Nyamira	2678	922(34%)	73(3%)
Nyandarua	10199	904(9%)	259(3%)
Nyeri	9517	2117(22%)	58(1%)
Ollessos	7829	2623(34%)	338(4%)
Rift Valley	14268	1953(14%)	193(1%)
Shamberere	5838	753(13%)	434(7%)
Sigalagala	13436	2772(21%)	174(1%)
Taita Taveta	3302	304(9%)	33(1%)
Tseikuru	997	80(8%)	0(0%)
Overall	218471	37857(17%)	6257(3%)

In 2024, a total of 37,857 out of 218,471 trainees graduated, representing 17% of the total enrollment. The proportion of graduands in NPs ranges from 2% to 34%. The proportion of graduating trainees could be enhanced by improving retention and the timely progression of the trainees. The overall dropout rate from the NPs in 2024 was 3%. Some NPs such as Kaiboi (20%) and Mitunguu (9%) reported higher dropout rates while others reported none. Although dropouts alone don't fully explain the low proportion of graduation, they play a significant role.

2.8 Trainers

The availability of qualified and experienced trainers is essential for delivering high-quality training in TVET institutions. The transition from knowledge-based to Competency-Based Education and Training (CBET) requires a well-balanced trainer-to-trainee ratio and strong industry integration. This ensures that graduates at all levels acquire the relevant skills required by the labor market. In this regard, National Polytechnics had employed a total of 4,622 trainers in 2024 with diverse qualifications.

2.8.1 Trainer Qualifications

Trainer qualifications and experience are vital elements in ensuring quality assurance within TVET institutions. According to the trainer qualifications framework, every trainer is expected to possess an academic qualification at least one level higher than the level that they train. The trainer qualifications in the NPs as illustrated in Table 8.

Table 8: Trainer Qualifications in National Polytechnic

National Polytechnic	Total	No Details	Below Craft	Craft	Diploma	HND	Bachelors	Masters	Phd
Baringo	93	0.00%	0.00%	1.08%	33.33%	0.00%	65.59%	0.00%	0.00%
Bungoma	218	0.00%	0.46%	1.83%	34.86%	6.42%	49.54%	6.42%	0.46%
Eldoret	372	0.00%	0.00%	0.00%	0.54%	3.23%	80.91%	14.25%	1.08%
Friends Kaimosi	151	0.00%	0.00%	0.66%	19.21%	9.27%	59.60%	9.93%	1.32%
Jeremiah Nyagah	143	0.00%	0.00%	3.50%	16.78%	5.59%	59.44%	14.69%	0.00%
Kabete	347	3.75%	0.29%	0.00%	8.93%	4.61%	68.88%	12.68%	0.86%
Kaiboi	112	0.00%	0.00%	0.00%	13.39%	14.29%	69.64%	1.79%	0.89%
Kenya Coast	219	0.46%	0.00%	0.46%	12.33%	5.02%	72.15%	8.68%	0.91%
Kericho	95	0.00%	0.00%	0.00%	21.05%	9.47%	64.21%	5.26%	0.00%
Kiambu	300	0.00%	0.00%	0.00%	39.67%	8.00%	40.33%	11.33%	0.67%
Kisii	331	0.00%	0.00%	0.00%	17.52%	1.81%	71.60%	9.06%	0.00%
Kisumu	314	0.00%	0.00%	0.00%	0.96%	7.64%	75.80%	14.65%	0.96%
Kitale	288	0.00%	0.00%	0.00%	14.93%	7.64%	67.36%	9.03%	1.04%
Maasai	145	0.00%	6.90%	11.03%	14.48%	4.14%	48.97%	13.79%	0.69%
Mawego	211	0.00%	0.47%	0.00%	22.27%	5.21%	68.25%	3.32%	0.47%
Meru	264	0.00%	0.00%	1.52%	15.91%	1.89%	68.56%	11.74%	0.38%
Michuki	144	0.00%	0.00%	0.00%	34.03%	2.08%	63.19%	0.00%	0.69%
Mitunguu	102	0.00%	0.00%	3.92%	42.16%	3.92%	49.02%	0.98%	0.00%
Morendat	16	0.00%	0.00%	0.00%	0.00%	18.75%	43.75%	31.25%	6.25%
Nairobi	235	0.00%	0.00%	0.00%	7.66%	8.09%	65.11%	17.02%	2.13%
Northeastern	74	0.00%	1.35%	0.00%	12.16%	6.76%	75.68%	4.05%	0.00%
Nyamira	56	0.00%	0.00%	0.00%	32.14%	7.14%	55.36%	3.57%	1.79%
Nyandarua	192	0.00%	0.00%	3.13%	28.65%	1.04%	64.58%	2.60%	0.00%
Nyeri	251	0.00%	1.20%	0.00%	16.73%	5.58%	62.55%	13.55%	0.40%
Ollessos	194	0.00%	0.00%	0.00%	18.56%	14.95%	58.76%	7.73%	0.00%
Rift Valley	447	0.00%	0.00%	0.00%	22.37%	4.25%	66.89%	6.49%	0.00%
Shamberere	115	0.00%	0.00%	0.00%	38.26%	6.09%	46.96%	7.83%	0.87%
Sigalagala	254	0.00%	0.39%	0.00%	14.57%	5.51%	69.29%	9.84%	0.39%
Taita Taveta	140	0.00%	0.00%	0.00%	8.57%	1.43%	74.29%	14.29%	1.43%
Tseikuru	42	0.00%	0.00%	2.38%	9.52%	11.90%	71.43%	4.76%	0.00%
Grand Total	5865	0.24%	0.31%	0.73%	17.99%	5.59%	65.01%	9.50%	0.63%

The data showed that most trainers (65.01%) hold bachelor's degrees as their highest qualifications. A notable proportion had a higher qualification, with 9.50% having master's degrees and 0.63% holding PhDs, highlighting a commendable commitment to advanced academic and professional development among trainers. However, the data revealed areas for improvement. A small percentage (0.31%) of trainers had qualifications below craft, which is a non-conformity to the requirement of trainer qualification framework. Section 4.2.2 of the NPs Standards and Guidelines (TVETS04, 2019) stipulates that at least 70% of the trainees should be at the diploma level or higher. Additionally, Section 26(3) of the TVET Act Cap 210A, encourages collaboration with universities to offer programs leading to undergraduate degrees in technical and vocational education and training. This implies that

NP trainers should possess at least an HND qualification to meet the expectations outlined in the TVET Regulations (2015) and to effectively fulfill their roles.

2.8.2 PWD Staff in National Polytechnics (NPs)

Disability refers to a physical, sensory, mental, psychological or an impairment, condition, or illness that limits or is perceived to have a substantial or long-term effect on an individual's ability to carry out ordinary day-to-day activities in society. The TVET Act Cap 210A outlines that the training programmes should be designed to operate within a framework which leads to lifelong education and training, and which facilitates the special needs of people with disabilities. Further, the Persons With Disabilities Act Cap 133 mandates The Council to secure the reservation of five per cent of all casual, emergency and contractual positions in employment in the public and private sectors for persons with disabilities. Table 9 presents the status of PWD trainers in the country.

Table 9: PWD Trainers in National Polytechnics

National Polytechnic	2024							2023
	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Total Trainers	Trainers with PWDs	% of PWD Staff	% of PWD Staff
Baringo	0	0	0	0	93	0	0.00%	0.00%
Bungoma	0	0	0	0	218	0	0.00%	0.00%
Eldoret	4	0	1	0	372	5	1.34%	0.00%
Friends Kaimosi	2	1	0	0	151	3	1.99%	0.00%
Jeremiah Nyagah	0	0	0	0	143	0	0.00%	0.00%
Kabete	0	0	0	0	347	0	0.00%	0.00%
Kaiboi	1	0	1	2	112	4	3.57%	0.00%
Kenya Coast	2	2	0	0	219	4	1.83%	0.00%
Kericho	3	0	0	0	95	3	3.16%	0.00%
Kiambu	1	1	0	0	300	2	0.67%	1.96%
Kisii	5	3	0	0	331	8	2.41%	0.00%
Kisumu	1	1	0	0	314	2	0.64%	0.00%
Kitale	3	0	1	0	288	4	1.39%	0.00%
Maasai	0	0	0	0	145	0	0.00%	2.36%
Mawego	0	0	0	0	211	0	0.00%	1.99%
Meru	0	0	0	0	264	0	0.00%	0.00%
Michuki	0	1	0	0	144	1	0.69%	0.00%
Mitunguu	0	0	0	0	102	0	0.00%	0.00%
Morendat	0	0	0	0	16	0	0.00%	0.00%
Nairobi	0	3	2	0	235	5	2.13%	0.98%
North Eastern	2	0	0	0	74	2	2.70%	4.17%
Nyamira	0	0	0	0	56	0	0.00%	0.00%
Nyandarua	0	0	0	0	192	0	0.00%	0.00%
Nyeri	4	0	0	1	251	5	1.99%	0.00%
Ollessos	0	0	0	0	194	0	0.00%	0.00%
Rift Valley	0	0	0	0	447	0	0.00%	0.00%
Shamberere	0	1	0	0	115	1	0.87%	1.28%

Sigalagala	2	1	1	1	254	5	1.97%	1.60%
Taita Taveta	0	0	0	1	140	1	0.71%	1.41%
Tseikuru					42	0	0.00%	2.94%
Grand Total	30	14	6	5	5865	55	0.94%	0.52%

The data showed that 53.3% (16 out of 30) of the NPs had trainers with disabilities. This suggested that a significant number of institutions had not implemented measures aimed at integrating PWDs among their trainers. In total, there were 55 PWD trainers across all the National Polytechnics, with 80% (44) in STEM and 20% (11) in non-STEM programs. The overall proportion of PWD staff stood at 0.94% for 2024, representing an increase from 0.52% reported in 2023. Moreover, the current proportion remains well below the national requirement of 5%. There is, therefore, a critical need for institutions to implement stronger affirmative action measures to promote the recruitment and retention of PWDs.

2.8.3 PWD Trainees in National Polytechnics

Section 20(1) of the Persons with Disability Act, 2025 grants the right of admission for every person with disability to any institution of learning and access to an inclusive, quality education and training on equal basis with other members of the society. According to Kenya's 2019 census, 2.2% (1.9% men and 2.5% women) of Kenyans were PWDs. Murgor, 2014 noted that the challenges encountered by PWDs in accessing training opportunities include lack of equal access to basic literacy and numeracy, and socio-economic and physical barriers to access training facilities. Table 10 shows the enrolment and proportions of PWDs for the national polytechnics.

Table 10: Proportion of PWD trainees in National Polytechnics

National Polytechnic	2024							2023
	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Total Enrolment	Total PWDs	% of PWDs	% of PWDs
Baringo	0	0	0	0	3230	0	0.00%	0.15%
Bungoma	10	16	3	3	8458	32	0.38%	0.02%
Eldoret	16	2	9	12	17789	39	0.22%	0.70%
Friends Kaimosi	2	2	0	0	6047	4	0.07%	0.10%
Jeremiah Nyagah	1	0	1	0	6939	2	0.03%	0.12%
Kabete	7	2	2	3	10048	14	0.14%	0.07%
Kaiboi	6	3	1	1	2596	11	0.42%	0.00%
Kenya Coast	16	5	0	0	8570	21	0.25%	0.28%
Kericho	5	3	3	4	6379	15	0.24%	0.00%
Kiambu	0	0	0	0	9742	0	0.00%	0.00%
Kisii	12	14	0	0	12768	26	0.20%	0.35%
Kisumu	0	0	0	0	7984	0	0.00%	0.18%

Kitale	11	6	8	4	12451	29	0.23%	0.12%
Maasai	0	0	0	0	2068	0	0.00%	0.66%
Mawego	9	5	0	3	6844	17	0.25%	0.20%
Meru	6	3	2	1	9745	12	0.12%	0.07%
Michuki	1	0	0	0	4714	1	0.02%	0.00%
Mitunguu	3	4	0	0	3151	7	0.22%	0.05%
Morendat	0	0	0	0	112	0	0.00%	0.00%
Nairobi	2	0	0	0	9161	2	0.02%	0.00%
North Eastern	0	0	0	0	1611	0	0.00%	0.00%
Nyamira	1	1	2	1	2678	5	0.19%	0.05%
Nyandarua	3	2	0	0	10199	5	0.05%	0.19%
Nyeri	11	8	3	2	9517	24	0.25%	0.14%
Ollessos	6	4	0	0	7829	10	0.13%	0.06%
Rift Valley	9	7	4	7	14268	27	0.19%	0.08%
Shamberere	10	14	1	6	5838	31	0.53%	0.00%
Sigalagala	18	11	9	15	13436	53	0.39%	0.00%
Taita Taveta	5	1	3	0	3302	9	0.27%	0.03%
Tseikuru					997	0	0.00%	0.00%
Overall	170	113	51	62	218471	396	0.18%	0.14%

The proportion of PWDs in the respective NPs ranged from 0% to 0.53%, while the overall proportion of PWD trainees in the NPs was 0.18%. All the values are much lower than the proportion of population of PWDs in Kenya (2.2%) as per the 2019 population census implying that the proportion of PWDs enrolled in the NPs is below the recommended level. The low enrolment in these institutions could be attributed to the lack of qualified trainers and inclusive infrastructure for the various categories of PWDs. However, the overall proportion of PWD trainees enrolled in the NPs registered a significant improvement from 0.14% in 2023 to 0.18% in 2024.

2.8.4 Trainers Gender Distribution in STEM and Non-STEM

Gender disaggregated data on trainers in STEM and Non-STEM programs is essential for assessing the level of inclusivity and equity in the TVET sub-sector. Promoting equal opportunities for all genders aligns with Kenya's constitutional provisions, national gender policies and international commitments on gender equality. Ensuring gender balance among trainers not only upholds these legal and policy frameworks but also plays a vital role in mentorship. The presence of trainers from all genders is particularly important in challenging traditional gender stereotypes within specific training programs, thereby fostering a more inclusive and supportive learning environment for all trainees. Table xx shows the gender distribution of trainers in STEM and Non-STEM programs in NPs.

Table 11: Gender Distribution of Trainers in STEM and Non-STEM Programs in National Polytechnics

Institution	2023				2024			
	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Overall STEM	Overall non-STEM	Overall STEM	Overall non-STEM
Baringo	66%	34%	50%	50%	83%	17%	83%	17%

Bungoma	62%	38%	44%	56%	76%	24%	75%	25%
Eldoret	55%	45%	36%	64%	94%	6%	71%	29%
Friends Kaimosi	50%	50%	44%	56%	73%	27%	79%	21%
Jeremiah Nyagah	62%	38%	41%	59%	93%	7%	85%	15%
Kabete	55%	45%	37%	63%	80%	20%	79%	21%
Kaiboi	67%	33%	38%	62%	77%	23%	81%	19%
Kenya Coast	61%	39%	50%	50%	85%	15%	83%	17%
Kericho	66%	34%	48%	52%	92%	8%	65%	35%
Kiambu	53%	47%	30%	70%	87%	13%	85%	15%
Kisii	61%	39%	58%	42%	92%	8%	78%	22%
Kisumu	64%	36%	62%	38%	85%	15%	79%	21%
Kitale	70%	30%	64%	36%	90%	10%	76%	24%
Maasai	51%	49%	47%	53%	65%	35%	70%	30%
Mawego	65%	35%	51%	49%	83%	17%	83%	17%
Meru	69%	31%	40%	60%	80%	20%	80%	20%
Michuki	61%	39%	43%	57%	95%	5%	95%	5%
Mitunguu	71%	29%	25%	75%	90%	10%	92%	8%
Morendat	60%	40%	33%	67%	29%	71%	63%	38%
Nairobi	60%	40%	43%	57%	72%	28%	73%	27%
Northeastern	84%	16%	63%	37%	81%	19%	74%	26%
Nyamira	75%	25%	38%	63%	81%	19%	71%	29%
Nyandarua	62%	38%	55%	45%	81%	19%	83%	17%
Nyeri	59%	41%	50%	50%	83%	17%	86%	14%
Ollessos	53%	47%	41%	59%	76%	24%	72%	28%
Rift Valley	66%	34%	80%	20%	68%	32%	47%	53%
Shamberere	61%	39%	58%	42%	77%	23%	77%	23%
Sigalagala	63%	37%	53%	47%	72%	28%	73%	27%
Taita Taveta	61%	39%	56%	44%	90%	10%	72%	28%
Tseikuru	77%	23%	91%	9%	76%	24%	74%	26%
Overall	61%	39%	53%	47%	80%	20%	76%	24%

A notable gender imbalance in enrolment was noted in both STEM and non-STEM programs. Male trainers outnumbered their female counterparts in both STEM and non-STEM across the board. This disparity reflected broader trends in gender representation within training institutions. Additionally, the data showed that 76% of trainers are engaged in STEM, while 24% are in non-STEM programs. This represents a marginal decline of 4% in the proportion of STEM trainers and a similar increase of non-STEM counterparts based on the 2023 data. This distribution aligns with the national shift towards STEM-focused training in response to labor market demands and development priorities. However, the underrepresentation of female trainers, particularly in STEM, underscores the need for targeted interventions to promote gender equity. Increasing the number of female trainers is essential not only for compliance with equality frameworks but also to provide diverse role models for trainees, especially in fields where gender stereotypes persist.

2.8.5 Trainer to Trainee Ratios in STEM and non-STEM in National Polytechnics

The Kenya National Polytechnic Standards recommend trainer to trainee ratio of 1:20 for practical-based and 1:30 for theory-based programs respectively to ensure effective curriculum delivery. Table xx shows the enrolment, staff levels in STEM and non-STEM programs and the corresponding institutional trainer to trainee ratios in the National Polytechnics.

Table 12: Trainer to Trainee Ratios in STEM and non-STEM Courses in NPs

Institution	STEM Staff	STEM enrolment	Trainer: Trainee	Non STEM staff	Non STEM enrolment	Trainer: Trainee non-STEM
Baringo	77	2760	1: 36	16	470	1: 29
Bungoma	163	7344	1: 45	55	1114	1: 20
Eldoret	265	13534	1: 51	107	4255	1: 40
Friends Kaimosi	119	4752	1: 40	32	1295	1: 40
Jeremiah Nyagah	121	6643	1: 55	22	296	1: 13
Kabete	274	8181	1: 30	73	1867	1: 26
Kaiboi	91	2225	1: 24	21	371	1: 18
Kenya Coast	181	6627	1: 37	38	1943	1: 51
Kericho	62	4641	1: 75	33	1738	1: 53
Kiambu	256	8710	1: 34	44	1032	1: 23
Kisii	259	11346	1: 44	72	1422	1: 20
Kisumu	249	5538	1: 22	65	2446	1: 38
Kitale	219	9279	1: 42	69	3172	1: 46
Maasai	102	1965	1: 19	43	103	1: 2
Mawego	176	5821	1: 33	35	1023	1: 29
Meru	211	8620	1: 41	53	1125	1: 21
Michuki	137	4497	1: 33	7	217	1: 31
Mitunguu	94	2857	1: 30	8	294	1: 37
Morendat	10	112	1: 11	6	0	1: 0
Nairobi	172	8027	1: 47	63	1134	1: 18
North-Eastern	55	1019	1: 19	19	592	1: 31
Nyamira	40	2411	1: 60	16	267	1: 17
Nyandarua	159	9762	1: 61	33	437	1: 13
Nyeri	217	8685	1: 40	34	832	1: 24
Ollessos	140	6635	1: 47	54	1194	1: 22
Rift Valley	209	12103	1: 58	238	2165	1: 9
Shamberere	89	5148	1: 58	26	690	1: 27
Sigalagala	186	11661	1: 63	68	1775	1: 26
Taita Taveta	101	2386	1: 24	39	916	1: 23
Tseikuru	31	863	1: 28	11	134	1: 12
Overall	4465	184152	1: 41	1400	34319	1: 25

The National Polytechnics' overall trainer to trainee ratio for STEM was 1:41 while that for non-STEM was 1:25. The individual National Polytechnics trainer-to-trainee ratio for the STEM programs ranged from 1:11 to 1:75 while that for non-STEM ranged from 1:0 to 1:53. Kericho had the highest Trainer-to-trainee ratio in STEM programs at 1:75 followed by Sigalagala and Nyandarua NPs at 1:63 and 1:61 respectively. In the non-STEM programs, Kericho also had the highest trainer-to-trainee ratio of 1:53

followed by Kenya Coast and Kitale NPs at 1:51 and 1:46 respectively. The higher trainer-to-trainee ratio in most NPs indicated that there was a shortage of trainers that could adversely affect training delivery. Thus, there is an urgent need to hire additional trainers to have the recommended ratio for effective training delivery.

2.8.6 Trainers Employment

Understanding the employment terms of trainers is crucial for assessing workforce stability in technical colleges. The Government of Kenya is responsible for employing and deploying trainers in all public National Polytechnics. To address staffing gaps, National Polytechnics may also hire trainers. Table 11 presents the proportion of trainers employed by the Public Service Commission (PSC) or the National Polytechnic (NP) councils.

Table 13: Trainer employment terms in National Polytechnics

Name of the Polytechnic	2023		2024	
	PSC	Council	PSC	Council
Baringo	62%	38%	62%	38%
Bungoma	38%	62%	44%	56%
Eldoret	61%	39%	67%	33%
Friends Kaimosi	100%	0%	54%	46%
Jeremiah Nyagah	87%	17%	90%	10%
Kabete	70%	30%	75%	25%
Kaiboi	45%	55%	53%	47%
Kenya Coast	56%	44%	51%	49%
Kericho	53%	47%	72%	28%
Kiambu	60%	40%	53%	47%
Kisii	62%	38%	71%	29%
Kisumu	50%	50%	50%	50%
Kitale	56%	44%	54%	46%
Maasai	75%	25%	79%	21%
Mawego	40%	60%	40%	60%
Meru	56%	44%	41%	59%
Michuki	36%	64%	47%	53%
Mitunguu	43%	57%	57%	43%
Morendat	100%	0%	31%	69%
Nairobi	82%	18%	86%	14%
North Eastern	69%	31%	93%	7%
Nyamira	54%	46%	66%	34%
Nyandarua	57%	43%	50%	50%
Nyeri	62%	38%	73%	27%
Ollessos	100%	0%	58%	42%
Rift Valley	56%	44%	64%	36%
Shamberere	67%	33%	69%	31%
Sigalagala	45%	55%	55%	45%
Taita Taveta	59%	41%	59%	41%
Tseikuru	62%	38%	57%	43%

Grand Total	62%	38%	61%	39%
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The table provides a comparative overview of the proportion of trainers employed by the Public Service Commission (PSC) and respective NPs Councils across various national polytechnics. Majority of the National polytechnics had a higher proportion of trainers employed under PSC. Generally, in 2024 61% of trainers across all polytechnics are employed by PSC, while 39% are under NPs Councils, underscoring the dominant role of the national government in staffing National Polytechnics.

On the other hand, a few institutions show a notable reliance on Council-employed trainers. For instance, in Meru and Bungoma National Polytechnics most trainers are under the Councils. Council employment of trainers is a stop gap measure meant to mitigate the trainer shortage in National Polytechnics. A high percentage of council trainers could potentially cause high expenditure that could interfere with the institution's operations. In 2023, across polytechnics, the Public Service Commission (PSC) employed 62% of the trainers, while the remaining 38% were employed by the respective Councils. By 2024, there was a slight shift with the PSC employing 61% and the Council increasing its share to 39%, indicating a minor rebalancing in employment distribution.

CHAPTER THREE

KENYA SCHOOL OF TVET

3.0 Overview

The Kenya School of TVET (KS-TVET), formerly known as Kenya Technical Trainers' College (KTTC), is established under Legal Notice No. 123 of June 2022 with the core mandate of providing training for TVET trainers and advancing the development of the TVET sub-sector through structured education, research, innovation and strategic collaboration. This mandate aligns with national efforts to strengthen institutional capacity and improve the quality and outcomes of technical and vocational education and training in Kenya.

3.1 Enrolment

Enrollment at the Kenya School of TVET for STEM and non-STEM courses is important in assessing the alignment of training programs with national workforce needs and development priorities. It provides valuable insights into workforce preparedness and supports the formulation of targeted strategies to address skill gaps across various sectors. Figure 3 presents gender-disaggregated enrollment data at KSTVET for both STEM and non-STEM courses in 2023 and 2024.

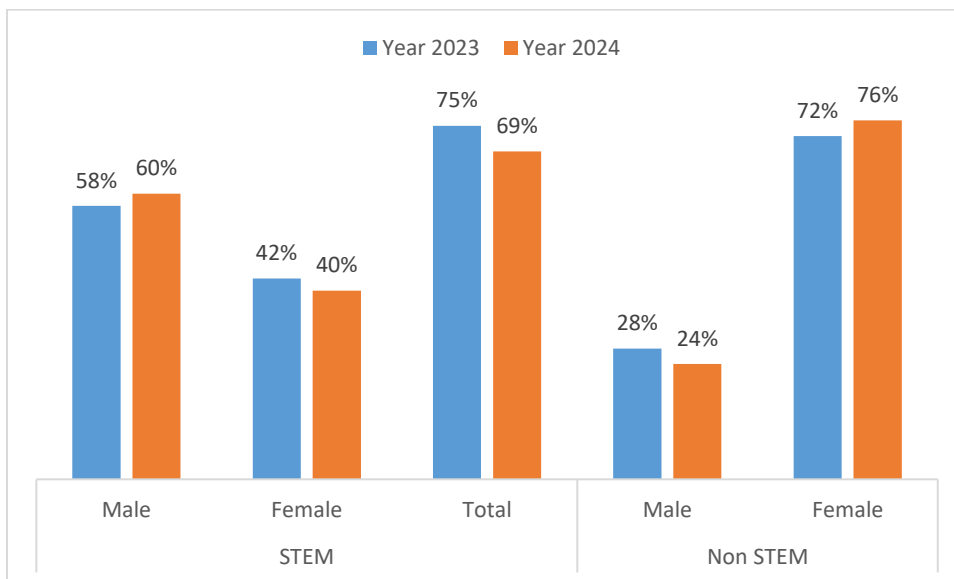


Figure 2: Enrolment in KS TVET

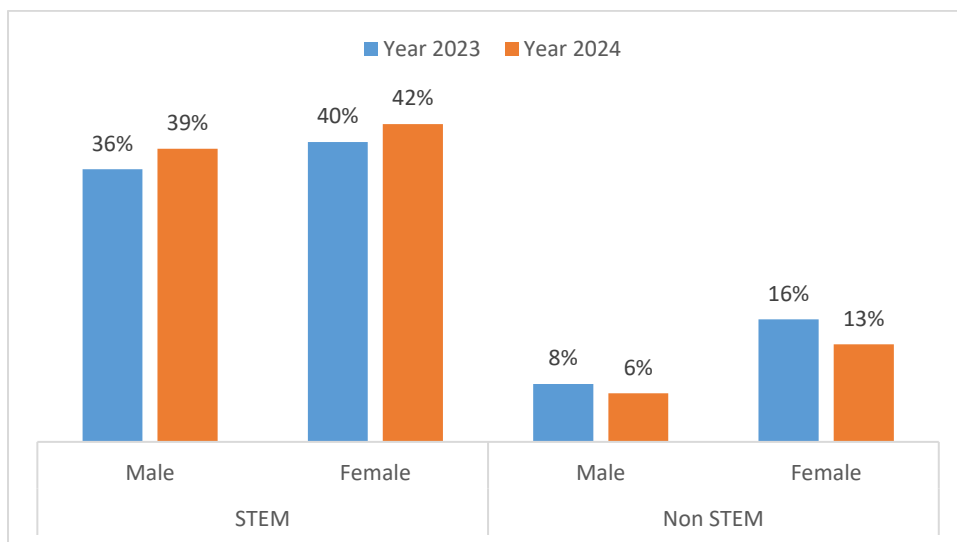
The proportion of male trainees in STEM programs decreased from 51% in 2023 to 45% in 2024, while the proportion of female trainees rose from 49% to 55%. Similarly, in non-STEM courses, male enrollment declined from 48% to 35%, whereas female enrollment increased significantly from 52% to 65%. This indicates a growing participation of female trainees across both STEM and non-STEM fields.

3.2 Graduation

Graduation rates at the KSTVET are a key indicator of the institution's performance in delivering technically skilled personnel to support the TVET sub-sector in Kenya. The data, disaggregated by course classification and gender, is presented in Figure xx. It provides insight into the distribution of

graduates across various training areas. The figure represents the proportion of graduates by gender within each course category rather than overall institutional graduation rates.

Figure 3: Proportion of Graduates by Gender in STEM and Non-STEM Programmes KSTVET



Findings show that majority of graduands were in STEM-related courses, with the proportion increasing from 76% in 2023 to 81% in 2024. This suggests a growing emphasis on STEM training in line with national priorities for industrial and technological development. A closer look at gender distribution within STEM reveals a positive shift in female participation. In 2023, female trainees slightly outnumbered males in STEM courses (40% versus 37%) and this trend continued in 2024 with female representation rising to 42% compared to 39% for males. This indicates a progressive narrowing of the gender gap in technical disciplines, historically dominated by men.

Conversely, non-STEM courses saw a decline in overall graduands, dropping from 24% in 2023 to 19% in 2024. Within this category, female representation remained significantly higher than that of males, although both declined slightly from 16% to 13% for females and from 8% to 6% for males. This decline may point to a strategic institutional focus on STEM programmes or changing preferences among learners.

3.3 Dropouts

There were no cases of dropouts recorded at the KSTVET in the year 2024. This could be attributed to an established mechanism at the institution to prevent the dropouts of trainees.

3.4 Comparison of Enrollment, Graduands and Dropouts in Kenya School of TVET

The primary goal of the institution is to equip learners with relevant industry skills and release them into the labour market as competent, work-ready graduates. In this regard, the completion rate, which refers to the proportion of students who complete the training programs, is a key performance indicator for the institution. Table 14 presents enrollment, graduation, and dropout data for KSTVET.

Table 14: Comparison of Enrollment, Graduands and Dropouts in Kenya School of TVET

Year	Total Enrolment	Total Graduates	Proportion Of Dropouts
2023	3902	2534(65%)	(0)0%
2024	3491	2573(74%)	(0)0%

In 2024, 74% of the total enrollment graduated, compared to 68% in 2023, indicating a slight increase in the proportion of graduands. Notably, there were no reported dropouts during this period, suggesting that the remaining 26% of trainees were still in progress.

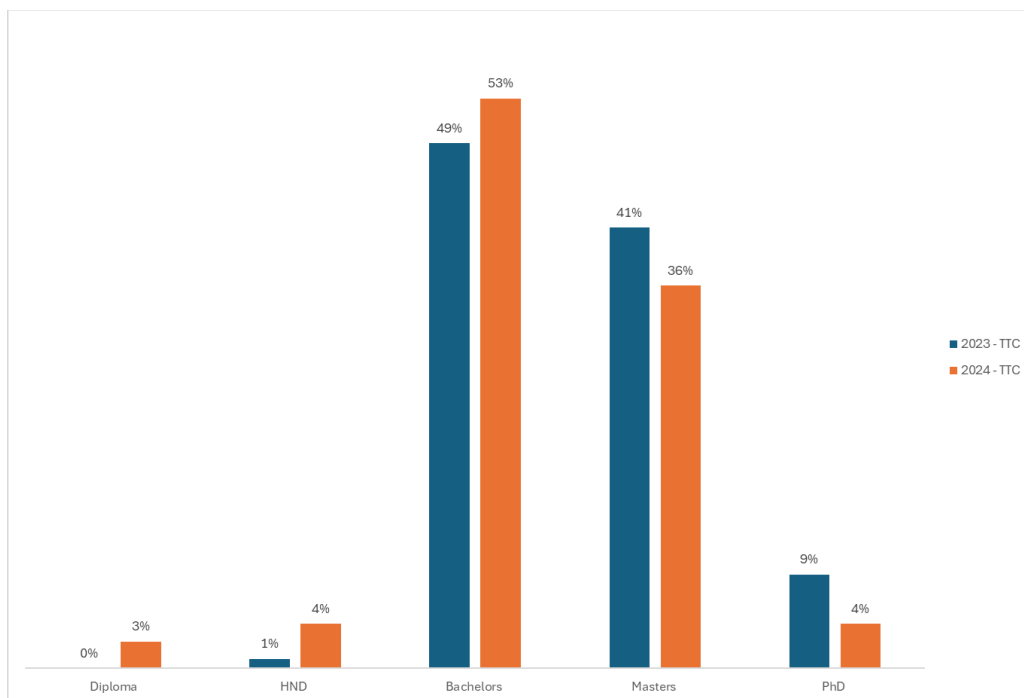
3.3 Staffing

Staffing plays a pivotal role in ensuring the quality and effectiveness of training in TVET institutions, particularly through the presence of competent and experienced trainers essential for implementing Competency-Based Education and Training (CBET). At the Kenya School of TVET, trainers are required to possess qualifications at least one level higher than the courses they teach, along with mandatory pedagogical training to enhance instructional delivery. The following section presents data on KSTVET's trainer staffing profile.

3.3.1 Trainer Qualification

Trainer qualifications and experience are fundamental to quality assurance in Technical and Vocational Education and Training (TVET). In line with the national trainer qualification framework, trainers are expected to hold academic or professional qualifications that are at least one level higher than the courses they deliver. Moreover, completion of pedagogical training is a mandatory requirement to ensure the effective transfer of knowledge and skills. At the Kenya School of TVET, trainers exhibit a range of qualifications and experiences, as illustrated in Figure 4

Figure 4: Trainer Qualification in KSTVET

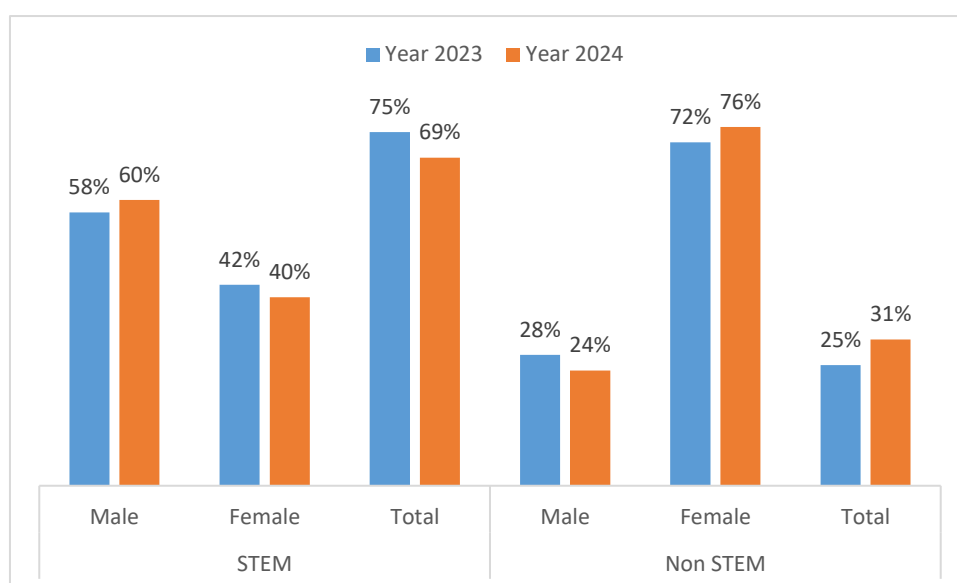


The findings on trainer qualifications within KSTVET reveal several important trends between the years 2023 and 2024. The data shows that most trainers in both years held a bachelor’s degree, with a notable increase from 49% in 2023 to 53% in 2024. This suggests that the bachelor’s degree continues to be the most common qualification among trainers and may be increasingly viewed as the standard entry point into the profession. However, there was a decline in the proportion of trainers holding postgraduate qualifications. Trainers with masters’ degrees decreased from 41% in 2023 to 36% in 2024, while those with PhDs dropped from 9% to 4% over the same period. This decline may indicate challenges in attracting or retaining highly qualified trainers, or a shift in recruitment priorities towards individuals with undergraduate qualifications. On the other end of the spectrum, there was a slight increase in the number of trainers holding lower-level qualifications. Those with Higher National Diplomas rose from 1% in 2023 to 4% in 2024, and Diploma holders, previously absent in 2023, accounted for 3% of trainers in 2024. This suggests that KSTVET may be expanding its recruitment pool to include a wider range of qualification levels, possibly to address staff shortages or to diversify teaching competencies.

3.3.2 Trainer Gender Distribution in STEM and Non-STEM

Collecting gender-disaggregated data on trainers in STEM and Non-STEM programs is crucial for evaluating inclusivity and equity within KSTVET. Promoting equal opportunities across all genders aligns with Kenya’s constitutional mandates, national gender policies and international commitments to gender equality. Achieving gender balance among trainers not only supports these legal and policy frameworks but also plays a key role in providing effective mentorship. Having trainers of diverse genders is especially important in breaking down traditional gender stereotypes associated with specific training areas, thereby creating a more inclusive and supportive learning environment for all trainees. Figure 5 presents the gender distribution of trainers in STEM and Non-STEM programs at KSTVET.

Figure 5: Trainer Gender Distribution in STEM and Non-STEM in KSTVET



In comparing the years 2023 and 2024, the data reveals interesting trends in trainers’ gender within STEM and Non-STEM fields. For STEM disciplines, male trainers increased slightly from 58% in

2023 to 60% in 2024, while female trainers saw a modest decline from 42% to 40% over the same period. Despite this, the overall share of trainers involved in STEM fields dropped from 75% in 2023 to 69% in 2024. On the other hand, the non-STEM fields exhibited the opposite pattern. Male trainers in these fields decreased from 28% in 2023 to 24% in 2024, whereas female trainers grew from 72% to 76%. Correspondingly, the total proportion of trainers in non-STEM courses rose from 25% in 2023 to 31% in 2024.

This shift indicates a slight decrease in overall engagement with STEM areas, accompanied by a growing interest in non-STEM fields, particularly among female trainers. The data suggests a gradual but noticeable movement of trainers from STEM to Non-STEM disciplines, with female involvement becoming more prominent in the latter.

3.3.4 Trainer to Trainee Ratio in STEM and Non-STEM

The trainer-to-trainee ratio is one of the key factors that influence the acquisition of skills by trainees in TVET. A lower trainer-to-trainee ratio leads to a more personalized approach and increased attention to individual trainees by trainers, hence resulting in a greater positive impact. Table xxx shows the trainer to trainee ratios in STEM and non-STEM courses at KS-TVET.

Table 15: Trainer to Trainee Ratio in STEM and non-STEM in KSTVET

Year	STEM Staff	STEM Trainees	Ratio	Non-STEM trainers	Non-STEM Trainees	Ratio	Enrolment	Total trainers	Ratio
2023	85	2920	1:34	29	982	1:34	3902	114	1:34
2024	83	2835	1:34	37	656	1:18	3491	120	1:29

The trainer-to-trainee ratios at KSTVET showed a consistent staffing level in STEM programs over the two years, with a ratio of 1:34 in both years despite a slight decrease in both staff and enrolment in 2024. However, a significant improvement was noted in the trainer-to-trainee ratio in 2024, improving from 1:34 in 2023 to 1:29. This could be attributed to the increase in non-STEM trainers from 29 to 37 and a reduction in trainee enrolment. The lower trainers-to-trainee ratio in non-STEM programs could potentially improve trainer availability and enhance learning outcomes.

3.3.5 Trainers Employment Category

All trainers at KSTVET were employed by the Public Service Commission. As a stop-gap measure, the institution could consider engaging some trainers on Council terms to reduce the trainer to trainee ratio, especially in the STEM courses to reduce the trainer-to-trainee ratio from 1:34 to the recommended 1:20.

3.3.6 PWDs Trainers

The proportion of Persons with Disabilities (PWDs) at the Kenya School of TVET (KSTVET) showed a remarkable increase from 0% in 2023 to 4.17% in 2024. This reflects the institution's commitment to improve inclusivity and diversity in staffing. This progress aligns with national goals to promote equal opportunities and ensure that TVET institutions embrace inclusivity of the broader society, including PWDs.

3.4 PWDs Trainees

Table 16 shows the proportion of PWD trainees at the Kenya School of TVET for the years 2023 and 2024.

Table 16: Trainees with Disabilities at the KSTVET

Year	Enrolment	No of PWDs	Proportion
2023	3902	10	0.26%
2024	3491	10	0.29%

The enrolment of PWDs at KSTVET remained constant at 10 trainees in both 2023 and 2024. However, the proportion of PWD trainees increased from 0.26% in 2023 to 0.29% in 2024 due to a decrease in total enrolment. This data highlights the need for continued efforts to enhance the inclusion of PWDs in the various programs offered at KSTVET.

CHAPTER FOUR TECHNICAL AND VOCATIONAL COLLEGES

4.0 Overview

Technical and Vocational Colleges (TVCs) equip trainees with the technical skills and knowledge required to meet the demands of various industries and sectors. The TVCs are classified as public, owned by the government and domiciled in different Ministries, or privately owned and operated by private sector players. The majority of public TVCs are domiciled in the Ministry of Education in the State Department for Technical and Vocational Education and Training. The institutions play a crucial role in enhancing the employability of graduates and promoting economic development by addressing the skills gap in the labor market. The TVET Authority had accredited 1506 TVCs as at 31st October 2024.

4.1 Response Rate

All the accredited TVET institutions are required to submit their annual self-evaluation report in compliance with Section 41 (1) of the TVET Act Cap 210A. Institutions were required to submit their annual returns as at the 31st October 2024. The response rate for Technical and Vocational Colleges is presented in Table 17.

Table 17: Response Rate of Technical and Vocational Colleges

Institution Type/Category	No of institutions	Number Submitted	Proportion
Public	301	213	70%
TVCs under MOE	217	175	81%
TVCs under line Ministry	51	24	47%
UTVET	33	14	42%
Private	1205	227	19%
TVCs	1201	226	19%
UTVET	4	1	25%
Overall	1506	440	29%

The data revealed a generally low compliance rate with the requirement for submission of annual returns by TVCs, with only 29% of Accredited institutions responding. Public TVCs under the Ministry of Education had the highest response rate at 81%, indicating relatively strong adherence to legal requirements for submission of annual returns. In contrast, Private institutions recorded the lowest response, with only 19% submitting the returns. The low response rate highlights the need for targeted interventions to improve compliance, especially among private and non-MOE public institutions. Despite the low overall response rate, the data was representative of TVCs because public institutions, which account for the majority of student enrollment, had a significantly higher response rate. Given that public TVCs under the Ministry of Education recorded an 81% compliance rate, the dataset is considered reliable and reflective of national trends.

4.2 Enrolment

The gender distribution in STEM and non-STEM enrolments across different types and categories of TVET institutions is essential for informing policies that promote gender equity and inclusivity. Table

18 presents enrollment figures by gender across public and private TVET institutions, including TVCs under the Ministry of Education, line ministries and university-affiliated TVET institutes.

Table 18: Enrolment in STEM and non-STEM Courses

Type/Category	Male STEM	Female STEM	M: F	Male non-STEM	Female non-STEM	M: F	Total STEM	Total non-STEM	STE M:N on STE M
Public	124742	84345	3:2	10531	21988	1:2	209087	32519	45:7
TVCs under MOE	112105	76916	3:2	7986	20306	2:5	189021	28292	20:3
TVCs under line Ministry	11095	6538	5:3	1899	714	8:3	17633	2613	27:4
UTVET	1542	891	7:4	646	968	2:3	2433	1614	3:2
Private	8621	14919	4:7	5301	8189	2:3	23540	13490	7:4
TVCs	8553	14888	4:7	5287	8173	2:3	23441	13460	7:4
UTVET	68	31	11:5	14	16	7:8	99	30	23:7
Overall	133363	99264	4:3	15832	30177	1:2	232627	46009	5:1

There was clear overall gender disparity in public TVET institutions, with male trainees dominating STEM and female trainees dominating the non-STEM courses. In public TVCs, male trainees dominated both STEM and non-STEM courses. Generally, in public TVCs, STEM enrollment was more than six times (45:7) higher than non-STEM enrollment, which is in line with the government policy on scaling down non-STEM courses in TVET institutions. In contrast, the overall enrolment in private TVCs showed female dominance in both STEM and non-STEM courses. Similarly, STEM enrollment in private TVCs remained higher overall in private TVCs. Across all the TVCs, males mainly enrolled in STEM courses, while females dominated non-STEM courses. The STEM enrollment exceeded non-STEM enrollment, with an overall ratio of 5:1.

4.3 Graduation

Graduation rates are key indicators of both the effectiveness of training programs and the overall efficiency of the training system. Data collected from TVCs were disaggregated by gender and course classification (either STEM or non-STEM) and corresponding proportions computed. The proportions of trainees who graduated from TVCs in 2024 and 2023 are presented in Table xx. The figures reflect the proportion of graduates by gender within the course categories and not the overall graduation rates.

Table 19: Proportion of Graduates by Gender in STEM and Non-STEM Programs

Type/Category	Male STEM	Female STEM	Overall % STEM	Male non-STEM	Female non-STEM	Overall % non-STEM
Public	52%	30%	82%	9%	9%	18%

TVCs under MOE	54%	31%	85%	6%	9%	15%
TVCs under line Ministry	49%	29%	77%	16%	6%	23%
UTVET	43%	24%	67%	13%	20%	33%
Private	24%	41%	65%	14%	21%	35%
TVCs	24%	41%	65%	14%	21%	35%
UTVET	0%	71%	71%	0%	29%	29%
Grand Total	45%	33%	78%	10%	12%	22%

Table xx presents the proportions of male and female trainees who graduated from various categories of TVCs in Kenya in 2024, disaggregated by course classification (STEM and non-STEM). Public TVCs showed the highest concentration of STEM graduates (82%), while private TVCs and University TVET Training Institutes had comparatively higher proportions of non-STEM graduates, at 35% and 33% respectively. Interestingly, in private institutions, female representation in STEM (41%) surpassed that of males (24%), suggesting notable progress toward gender parity.

Overall, a significantly higher proportion of trainees graduated from STEM programs (78%) compared to non-STEM programs (22%) indicating the growing emphasis on STEM education in line with national policy. Among STEM graduates, 45% were male and 33% were female, reflecting a relatively strong female presence, though a gender gap remains. In non-STEM programs, the gender distribution was slightly more balanced, with 12% female and 10% male graduates.

4.4 Dropout Rates

Dropout rates are a critical measure of inefficiencies within the training system. Elevated dropout levels may point to challenges related to curriculum design, instructional methods, trainer effectiveness or the adequacy of trainee support services. Analyzing this data enables institutions to implement early interventions to enhance trainee engagement and retention. Table 20 presents the dropout data collected from TVCs in 2024.

Table 20: Dropout Rates by Gender in STEM and Non-STEM Programs

Type/Category	% Male STEM	% of Female STEM	Overall % STEM	% of Male non-STEM	% Female non-STEM	Overall % non-STEM	Overall
Public	4.48%	4.81%	4.61%	4.56%	3.17%	3.62%	4.48%
TVCs under MOE	4.55%	4.76%	4.64%	3.86%	2.33%	2.76%	4.39%
TVCs under line Ministry	1.96%	2.66%	2.22%	1.58%	5.18%	2.56%	2.26%
UTVET	17.44%	25.14%	20.26%	21.98%	19.21%	20.32%	20.29%
Private	12.40%	9.93%	10.84%	8.07%	6.69%	7.23%	9.52%
TVCs	12.45%	9.92%	10.84%	8.10%	6.69%	7.24%	9.53%
UTVET	5.88%	16.13%	9.09%	0.00%	6.25%	3.33%	7.75%
Grand Total	4.99%	5.58%	5.24%	5.74%	4.13%	4.68%	5.15%

The dropout data from TVCs in 2024 reveals notable disparities across program types, genders and institutional categories. Overall, STEM programs recorded a slightly higher dropout rate (5.24%) compared to non-STEM programs (4.68%), with female trainees in STEM experiencing the highest rates (5.58%). Public TVCs generally reported moderate dropout levels, with TVCs under line ministries having the lowest across the board, particularly for males in non-STEM programs (1.58%).

In contrast, public UTVET institutions showed alarmingly high dropout rates, especially among female STEM trainees (25.14%) and male non-STEM trainees (21.98%), pointing to significant institutional challenges. Private TVCs also exhibited elevated dropout figures, particularly in STEM programs. These trends highlight the need for targeted interventions to address gender-based disparities and institutional inefficiencies, especially in public UTVET and private TVCs.

4.5 Comparison of Enrollment, Graduands and Dropouts in TVCs

Graduation of trainees upon course completion is a key performance indicator for assessing the effectiveness of TVET training in Kenya. Table 21 presents data on enrollment, graduation and dropout rates across various Technical and Vocational Colleges (TVCs) in Kenya for the year 2024. It provides insights into the number of students who enrolled, those who successfully completed their training and graduated, and those who dropped out before completion.

Table 21: Enrollment, graduands and dropouts comparison

Type/Type	Enrolment	Graduands	Dropouts
Public	241606	56177(23%)	10825(4%)
TVCs under MOE	217313	42381(20%)	9546(4%)
TVCs under line Ministry	20246	11039(55%)	458(2%)
UTVET	4047	2757(68%)	821(20%)
Private	37030	18435(50%)	3527(10%)
TVCs	36901	18428(50%)	3517(10%)
UTVET	129	7(5%)	10(8%)
Overall	278636	74612(27%)	14352(5%)

Out of 278,636 enrolled trainees, 74,612 graduated (27%) in 2024. In public institutions the proportion of graduands was 23%, with UTVETs performing best at 68%, line ministry TVCs at 55%, and TVCs under the Ministry of Education at 20%. In Private institutions, the proportion of graduands was 50%, mostly from private TVCs, while private UTVETs lagged at 5%.

The overall proportion of trainees who dropped out of training was 5%. Public UTVETs and Private TVCs had significant dropout rates of 20% and 10% respectively. Dropouts partly contributed to low graduation rates, but delays in course completion also played a role. This calls for improved student support and retention strategies to boost timely graduations.

4.5 Staffing

Staffing is a critical component that significantly influences the quality of training and the overall effectiveness of operations in TVET institutions. These institutions are expected to maintain adequate numbers of qualified trainers, as well as technical and administrative personnel. In particular, the presence of competent and experienced trainers is essential to successfully implement Competency-Based Education and Training (CBET). This section presents staffing data specifically for trainers in TVCs.

4.5.1 Trainer Qualifications

Trainer qualifications and experience play a vital role in ensuring quality assurance in TVET. According to the trainer qualifications framework, a trainer must possess a qualification that is at least one level higher than the level they are training. Additionally, the trainer is required to have completed

pedagogical training to ensure effective delivery. Trainers in public and private TVCs had varied qualifications as shown in Table 22.

Table 22: Trainer Qualifications

Institution Type	Staff	No Details	Below Craft	Craft	Diplo ma	HND	Bachelor s	Masters	Phd
Public	9160	2.4%	0.9%	1.6%	24.1%	6.7%	53.3%	9.4%	1.7%
TVCs under MOE	7564	2.8%	0.9%	1.8%	26.9%	7.3%	54.1%	5.7%	0.6%
TVCs under line Ministry	910	0.5%	1.6%	1.3%	18.5%	6.8%	50.4%	19.7%	1.1%
UTVET	686	0.0%	0.0%	0.0%	0.0%	0.4%	48.1%	35.9%	15.6%
Private	2261	2.2%	2.8%	3.5%	24.1%	7.2%	45.7%	12.6%	2.0%
TVCs	2243	2.2%	2.8%	3.5%	24.1%	6.8%	46.1%	12.6%	2.0%
UTVET	18	0.0%	0.0%	5.6%	27.8%	55.6%	0.0%	11.1%	0.0%
Grand Total	11421	2.3%	1.3%	2.0%	24.1%	6.8%	51.8%	10.0%	1.8%

Generally, the majority of trainers (51.8%) had bachelor's degrees, with master's degree holders comprising 10.0% and PhD holders 1.8%. Public TVCs under the Ministry of Education had the highest proportions of bachelor's degree holders (54.1%). University TVET Training Institutes stand out with the highest percentage of trainers holding Master's (35.9%) and PhDs (15.6%), indicating a more academically qualified staff. Private TVCs recorded the highest proportion of trainers with qualifications below the Craft at 2.8%, compared to significantly lower percentages in public institutions. This trend suggests a potential lack of compliance with the Trainer Qualification Framework. The presence of underqualified trainers in private institutions raises concerns about the quality and credibility of the training offered. Ensuring that all trainers meet the required minimum qualifications is essential to uphold training standards and foster the development of competent and industry-ready graduates.

4.5.2 Trainer-Gender Distribution in STEM and Non-STEM

Gender parity forms a critical pillar on national policy priorities in employment. TVCs were asked to provide gender disaggregated data for trainers employed to train both STEM and Non-STEM courses. The responses received are presented in Figure 23 below.

Table 23: Trainer-Gender Distribution in STEM and Non-STEM

Institution	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Overall STEM	Overall non-STEM
Public	62%	38%	48%	52%	79%	21%
TVCs Under MOE	62%	38%	47%	53%	79%	21%
TVCs Under Line Ministry	63%	37%	53%	47%	90%	10%

UTVETS	68%	32%	54%	46%	63%	37%
Private	54%	46%	61%	39%	66%	34%
TVC	54%	46%	61%	39%	66%	34%
UTVET	92%	8%	0%	100%	72%	28%
Overall	61%	39%	52%	48%	76%	24%

The proportion of male STEM trainers was higher than that of female STEM trainers, across all the types of TVET institutions, ranging from a high of 92% in private university TVET to a low of 54% in private TVCs. On the other hand, female STEM trainers averaged a high of 46% in private TVCs and a low of 8% in private university TVET institutes. Regarding non-STEM trainers the proportion of male was higher than that of female with a high of 61% in private TVCs except in institutions under ministry of education (MoE) and private university institute of TVETs. The ratio of male to female trainers in public TVCs have almost the same pattern as that of private institutions where male trainers dominate in STEM at a high of 68% in public university TVET institute and a low of 62% in TVCs in MoE. While female proportion in STEM in public TVCs ranged from 38% in TVCs in line ministries and a low of 32% in public university TVET institutes. For non-STEM in public TVCs male still dominate at a high of 54% in university TVET institute and a low of 47% in institutions under MoE. On the other hand, female trainers proportion ranged from a high of 53% in institutions under MoE and a low of 46% in public university TVET institutes. Overall, the data shows that male trainers dominated both STEM and non-STEM in both public and private TVCs. The gender proportion was compliant to the two-third gender rule required by the Kenyan constitution.

4.5.3 Trainer to Trainee Ratio in STEM and Non-STEM

The recommended Trainer Trainee ratio for this category is 1:25 and 1:30 for STEM and Non-STEM programmes respectively. Table 24 shows the trainer-to-trainee ratios in Technical and vocational colleges, categorized by institution type (Public vs. Private) and program focus (STEM vs. Non-STEM).

Table 24: Trainer to Trainee Ratio in TVCs

Type/Category	STEM Trainers	STEM Enrolment	Trainer: Trainee	Non-STEM trainers	Non-STEM Enrolment	Trainer: Trainee
Public	7227	209087	1: 29	1933	32519	1: 17
TVCs Under MOE	5975	189021	1: 32	1589	28292	1: 18
TVCs Under Line Ministry	818	17633	1: 22	92	2613	1: 28

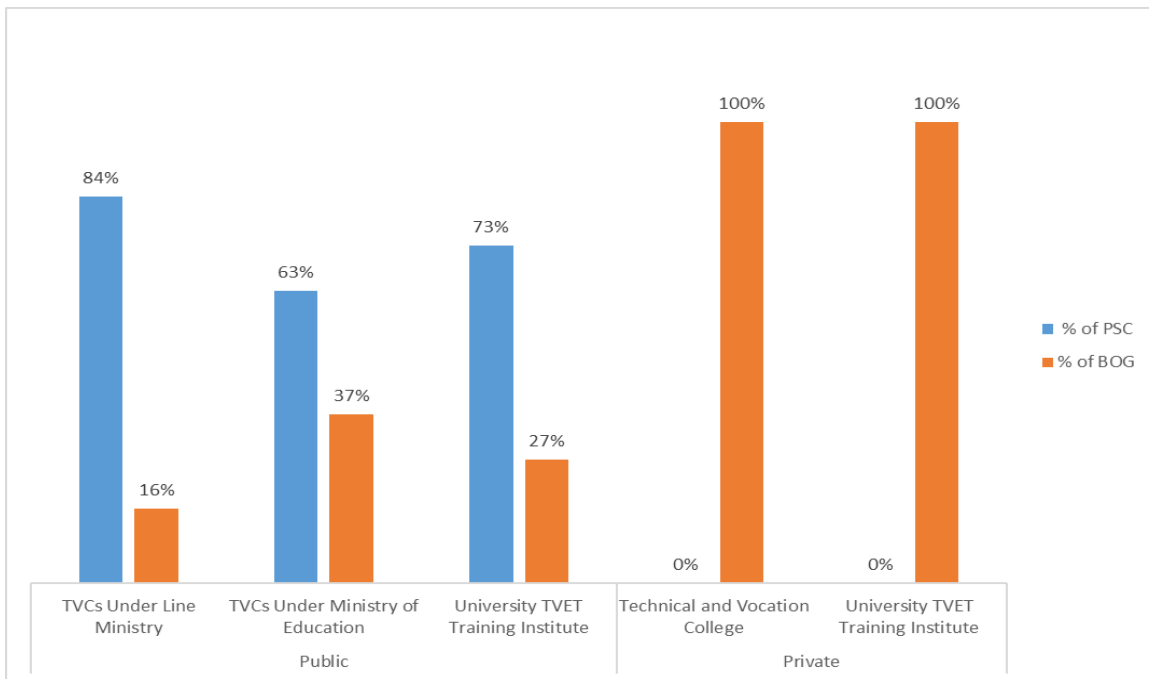
UTVETS	434	2433	1: 6	252	1614	1: 6
Private	1488	23540	1: 16	773	13490	1: 17
TVCs	1475	23441	1: 16	768	13460	1: 18
UTVETS	13	99	1: 8	5	30	1: 6
Grand Total	8715	232627	1: 27	2706	46009	1: 17

In the public TVET institutions, STEM trainer-to-trainee ratio stood at 1:29 which was above the recommended 1:25. This suggested potential strain on trainers and reduced capacity for personalized, hands-on training. For non-STEM, the ratio is 1:17, which is below the recommended 1:30, indicating a more favorable learning environment with greater opportunity for individualized attention. In private institutions, the STEM ratio is 1:16, which is below the recommended 1:25, while the non-STEM ratio is 1:17, again surpassing the recommended 1:30. This implies that private institutions were better positioned to offer learner-centered training, particularly in STEM areas, compared to their public counterparts. Generally, the higher trainer: trainee ratio (1:27) in STEM indicates a need for urgent intervention to recruit more qualified trainers. Addressing this gap is essential to achieve the desired quality of training and ensure that trainees receive sufficient attention and practical engagement.

4.5.4 Trainers Employers in TVCs

The Public Service Commission (PSC) is responsible for employing and deploying trainers in all public TVCs institutions. To address staffing gaps, individual public TVCs may also hire trainers on Board of Management (BoM) terms. Private institutions recruit trainers based on terms set by their respective boards. Figure 6 illustrates the distribution of trainers in public and private TVCs employed under both Public Service Commission (PSC) and BoM terms.

Figure 6: Trainers Employers in TVCs



All public TVCs had trainers employed through both the Public Service Commission (PSC) and their respective institutional governing boards. TVCs under Line Ministries had the highest proportion of trainers (84%) employed through the PSC, followed by Public University TVET Training Institutes (UTVETs) at 73%, and TVCs under the Ministry of Education at 63%. The engagement of trainers through the Boards of Management is primarily intended to address staffing shortages in public institutions. However, the increasing number of trainers employed by the Boards may have significant financial implications. High percentages of trainers on board terms can substantially increase the wage burden on institutions, potentially diverting resources away from essential operational areas such as infrastructure development, learning materials and student support services. This may compromise the quality and sustainability of training programs if not carefully managed.

4.5.5 PWD Trainers in Technical and Vocational Colleges

The National PWD Policy provides guidelines to ensure that PWDs have equal opportunities to participate in all aspects including employment, education, and access to all services. The proportion of PWDs trainers in the various categories of TVCs is shown in Table 25.

Table 25: Proportion of PWD trainers in TVCs

Type/Category	2024							2023
	Male PWD STEM Staff	Female PWD STEM Staff	Male Non-PWD STEM Staff	Female PWD Non-STEM Staff	Total Staff	Total Staff with PWD	Overall % of PWD Staff	Overall % of PWD Staff
Public	152	33	16	20	9160	221	2.41%	0.90%
TVCs under MOE	136	27	14	18	7564	195	2.58%	1.00%
TVCs under line Ministry	14	5	1	2	910	22	2.42%	0.10%
UTVET	2	1	1	0	686	4	0.58%	0.30%
Private	2	3	1	3	2261	9	0.40%	0.30%
TVCs	2	3	1	3	2243	9	0.40%	0.20%
UTVET					18	0	0.00%	0.00%
Grand Total	154	36	17	23	11421	230	2.01%	0.70%

The Public TVCs under the Ministry of Education employed the highest proportion (2.58%) of trainers with disabilities followed those in the line ministries at 2.42%. It was observed that the UTVET Directorates did not employ trainers with disabilities in both 2024 and 2023. Except for the UTVET institutions, the other TVCs generally registered a remarkable improvement in the proportion of trainers with disability, the overall proportion increasing from 0.70% in 2023 to 2.01% in 2024. There is an urgent need to recruit PWD trainers in all the categories of TVCs to comply with the national recommended level of 5%.

4.6 PWDs Trainees

Access and inclusivity in education and training is a key performance standard in the NESSP 2023-27. Enrolling trainees with disabilities into TVET programs can provide significant economic benefits since it increases their employability and allows them to effectively contribute to the economy. Table 26 shows the proportion of PWD trainees enrolled in the various categories of TVCs in 2024.

Table 26: Proportion of PWD trainees in TVCs

Type/ category	2024							2023
	Male STEM PWD trainees	Female STEM PWD trainees	Male non-STEM PWD trainees	Female non-STEM PWD trainees	Total Trainees	Total PWDs Trainees	% of PWDs Trainees	% of PWDs Trainees
Public	743	430	183	208	241606	1564	0.65%	0.79%
TVCs under MOE	727	427	178	204	217313	1536	0.71%	0.90%
TVCs under line Ministry	7	1	2	2	20246	12	0.06%	0.09%
UTVET	9	2	3	2	4047	16	0.40%	0.07%
Private	90	71	52	41	37030	254	0.69%	0.23%
TVCs	90	71	52	41	36901	254	0.69%	0.23%
UTVET					129	0	0.00%	0.00%
Grand Total	833	501	235	249	278636	1818	0.65%	0.73%

The enrollment of persons with disabilities (PWDs) in the TVCs was generally low at 0.65% which reflects a decline from 2023 which was at 0.73%. This proportion of PWDs is less than the national

average of 2.2% as per the 2019 KPHC. The PWD trainees in public institutions constituted 0.65% of the total enrollment, whereas those in private TVCs were 0.69%. There is need therefore for all TVCs to provide accessible facilities to allow PWD recruitment into programmes offered as per their interests in line with Article 54 (b) of the Kenya Constitution 2010.

CHAPTER FIVE VOCATIONAL TRAINING CENTRES

5.0 Overview

Vocational Training Centres (VTCs) equip trainees with the vocational skills and knowledge required to meet the demands of various industries and sectors. The VTCs are classified either as public, which are owned by the government, or private, which are owned and operated by private sector players. The majority of public VTCs are managed by the County Governments. VTCs play a crucial role in enhancing the employability of graduates and promoting economic development by addressing the skills gap in the labor market. The TVET Authority has accredited 1070 public and 118 private VTCs.

5.1 Response Rate

As stipulated in Section 41(1) of the TVET Act, Cap 210A, all accredited TVET institutions are required to file their annual self-evaluation report. VTCs were requested to submit annual returns as at 31st October 2024. Table 27 presents the response rate to this compliance requirement.

Table 27: VTC Response rate

Institution Type/Category	No. of Institutions	Number Submitted	Proportion
Public VTCs	1070	719	67%
Private VTCs	117	48	41%
Overall	1187	767	65%

A total of 767 Vocational Training Centres submitted their annual returns, which represented 65% of all registered VTCs in the country. The response rate indicates a moderate level of compliance with the reporting requirements.

5.2 Enrolment in VTCs

Enrolment data submitted by VTCs disaggregated by gender and course category (STEM and non-STEM) and analyzed to compare male and female participation in each category. Table xx presents the enrolment figures, highlighting gender distribution across STEM and non-STEM courses

Table 28: Enrolment in STEM and non-STEM Courses

Type/Category	Male STEM	Female STEM	M: F	Male non-STEM	Female non-STEM	M: F	Total STEM	Total non-STEM	STEM: Non-STEM
Public VTCs	61546	44795	11:8	128	553	1:4	106341	681	937:6
Private VTCs	3295	2974	10:9	425	502	6:7	6269	927	27:4
Overall	64841	47769	4:3	553	1055	1:2	112610	1608	70:1

Enrollment in Kenyan VTCs is skewed toward STEM courses. In public VTCs, the STEM to non-STEM ratio was 937:6, with males dominating STEM and females leading in non-STEM. Private VTCs show a similar pattern, with a ratio of 27:4. Overall, the national STEM to non-STEM ratio stands at 70:1, highlighting a strong male presence in STEM fields and female dominance in non-STEM programs.

5.3 Graduation

Graduation data obtained from Vocational Training Centres was utilized to evaluate trainee progression across successive modules or academic levels. Table 29 presents gender disaggregated graduation metrics for STEM and non-STEM programs in Vocational Training Centres. The figures presented reflect the proportion of graduates by gender within the course category and not the overall graduation rates.

Table 29: Proportion of Graduates by Gender in STEM and Non-STEM Programs

Type/Category	Male STEM	Female STEM	Overall Proportion of STEM	Male non-STEM	Female non-STEM	Overall Proportion of Non-STEM Graduands
Public VTC	59%	40%	99%	0%	1%	1%
Private VTC	43%	41%	84%	7%	9%	16%
Grand Total	57%	40%	98%	1%	1%	2%

A dominant proportion of graduates in both types of VTCs were in STEM programs, accounting for 99% in public VTCs and 84% in private VTCs. In public VTCs, male trainees dominate STEM graduations (59%), with females contributing 40%. Notably, non-STEM programs in public institutions exhibit minimal graduation rates, with just 1% of graduates being female and no male. Private VTCs display a slightly more balanced gender distribution in both STEM and non-STEM fields. Male and female graduates in STEM stand at 43% and 41% respectively, while non-STEM graduates comprise 7% male and 9% female.

Overall, the data indicated a strong bias toward STEM training, particularly in public VTCs, with minimal representation in non-STEM disciplines. Gender disparities are evident, though private institutions show a relatively narrower gap across both program classifications.

5.4 Dropout Rates

The dropout rate is an important indicator of wastage in the training system. A high dropout rate shows that there are issues with the curriculum, training delivery, trainer effectiveness, or trainee support services. Therefore, management can utilize feedback on the dropout rate to develop interventions aimed at enhancing trainee retention and reducing dropouts. The dropout data collected from VTCs are shown in Table 30

Table 30: Dropout Rates

Type/Category	% of Male Dropouts in STEM	% of Female Dropouts in STEM	Overall % STEM	% of Male Dropouts in Non-STEM	% of Female Dropouts in Non-STEM	Overall % non-STEM	Overall
Public VTC	16.87%	17.24%	17.02%	7.81%	25.68%	22.32%	17.06%
Private VTC	13.96%	9.95%	12.06%	10.12%	5.38%	7.55%	11.48%
Grand Total	16.72%	16.79%	16.75%	9.58%	16.02%	13.81%	16.71%

The overall dropout rate in Vocational Training Centres (VTCs) was 16.71%. Public VTCs recorded higher dropout rates, especially among female trainees in non-STEM courses at 25.68%. In contrast,

private VTCs had lower dropout rates, this could be attributed to their lower enrolment. STEM courses in both public and private institutions also showed notable dropout levels. The findings highlight the need for improved support systems and targeted strategies to reduce dropouts, particularly in public VTCs and among female trainees

5.5 Comparison of Enrollment, Graduands and Dropouts in VTCs

Vocational Training Centres mainly offer level 3 and 4 programs, with course durations of approximately 6 months to 1 year. Table 31 shows enrolment, graduation, and dropout rates for public and private VTCs.

Table 31: A Comparison of Enrollment, Graduands and Dropouts

Category/Type	Enrolment	Graduands	Dropouts
Public VTCs	107022	43603(41%)	18255(17%)
Private VTCs	7196	4122(57%)	826(11%)
Overall	114218	47725(42%)	19081(17%)

The public VTCs achieved a 41% graduation rate, while private VTCs achieved 57%. The overall graduation rate stood at 42%, mainly due to underperformance in public institutions. A significant factor is the high dropout rate (17%) in public VTCs, which partially contributed to the low graduation rates.

5.6 Staffing

Trainer qualification and experience are critical components of TVET quality assurance. The trainer qualifications framework provides that for an individual to qualify as a trainer; they should hold a qualification that is at least a level higher than what they teach. VTCs are mandated to offer programs up to artisan level and therefore require well-qualified and experienced trainers to train at all levels.

5.6.1 Trainer Qualification

Trainer qualifications are a key factor in evaluating the quality of training offered in Vocational Training Centres (VTCs). The Trainer Qualification Framework sets a craft certificate as the minimum acceptable qualification for trainers. Analyzing this data ensures compliance with the framework and highlights areas of improvement. The qualifications of trainers in public and private VTCs ranged from below craft to PhD as shown in Table 32.

Table 32: Trainer Qualification in VTCs

Type	Trainers	No Details	Below Craft	Craft	Diploma	HND	Bachelors	Masters	PhD
Public VTCs	4756	1.60%	29.88%	17.51%	40.69%	3.11%	6.60%	0.61%	0.00%
Private VTCs	335	0.60%	26.87%	9.55%	30.45%	3.58%	24.48%	3.28%	1.19%
Overall	5091	1.53%	29.68%	16.99%	40.01%	3.14%	7.78%	0.79%	0.08%

Trainer qualifications in the VTCs ranged from below Craft Certificate to PhD. The largest proportion of trainers (40.01%) held Diploma qualifications, followed by those with qualifications below Craft (29.68%) and those with Craft (16.99%). Notably, public VTCs had the highest proportion of trainers

with qualifications below the Craft Certificate level. This trend may suggest gaps in the enforcement of the trainer qualification framework during recruitment processes.

5.6.2 Trainer Gender Distribution in STEM and Non-STEM

Gender inclusivity is a critical factor in the recruitment of trainers within TVET institutions. Ensuring the representation of all genders among instructional staff is instrumental in addressing and dismantling entrenched gender stereotypes, particularly within traditionally gendered training programs. This inclusivity not only promotes equity but also contributes to the creation of a more supportive and diverse learning environment that enhances trainee engagement and retention. Table 33 illustrates the gender distribution of trainers across STEM and non-STEM programs in VTCs.

Table 33: Gender Distribution of Trainers Across STEM and Non-STEM Programs in VTCs

Type/Category	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Overall STEM	Overall non-STEM
Public VTCs	58%	42%	44%	56%	99%	1%
Private VTCs	54%	46%	66%	34%	88%	12%
Grand Total	58%	42%	53%	47%	98%	2%

The data on trainer gender distribution in STEM and Non-STEM programs within VTCs revealed notable disparities, particularly in overall representation. In STEM programs, male trainers dominated at 58% and 54% in the public and private VTCs respectively. In non-STEM programs, the females outnumbered the males at 56% in public VTCs but underrepresented in private VTCs (34%). Overall, 98% of trainers are in STEM programs, with only 2% in non-STEM, indicating a significant skew towards STEM-focused training. These figures underscored the need for more balanced gender representation and a reevaluation of program emphasis to ensure inclusivity and address gender stereotypes in both STEM and Non-STEM domains.

5.6.3 Trainer to Trainee Ratio in STEM and Non-STEM

The TVET Authority recommends a Trainer to Trainee ratio of 1:25 and 1:30 for STEM and Non-STEM programmes respectively. Table 34 shows the trainer-to-trainee ratios in VTCs categorized by institution type (Public vs. Private) and program focus (STEM vs. Non-STEM).

Table 34: Trainer to Trainee ratio in VTCs

Category/Type	Trainers STEM	Trainees STEM	Trainer: Trainee STEM	Trainers non-STEM	Non-STEM Trainees	Trainer: Trainee non-STEM
Public VTCs	4699	106341	1:23	57	681	1:12
Private VTCs	294	6269	1:21	41	927	1:23
Overall	4993	112610	1:23	98	1608	1:16

The overall trainer-to-trainee ratio in STEM programs in VTCs stood at 1:23, which was better than the recommended ratio of 1:25, indicating a favorable trainer capacity that can support more effective training. Similarly, the ratio for non-STEM programs was 1:16 which was within the recommended ratio. While these ratios are within the recommended levels, in some cases may imply underutilization

of trainer resources or potential inefficiencies in staffing, but they also present an opportunity for more individualized training and improved training outcomes.

5.6.4 Trainers Employers

The county governments recruit trainers for the public VTC institutions within their respective administrative units. Public VTCs can engage trainers on Board terms to mitigate any existing shortages. Private institutions, however, engage with their trainers on terms determined by their respective boards of management. Figure 7 shows the proportion of trainers employed by the County Public Service Board (CPSB) and the VTC Boards of Governors.

Figure 7: Trainers Employment Category in VTCs

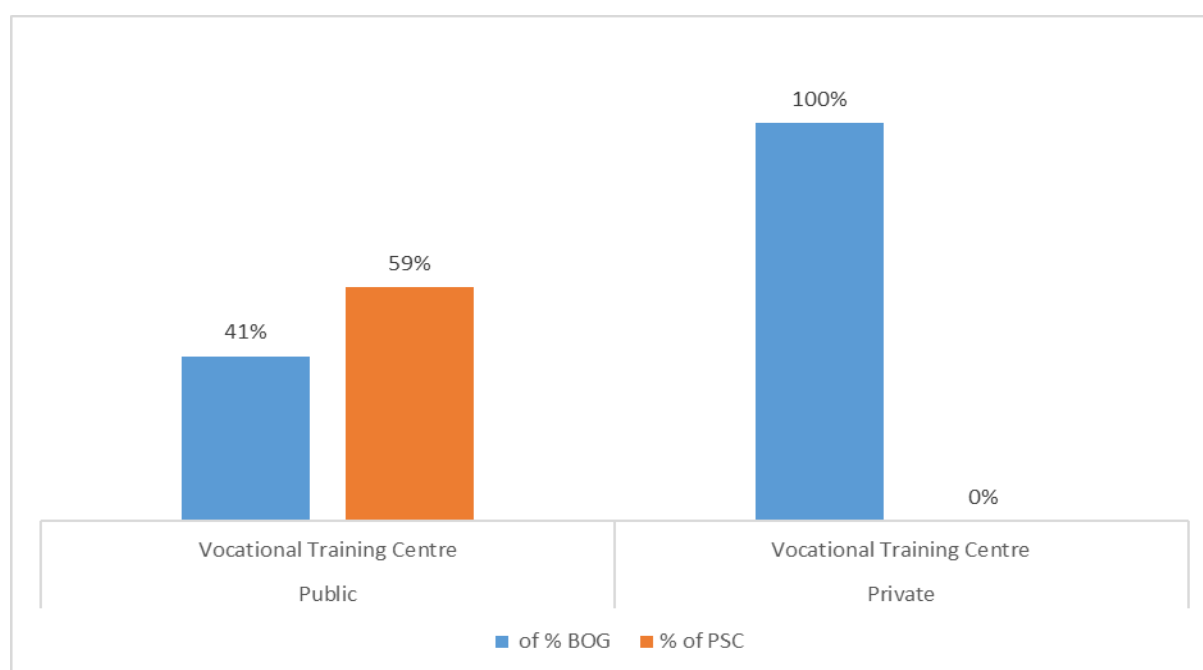


Figure 7 showed that 59% of trainers in public VTCs were hired through the County Public Service Boards, while 41% were employed by the Boards of Governors. The high proportion of Board trainers strains the institution’s finances. It is also an indication that the CPSBs did not recruit adequate trainers for VTCs.

5.6.5 PWDs Staff

The employment of PWDs in TVET institutions in Kenya is part of the affirmative action in the national development agenda. The data collected on gender and specialty are presented in Table 35.

Table 35: PWDs staff in Vocational Training Centers.

Type/ Category	2024							2023
	Male STEM	Female STEM	Male non- STEM	Female non- STEM	Total PWD Staff	Total Staff	Overall % of PWDs	Overall % of PWDs
Public VTC	79	59	0	2	4756	860	2.94%	1.26%
Private VTC	1	1	0	0	335	42	0.60%	1.82%
Grand Total	80	60	0	2	5091	902	2.79%	1.28%

Findings showed remarkable progress in the employment of PWDs in public VTCs (2.94%) in 2024 from 1.26% in 2023. However, private VTCs report PWD trainer proportion of 0.60% showing decline from 1.82% in the previous year. The data also showed an increase in PWD staff from an overall rate of 1.28% in 2023 to 2.79% in 2024. The level of inclusivity in non-STEM remains very low with no PWD staff in private VTCs and a paltry 2NO in public VTCs. Therefore, sustained efforts in inclusive hiring practices are essential to meet national disability inclusion targets at 5% in the VTCs subsector.

5.7 PWDs Trainees in Vocational Training Centres

The Kenyan Government has established four special TVET institutions to cater for the unique needs of trainees with certain forms of disability. However, there has been increased policy focus on integration of PWDs in all training institutions. The National Disability Mainstreaming Policy provide guidelines on inclusion of PWDs in all aspects of the Kenyan society, including Education, Employment and access to services. The enrolment of the PWD submitted by 716 Vocational Training Centres is presented in Table 36.

Table 36: Proportion of PWD trainees in VTCs

Type/Category	2024						2023	
	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Total Trainees	Total PWD Trainees	Overall % of PWDs	Overall % of PWDs
Public VTC	484	369	1	6	107022	860	0.80%	0.66%
Private VTC	23	15	3	1	7196	42	0.58%	0.37%
Grand Total	507	384	4	7	114218	902	0.79%	0.65%

The public VTCs had a higher proportion of PWD trainees than the private institutions. The proportion of PWDs enrolled in the VTCs registered a notable improvement from 0.66% in 2023 to 0.80% in 2024. However, the proportion was still lower than the reported population of PWD in Kenya of 2.2%, hence there is need to sensitize the VTCs to organize outreach fora to increase the enrolment of PWDs.

CHAPTER SIX NATIONAL OUTLOOK

6.0 Overview

This section deals with data for all TVET institutions that provided the annual returns data across the country. It specifically presents the overall enrolment, graduation, dropout and staffing data for all categories and types of institutions.

6.1 Response Rates

A high response rate in data submission significantly enhances the reliability and validity of data analysis. The submission and analysis of a large proportion of annual returns from accredited TVET institutions can provide a more comprehensive and accurate assessment of the sector's performance, trends, and challenges. This, in turn, supports evidence-based planning, informed policy-making, and targeted interventions aimed at improving the quality and relevance of TVET programs.

6.1.1 Response Rate for All Categories of TVET Institutions

Table 37 shows the proportion of institutions in each category that provided the institutional self-evaluation report.

Table 37: Response Rate by Type and Category of Institutions

Institution Type/Category	Number Accredited	Number Submitted	Proportion
Public	1402	963	69%
NP	30	30	100%
TTC	1	1	100%
TVCs	301	213	71%
VTCs	1070	719	67%
Private	1322	275	21%
TVCs	1205	227	19%
VTCs	117	48	41%
Overall	2724	1238	45%

The low proportion (45%) of institutions that submitted their annual self-evaluation report as required by the TVET Act raises concerns about compliance among accredited TVET institutions. The failure of more than half of the institutions to report their data may hinder effective monitoring, planning, and policy formulation within the sector. It also points to potential gaps in enforcement mechanisms or capacity challenges within institutions that must be addressed to ensure improved quality and support data-driven decision-making. The low response rate can also be explained by the fact that about half (1,250) of the accredited institutions had expired registration licenses. There is an urgent need for the Authority to ensure that all institutions comply with the requirements of the TVET Act Cap 210A.

6.1.2 Response Rate per County

Table 38 presents the proportion of the different categories of institutions that submitted the annual returns data from each of the 47 counties in Kenya. It outlines the total number of accredited institutions in each county and those that provided the data.

Table 38: Response Rate per County for each Category of Institutions

County	NPs	TTC	Public TVCs	Public VTCs	Private TVCs	Private VTCs	Number Accredited	Number Submitted	% of compliance
Baringo	1	0	6	14	6	0	27	19	70%
Bomet	0	0	5	21	12	0	38	38	100%
Bungoma	1	0	8	68	10	1	88	52	59%
Busia	0	0	8	17	3	1	29	28	97%
Elgeyo Marakwet	0	0	4	16	2	0	22	13	59%
Embu	1	0	4	21	16	0	42	14	33%
Garissa	1	0	2	3	10	0	16	7	44%
Homabay	1	0	5	26	4	2	38	21	55%
Isiolo	0	0	1	4	3	1	9	4	44%
Kajiado	1	0	5	5	46	3	60	20	33%
Kakamega	2	0	12	60	16	1	91	69	76%
Kericho	1	0	4	12	15	0	32	17	53%
Kiambu	1	0	10	38	147	6	202	73	36%
Kilifi	0	0	4	41	25	7	77	46	60%
Kirinyaga	0	0	6	15	14	0	35	23	66%
Kisii	1	0	6	57	21	0	85	38	45%
Kisumu	1	0	6	22	40	2	71	19	27%
Kitui	1	0	8	56	12	12	89	59	66%
Kwale	0	0	4	36	6	2	48	27	56%
Laikipia	0	0	4	11	7	2	24	14	58%
Lamu	0	0	1	8	0	0	9	0	0%
Machakos	0	0	9	36	39	10	94	22	23%
Makueni	0	0	6	44	15	1	66	60	91%
Mandera	0	0	2	7	0	0	9	5	56%
Marsabit	0	0	2	7	0	1	10	1	10%
Meru	2	0	11	35	18	1	67	42	63%
Migori	0	0	8	22	12	3	45	18	40%
Mombasa	1	0	9	3	62	12	87	24	28%
Muranga	1	0	7	58	12	1	79	43	54%
Nairobi	2	1	42	10	386	21	462	112	24%
Nakuru	2	0	19	35	74	5	135	62	46%
Nandi	2	0	5	14	7	1	29	23	79%
Narok	0	0	6	7	7	0	20	9	45%
Nyamira	1	0	4	33	4	1	43	26	60%
Nyandarua	1	0	5	16	3	1	26	9	35%
Nyeri	1	0	8	10	23	1	43	23	53%
Samburu	0	0	2	1	6	0	9	5	56%
Siaya	0	0	7	22	10	4	43	13	30%
Taita Taveta	1	0	3	31	5	1	41	11	27%
Tana River	0	0	3	8	1	0	12	6	50%
Tharaka Nithi	0	0	4	21	5	1	31	22	71%
Trans Nzoia	1	0	3	36	14	2	56	14	25%

Turkana	0	0	5	8	15	2	30	9	30%
Uasin Gishu	1	0	12	12	59	6	90	31	34%
Vihiga	1	0	2	28	4	1	36	34	94%
Wajir	0	0	3	8	3	0	14	1	7%
West Pokot	0	0	1	7	6	1	15	10	67%
Grand Total	30	1	301	1070	1205	117	2724	1236	45%

The national response rate was 45% indicating that more than half of the registered institutions did not submit their data which violates section 41(1) of TVET Act Cap 210A. Bomet achieved a submission rate of 100%, followed closely by Busia at 97% and Vihiga at 94%. In contrast, counties such as Marsabit (10%), Wajir (7%), Lamu (0%), and Machakos (23%) had notably low submission rates.

6.2 Enrolment Disaggregated by Gender

A comprehensive view of the student demographics and the scale of enrolment within each institution by type and category is presented below. Table 39 show the distribution of male and female trainees in the various categories of TVET institutions.

Table 39: Enrolment Disaggregated by Gender

Type/Category	Enrolment	Male	Female
Public	570,590	56%	44%
NPs	218,471	55%	45%
KSTVET	3,491	43%	57%
TVCs	241,606	56%	44%
VTCs	107,022	58%	42%
Private	44,226	40%	60%
TVCs	37,030	38%	62%
VTCs	7,196	52%	48%
Overall	614,816	55%	45%

The analysis of gender distribution across institutions revealed an overall male majority (55% male, 45% female) largely influenced by public institutions which mirror this trend. In contrast, private institutions exhibited overall female majority (60% female, 40% male), likely attributable to the nature of programs they offer that attract a higher proportion of female trainees. Within the public, most institutions show male dominance, except for Technical Trainer College (TTC) which had a notable female majority (57% female). Public Vocational Training Centres (VTCs) display the highest male proportion (58%). In the private sector, Private Technical and Vocational Colleges (TVCs) are predominantly female (62% female), further underscoring the influence of their program offerings on gender composition, while Private VTCs present a more balanced, though slightly male, distribution

6.2.1 Enrolment

The enrolment data from Kenya's TVET institutions provides insights into gender and programs distribution across various institutional categories. This information is essential for monitoring access and equity in STEM and non-STEM fields; informing policy implementation; allocation of capitation funds; and equipping institutions based on demand. Table 40 presents disaggregated enrolment figures by gender and courses type (STEM and non-STEM).

Table 40: Overall Enrolment in the TVET institutions

Category/ Type	Male STEM	Female STEM	M:F	Male non STEM	Female non STEM	M:F	Total STEM	Total Non STEM	STEM:Non STEM
Public	297004	205411	13:9	21644	46531	1:2	502415	68175	59:8
NPs	109450	74702	3:2	10756	23563	1:2	184152	34319	43:8
TTC	1266	1569	4:5	229	427	1:2	2835	656	13:3
TVCs	124742	84345	3:2	10531	21988	1:2	209087	32519	45:7
VTCs	61546	44795	11:8	128	553	1:4	106341	681	937:6
Private	11916	17893	2:3	5726	8691	2:3	29809	14417	2:1
TVCs	8621	14919	4:7	5301	8189	2:3	23540	13490	7:4
VTCs	3295	2974	10:9	425	502	6:7	6269	927	27:4
Overall	308920	223304	11:8	27370	55222	1:2	532224	82592	58:9

Public institutions hosted most TVET trainees, with the majority in STEM, reflecting a STEM to non-STEM ratio of 59:8. National Polytechnics reported a high STEM enrolment with a 3:2 male-to-female ratio, a trend observed in public TVCs. Public VTCs were highly skewed, with a STEM to non-STEM ratio of 937:6. In TTC female dominated both STEM and non-STEM courses. This clearly indicates that there was male dominance of STEM courses and female dominance of non-STEM courses in all public institutions except in TTC.

Private TVET institutions exhibited a more balanced gender representation, especially in STEM courses, where the male-to-female ratio stands at 2:3, indicating a higher proportion of female participation compared to public institutions. The overall STEM to non-STEM ratio in private institutions was 2:1. Private TVCs contribute significantly to this trend, with the majority of their trainees enrolled in STEM courses. Similarly, private VTCs report high STEM enrolment and near gender parity in both STEM and non-STEM programmes.

Overall, STEM programmes account for the majority of total TVET enrolment, yielding an overall STEM to non-STEM ratio of 58:9. This reflects a strong national focus on STEM, largely driven by public institutions. Male trainees dominate STEM fields with a male-to-female ratio of 11:8, while non-STEM programmes are female-dominated, with a ratio of 1:2

6.3 Graduation

Table 41 presents graduation data compiled from all types and categories of training institutions. The data is disaggregated by gender and course classification specifically distinguishing between STEM and non-STEM programs. The figures represent the proportional distribution of graduates by gender within each course classification, rather than the overall graduation rates across the institutions.

Table 41: Graduation Rates by Gender in STEM and Non-STEM Programs

Type/Category	Male STEM	Female STEM	% of Overall STEM	Male non- STEM	Female non- STEM	% Overall non- STEM
Public	51%	36%	87%	5%	7%	13%
NPs	42%	40%	82%	5%	13%	18%
TTC	36%	47%	82%	6%	12%	18%

TVCs	52%	30%	82%	9%	9%	18%
VTCs	59%	40%	99%	0%	1%	1%
Private	28%	41%	68%	13%	18%	32%
TVCs	24%	41%	65%	14%	21%	35%
VTCs	43%	41%	84%	7%	9%	16%
Grand Total	48%	37%	85%	6%	9%	15%

These findings indicated a clear dominance of STEM programs, which accounted for 85% of all graduates across institutions. Within STEM fields, male graduates represent 48% and females 37%, highlighting a gender imbalance that persists across both public and private training institutions. Non-STEM programs comprise only 15% of total graduates, with female graduates (9%) slightly outnumbering males (6%). Public institutions were particularly STEM focused, with STEM graduates making up as much as 99% in some categories, while non-STEM graduation remains negligible. In contrast, private institutions demonstrate greater diversity, with non-STEM programs accounting for 32% of their graduates and a more balanced gender distribution. These trends point to systemic gender disparities and an institutional emphasis on STEM.

6.4 Dropouts

Dropouts refer to trainees who exit training institutions before undertaking the final summative assessment. Dropout rates serve as a vital metric for identifying inefficiencies and wastage within the Technical and Vocational Education and Training (TVET) system. Monitoring and analyzing dropout data is essential for shaping responsive policies and reforms aimed at improving retention and completion rates. Kenya Vision 2030 underscores the need for a well-trained, globally competitive workforce a goal that cannot be realized without addressing the underlying causes of dropouts. Understanding dropout trends enables institutions to design targeted interventions to enhance the efficiency and equity of the training system. Table 42 presents the 2024 dropout rates in TVET institutions, disaggregated by gender and course classification.

Table 42: Dropouts Rates in TVET Institutions

Type/Category	Male STEM	Female STEM	Overall STEM	Male non-STEM	Female non-STEM	Overall non-STEM	Overall rate
Public	6.44%	6.77%	6.57%	3.81%	3.20%	3.39%	6.19%
NPs	2.89%	2.83%	2.86%	3.11%	2.76%	2.87%	2.86%
TTC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TVCs	4.48%	4.81%	4.61%	4.56%	3.17%	3.62%	4.48%
VTCs	16.87%	17.24%	17.02%	7.81%	25.68%	22.32%	17.06%
Private	12.83%	9.94%	11.09%	8.23%	6.62%	7.26%	9.84%
TVCs	12.40%	9.93%	10.84%	8.07%	6.69%	7.23%	9.52%
VTCs	13.96%	9.95%	12.06%	10.12%	5.38%	7.55%	11.48%
Overall	6.69%	7.02%	6.83%	4.74%	3.74%	4.07%	6.46%

Trainees' dropout is a persistent and concerning issue within education systems, particularly in technical and vocational institutions, where learners are often preparing for critical roles in the labor market. This study reveals that dropout rates are significantly higher in STEM programs compared to non-STEM, with the highest dropout rate observed in public Vocational Training Centers (VTCs) where female non-STEM students have a staggering 25.68% dropout rate. In contrast, institutions like

Technical Trainer College Training (TTCs) report a 0% dropout rate, suggesting strong retention. Furthermore, private institutions show higher dropout rates in STEM programs especially among male trainees. These findings underscore the multifaceted nature of the dropout problem and highlight the urgent need for targeted, data-informed interventions to improve retention and ensure educational equity and effectiveness

6.5 Comparison of Enrolment, Graduation, Dropouts

Graduation of trainees upon course completion is a key performance indicator for assessing the effectiveness of TVET training in Kenya. Table 43 presents data on enrollment, graduation and dropout rates across various TVET institutions in Kenya for the year 2024. It provides insights into the number of students who enrolled, those who successfully completed their training and graduated, and those who dropped out before completion.

Table 43: Comparison of Enrolment, Graduation, Dropouts

Type/Category	Enrolment	Graduands	Dropouts
Public	570590	140210(25%)	35337(6%)
NPs	218471	37857(17%)	6257(3%)
TTC	3491	2573(74%)	0(0%)
TVCs	241606	56177(23%)	10825(4%)
VTCs	107022	43603(41%)	18255(17%)
Private	44226	22557(51%)	4353(10%)
TVCs	37030	18435(50%)	3527(10%)
VTCs	7196	4122(57%)	826((11%)
Grand Total	614816	162767(26%)	39690(6%)

In 2024, the overall proportion of graduates across all TVET institutions was 26%. Public institutions recorded a graduation rate of 25%, while private institutions had a higher rate of 51%. Among public institutions, TTC recorded the highest graduation rate at 74%. NPs, TVCs, and VTCs recorded lower graduation rates of 17%, 23%, and 41% respectively. The overall dropout rate across TVET institutions was 6%. TTCs reported no dropouts. NPs and public TVCs had low dropout rates of 3% and 4% respectively. In contrast, public VTCs recorded a dropout rate of 17%. Private TVCs and VTCs recorded dropout rates of 10% and 11% respectively. These findings suggest that TTC was performing well in both graduation and retention. Other institutions, especially VTCs, may require additional support to improve completion and reduce dropout rates.

6.6 Staffing

The qualifications of trainers are vital for ensuring effective delivery of quality training. The effectiveness of TVET institutions in achieving their mandate is largely dependent on the qualifications, competencies, and distribution of trainers across all levels. According to the TQF and the TVET Act Cap 210A, trainers are expected to possess a qualification that is at least one level above the courses they instruct. This requirement is essential to ensure that trainers have both the technical expertise and pedagogical grounding necessary for effective delivery.

6.6.1 Trainer Qualification

The analysis of national staffing data provides a snapshot of the qualification levels across all the TVET institutions categories and types. The trainer qualifications in TVET institutions are as shown in Table 44.

Table 44: Trainer Qualifications in TVET Institutions

Type/Category	No	Below	Craft	Diploma	HND	Bachelor	Masters	PhD	
	Details	Craft							
Public	19901	1.54%	7.64%	5.14%	26.11%	5.52%	45.57%	7.47%	1.02%
NPs	5865	0.24%	0.31%	0.73%	17.99%	5.59%	65.01%	9.50%	0.63%
TTC	120	0.00%	0.00%	0.00%	2.50%	4.17%	53.33%	35.83%	4.17%
TVCs	9160	2.37%	0.88%	1.59%	24.05%	6.75%	53.25%	9.36%	1.75%
VTCs	4756	1.60%	29.88%	17.51%	40.69%	3.11%	6.60%	0.61%	0.00%
Private	2596	1.96%	5.89%	4.31%	24.92%	6.70%	42.95%	11.36%	1.89%
TVCs	2261	2.17%	2.79%	3.54%	24.10%	7.16%	45.69%	12.56%	1.99%
VTCs	335	0.60%	26.87%	9.55%	30.45%	3.58%	24.48%	3.28%	1.19%
Overall	22497	1.59%	7.44%	5.04%	25.97%	5.66%	45.27%	7.92%	1.12%

The findings showed that most TVET institutions complied with TQF requirement of trainers having a craft certificate and above qualification, with a national dominance of bachelor’s degree holders (45.27%). Public TVET institutions reflected this pattern, especially NPs, 65.01% with bachelor’s and 9.50% with Masters degree. Public TVCs also perform well, with 53.25% of trainers holding Bachelor’s degrees and 9.36% with Master’s. However, VTCs, particularly public ones, present a weaker profile. A significant proportion of trainers in public VTCs had craft (29.88%) and 17.51% with diploma qualifications, with very few at bachelor’s or above, revealing a training quality gap that requires targeted upskilling. Private institutions broadly mirrored public trends but had a slightly higher proportion of trainers with master’s and PhD qualifications. Notably, private TVCs showed strong trainer profiles, while private VTCs show some improvement over their public counterparts. These disparities underscore the need for focused investment in trainer development, especially in VTCs, to ensure policy compliance and quality assurance.

6.6.2 Trainer Gender Distribution in STEM and Non-STEM

Gender inclusivity plays a vital role in the recruitment of trainers within TVET institutions in Kenya. Achieving balanced gender representation among institutional staff is essential for challenging and breaking down persistent gender stereotypes, especially in traditionally male- or female-dominated training areas. Promoting gender equity among trainers not only fosters fairness but also helps create a more inclusive, supportive, and diverse learning environment that are key to improving learner engagement and retention. Table 45 presents the gender distribution of trainers across STEM and non-STEM programs in all categories of TVET institutions.

Table 45: Trainer Distribution in STEM and non-STEM

Type/Category	Male STEM	Female STEM	Male non-STEM	Female non-STEM	Overall STEM	Overall non-STEM
Public	61%	39%	50%	50%	83%	17%

NPs	61%	39%	53%	47%	76%	24%
TTC	60%	40%	24%	76%	69%	31%
TVCs	62%	38%	48%	52%	79%	21%
VTCs	58%	42%	44%	56%	99%	1%
Private	54%	46%	61%	39%	69%	31%
TVCs	54%	46%	61%	39%	66%	34%
VTCs	54%	46%	66%	34%	88%	12%
Grand Total	60%	40%	52%	48%	81%	19%

The proportion of male trainers in STEM programs was higher than that of female trainers across all categories of TVET institutions. In non-STEM programs, the proportion of female trainers was higher in all public institutions except in National Polytechnics. In private institutions, however, male non-STEM trainers outnumbered their female counterparts in both Technical and Vocational Colleges (TVCs) and Vocational Training Centres (VTCs). Overall, gender disparity was more pronounced among STEM trainers (60% male, 40% female) compared to non-STEM trainers (52% male, 48% female). Despite the predominance of male trainers in both STEM and Non-STEM programs, the gender distribution complied with the constitutional two-thirds gender rule.

6.6.3 Trainer to Trainee Ratio in STEM and Non-STEM

A low trainer to trainee ratio is crucial for effective learning. The revised TVET regulatory standard TVETS 04 2023, prescribes a ratio of 1:20 for STEM programmes and 1:30 for non-STEM programmes. This ratio is to ensure effective learning and allows trainers to provide adequate attention and support to each trainee, which is crucial for skill development and quality education. Lower trainer to trainee ratios could enhance personalized instruction and hands-on training allowing for more individualized attention and better learning outcomes. Table 46 shows trainer to trainee ratios in the various categories of TVET Institutions.

Table 46: Trainer to Trainee Ratio in STEM and Non-STEM

Type/Category	STEM Staffing	STEM Enrolment	STEM Trainer: Trainee Ratio	Non-STEM Staffing	Non-STEM Enrolment	Non-STEM Trainer: Trainee Ratio
Public	16474	502415	1: 30	3427	68175	1: 20
NPs	4465	184152	1: 41	1400	34319	1: 25
TTC	83	2835	1: 34	37	656	1: 18
TVCs	7227	209087	1: 29	1933	32519	1: 17
VTCs	4699	106341	1: 23	57	681	1: 12
Private	1782	29809	1: 17	814	14417	1: 18
TVCs	1488	23540	1: 16	773	13490	1: 17

VTCs	294	6269	1: 21	41	927	1: 23
Grand Total	18256	532224	1: 29	4241	82592	1: 19

All public TVET institutions reported a higher trainer-to-trainee ratio in STEM programs than the recommended 1:20, suggesting a shortage of qualified staff in these programs, which also have the highest trainee enrollment. In contrast, private institutions had an adequate number of STEM trainers. Additionally, both public and private TVET institutions had sufficient staffing for non-STEM programs. These findings highlight the need for public TVET institutions to recruit more qualified STEM trainers to address the staffing gap and enhance the quality of training.

6.6.4 Trainers Employment Category

The Government of Kenya is responsible for employing and deploying trainers across all public TVET institutions. In cases where there are staffing gaps, individual public institutions may also hire trainers on Council or Board terms to address the shortages. Conversely, private institutions recruit their trainers based on terms set by their respective boards of management. Table 47 provides a summary of the employment categories of trainers within TVET institutions.

Table 47: Trainer Employment Category in TVET Institutions

Type/Category	% of PSC	% of BOG
Public	63%	37%
NPs	61%	39%
TTC	100%	0%
TVCs	66%	34%
VTCs	59%	41%
Private	0%	100%
TVCs	0%	100%
VTCs	0%	100%
Overall	56%	44%

All public institutions had trainers employed through both the Public Service Commission (PSC) and the respective institutional governing Councils or Boards. On average, 57% of trainers in public institutions were employed by the PSC, while 43% were engaged directly by the institutions' boards or councils. The substantial reliance on board-appointed trainers highlights a significant shortage of trainers within public institutions.

6.6.5 PWDs Trainers

The proportion of PWD trainers who were employed in 2024 in the various categories of TVET institutions is presented in Table 48.

Table 48: PWD trainers in TVET Institutions

Category/Type	Total Trainers	Trainers with Disability	% PWDs 2024	% PWDs 2023
Public	19804	421	2.13%	0.85%
NPs	5865	55	0.94%	0.49%
KSTVET	120	5	4.17%	0%

TVCs	9160	221	2.41%	0.80%
VTCs	4756	140	2.94%	1.26%
Private	2596	11	0.42%	0.32%
TVCs	2261	9	0.40%	0.15%
VTCs	335	2	0.60%	1.82%
Overall	22497	432	1.92%	0.80%

The public TVET institutions employed a higher proportion of PWD trainers than the private institutions. The proportion of PWD trainers employed in public TVET institutions ranged from 0.94% in the NPs to 4.17% in KSTVET, with a mean proportion of 2.13%. The proportion in private institutions ranged from 0.4% in the TVCs to 0.6% in the VTCs, with a mean proportion of 0.42%. The overall mean proportion of PWD trainers employed by the TVET institutions registered a significant increase from 0.80% in 2023 to 1.92% in 2024. Despite this increase, there is still need for increased advocacy to progressively employ more PWD trainers in the TVET institutions to achieve the recommended proportion of 5% by Persons with Disability Act, 2015 and hence conform to the statutory requirements.

6.7 PWDs Trainees

The gaps in access and inclusion to education and training are evident in the data from institutions. Generally, the government and non-state actors have put in place intervention to enhance PWD inclusion in TVET though access still remain below the recommended Kenyan legal requirement of 5%. Table 49 present proportion of PWD trainees in the TVET institutions in Kenya.

Table 49: PWD Trainees in TVET Institutions

Type/Category	Total Enrolment	Trainees With Disability	% PWDs 2024	% PWDs 2023
Public	570590	2830	0.50%	0.56%
NPs	218471	396	0.18%	0.15%
KSTVET	3491	10	0.29%	0.26%
TVCs	241606	1564	0.65%	0.79%
VTCs	107022	860	0.80%	0.66%
Private	44226	296	0.67%	0.25%
TVCs	37030	254	0.69%	0.23%
VTCs	7196	42	0.58%	0.37%
Overall	614816	3126	0.51%	0.54%

The public VTCs were more inclusive with enrolment at 0.80% PWDs. This could be attributed to their widespread distribution in all the rural and urban areas and hence attracting improved access, flexible entry criteria, and community-based support for PWDs. The proportion of enrolment of PWD in the Public TVCs was at 0.65% while that for the NPs was 0.18%. Among the private institutions, the TVCs were more inclusive at 0.69% than the VTCs where the proportion of trainees with PWDs was 0.58.

The overall proportion showed that the proportion of enrolment of trainees with disabilities increased in private institutions from 0.25% in 2023 to 0.67% in 2024, that for public institutions reduced from 0.56% to 0.50% respectively. This change resulted in a reduction in the overall proportion of trainees

with disabilities from 0.54% to 0.51%. This proportion was significantly lower than the legally recommended ratio of 5%, which may be attributed to resource constraints.

CONCLUSIONS

The 2024 TVET Annual Returns Report provides a comprehensive overview of Kenya's TVET subsector, highlighting key trends in enrollment, graduation, dropout rates, trainer qualifications, and inclusion of PWDs across NPs, KS-TVET, TVCs, and VTCs. The report, based on data from 1,238 institutions (representing 46% of accredited institutions), underscores both commendable progress and persistent structural and operational challenges.

Enrollment in TVET institutions increased by 15.5% from 2023, reaching 614,816 trainees in 2024. STEM programs continued to dominate with a 58:9 STEM-to-non-STEM enrolment ratio, aligning with national industrialization, innovation, and economic transformation agendas. However, gender disparities remain pronounced, with a male-to-female ratio of 11:8 in STEM courses and a reverse ratio of 1:2 in non-STEM, calling for deliberate efforts to promote gender inclusivity, particularly in STEM fields.

Graduation outcomes remain suboptimal, averaging 26% nationally, with KS-TVET posting the highest graduation rate at 74%. Dropout rates were most pronounced in public VTCs, peaking at 17%, pointing to underlying inefficiencies such as affordability challenges, lack of learner support systems, or mismatches between training and labor market needs. These findings call for targeted interventions to improve retention and successful program completion.

The quality of training is supported by generally strong trainer qualifications, with 45.27% of trainers holding bachelor's degrees. However, the presence of trainers below the minimum craft certificate level, particularly in public VTCs, is a concern that undermines training standards and contravenes the Trainer Qualification Framework. Trainer-to-trainee ratios remain above recommended thresholds in many public institutions, particularly in STEM programs, indicating an urgent need for increased recruitment of qualified trainers to uphold quality and learning outcomes.

The report revealed continued underrepresentation of Persons with Disabilities. PWD trainees comprised only 2.03% of total enrollment below both the national average of 2.2% and the 5% statutory requirement under the Persons with Disabilities Act, 2015. While PWD trainer employment improved to 1.92%, it still falls significantly short of the mandated target, highlighting the need for stronger policy enforcement and institutional support for inclusive education and employment.

Lastly, the report identifies key compliance and governance gaps, with only 46% of institutions submitting annual returns and over half operating with expired licenses. This significantly limits the comprehensiveness and reliability of national data, weakening evidence-based decision-making, planning, and policy formulation. There is a pressing need for empowering the TVET Authority to strengthen enforcement mechanisms, enhance institutional sensitization, and streamline data collection through robust digital systems.

In conclusion, the 2024 Annual Returns Report affirms the expanding role of TVET in national development but emphasizes the urgency of addressing systemic inefficiencies, ensuring full compliance, and fostering inclusive, high-quality, and equitable training for all. Sustained investment,

policy alignment, and collaborative action will be critical to building a future-ready TVET system that delivers on its promise of skills for employability and socioeconomic transformation.

Recommendations

Based on the findings of the 2024 TVET Annual Returns, the following recommendations are proposed to address identified challenges and enhance the effectiveness of Kenya's TVET subsector:

- i. **Enhance Institutional Compliance:** The TVET Authority should intensify sensitization efforts and enforce Section 41 of the TVET Act Cap 210A to ensure all accredited institutions submit annual returns. Developing a simplified, user-friendly online data collection tool and conducting regular follow-ups will improve compliance rates, particularly among private institutions and those with expired licenses, to support robust data-driven decision-making.
- ii. **Increase Recruitment of Qualified STEM Trainers:** Public TVET institutions, particularly National Polytechnics (NPs) and Vocational Training Centres (VTCs), should prioritize hiring additional qualified trainers to address the high trainer-to-trainee ratios in STEM programs (e.g., 1:41 in NPs). This will align with the recommended 1:20 ratio, enhancing training quality and hands-on learning.
- iii. **Improve PWD Inclusion:** Institutions should implement affirmative action to increase the enrollment of Persons with Disabilities (PWDs), currently at 2.03% against a 5% target, by improving accessibility infrastructure (e.g., ramps, adaptive tools) and conducting outreach campaigns. Similarly, hiring more PWD trainers (currently 1.92%) through targeted recruitment policies will align with the Persons with Disabilities Act, 2015.
- iv. **Address Dropout Rates:** Targeted interventions, such as enhanced student support services, financial aid, and curriculum alignment with industry needs, should be implemented to reduce dropout rates, particularly in public VTCs (17%) and STEM programs. A comprehensive study to identify dropout causes will inform evidence-based retention strategies.
- v. **Strengthen Trainer Qualifications:** The Authority should enforce the Trainer Qualification Framework, ensuring all trainers, especially in VTCs where 29.68% hold below-craft qualifications, upgrade to at least a craft certificate. Continuous professional development, including pedagogical training, will enhance training delivery across all institutions.
- vi. **Promote Gender Equity:** Institutions should address gender disparities in STEM enrollment (11:8 male-to-female ratio) and trainer distribution (60% male in STEM) through mentorship programs and campaigns to encourage female participation in STEM fields, fostering inclusivity and breaking gender stereotypes.
- vii. **Optimize Resource Allocation:** Public institutions should balance the reliance on board-employed trainers (43% in public TVETs) by advocating for increased Public Service Commission (PSC) hiring to reduce financial strain and ensure sustainable operations, particularly in NPs and TVCs.

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