

Factbook Education System: Kenya

CES Chair of Education Systems

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List of Abbreviations

CBC	Competency Based Curriculum
CBET	Competency Based Education and Training
CDACC	Curriculum Development, Assessment and Certification Council
CES	Chair of Education Systems
CUE	Commission for University Education
DHS	Demographic and Health Survey
FPE	Free Primary Education Intervention
GCI	Global Competitiveness Index
GER	Gross Enrolment Rate
GII	Global Innovation Index
GDP	Gross Domestic Product
HDI	Human Development Index
ILO	International Labour Organization
ISCED	International Standard Classification of Education
IT	Institute of Technology
KCSE	Kenya Certificate of Secondary Education
KCPE	Kenya Certificate of Primary Education
KES	Kenyan Shilling
KICD	Kenya Institute of Curriculum Development
KOF	Swiss Economic Institute
KTTC	Kenya Technical Trainer College
MoE	Ministry of Education
MPI	Multidimensional Poverty Index
NEET	Neither in Employment nor in Education and Training
NER	Net Enrolment Rate
NGO	Non-Governmental Organizations

NP	National Polytechnic
OECD	Organisation for Economic Co-Operation and Development
PET	Professional Education and Training
SAGA	State Corporation or Semi-Autonomous Agency
SSA	Sub-Sahara Africa
SSAC	Sector Skills Advisory Committee
STEM	Science, Technology, Engineering and Maths
TCAE	Teacher Certificate in Adult Education
TET	Technical Education and Training
ToT	Trainer of Trainers
TSC	Teachers Service Commission
TTI	Technical Training Institution
TVET	Technical and Vocational Education and Training
TVETA	Technical and Vocational Education and Training Authority
UIL	UNESCO Institute for Lifelong Learning
UIS	UNESCO Institute for Statistics
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNEVOC	International Centre for Technical and Vocational Education and Training
USD	US-Dollar
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
VTC	Vocational Training Centre
WEF	World Economic Forum
WGI	World Bank's Worldwide Governance Indicators
YLMI	Youth Labour Market Index

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Foreword

The increasing competitiveness of the world economy as well as the high youth unemployment rates after the worldwide economic crises in 2008/9 have put pressure on countries to upgrade the skills of their workforces. Consequently, vocational education and training (VET) has received growing attention in recent years, especially amongst policy-makers. For example, the European Commission defined common objectives and an action plan for the development of VET systems in European countries in the Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for 2011-2020 (European Commission, 2010). In addition, a growing number of US states and other industrialized, transition, and developing countries (for example Hong Kong, Singapore, Chile, Costa Rica, Benin and Nepal) are interested in either implementing VET systems or making their VET system more labour-market oriented.

The appealing outcome of the VET system is that it improves the transition of young people into the labour market by simultaneously providing work experience, remuneration and formal education degrees at the secondary education level. If the VET system is optimally designed, VET providers are in constant dialogue with the demand-side of the labour market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labour market. Besides practical skills, VET systems also foster soft-skills such as emotional intelligence, reliability, accuracy, precision, and responsibility, which are important attributes for success in the labour market. Depending on the design and permeability of the education system, VET may also provide access to tertiary level education (according to the ISCED classification): either general education at the tertiary A level or professional education and training (PET) at the tertiary B level. PET provides occupation-specific qualifications that prepare students for highly technical and managerial positions. VET and PET systems are often referred to together as “vocational and professional education training (VPET)” systems.

Few countries have elaborated and efficient VPET systems. Among these is the Swiss VPET system, which is an example of an education system that successfully matches market supply and demand. The Swiss VPET system efficiently introduces adolescents to the labour market, as shown by Switzerland’s 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017).

Though not many countries have VPET systems that are comparable to Switzerland’s in terms of quality, efficiency and permeability, many have education pathways that involve some kind of practical or school-based vocational education. The purpose of the CES Education System Factbook Series¹ is to provide information about the education systems of countries across the world, with a special focus on vocational and professional education and training.

In the CES Factbook Education Systems: Kenya, we describe Kenya’s vocational system and discuss the characteristics that are crucial to the functioning of the system. Essential components comprise the regulatory framework and the governance of the VPET system, the involved actors, and their competencies and duties. The Factbook also provides information regarding the financing of the system and describes the process of curriculum development and the involved actors.

The Factbook is structured as follows: First, we provide an overview of Kenya’s economy, labour market, and political system. The second part is dedicated to the description of the formal education system.

¹ From 2013 to 2019, the Factbooks were produced within the framework of the Education Systems research division at the KOF Swiss Economic Institute. From 2020 they will be produced by the Chair of Education Systems (CES) group.

The third section explains Kenya's vocational education system. The last section offers a perspective on Kenya's recent VPET education reforms and challenges to be faced in the future.

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The Education System Factbooks have to be regarded as work in progress. The authors do not claim completeness of the information which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!

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1. Kenya's Economy and Political System

One of the main purposes of an educational system is to provide the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors in determining the current and future demand for skills. Therefore, these are briefly described in the first chapter of this factbook. Additionally, this chapter provides an overview of Kenya's political system with an emphasis on the description of the educational politics. Table 1 reports key statistics and information about Kenya that are further discussed in this chapter.

Table 1: Key Statistics and Information on Kenya

Category	Outcome
Population	53,771,000 (in 2020)
Area	591,958 m ²
Location	Eastern Africa
Capital City	Nairobi
Government	Presidential republic
Official Language	English and Kiswahili (official); numerous indigenous languages
National Currency	Kenyan shilling (KES)

Source: own table based on United Nations Statistics Division (2020) and Encyclopaedia Britannica (2020)

1.1 Kenya's Economy

In a Sub-Saharan Africa (SSA) comparison of economic strength, the Republic of Kenya's economy ranks in the middle of the field. According to the World Bank, in 2019 Kenya's **gross domestic product** (GDP) per capita was approximately US\$1,816. This value is slightly higher than the average GDP per capita of all SSA countries, which was US\$1,596 in 2019. Compared to its neighbours,² Ethiopia (US\$855), Tanzania (US\$1,122) and Uganda (US\$794), Kenya has the highest GDP per capita (World Bank, 2021a). Compared to the average GDP among OECD member states (US\$39,482 in 2019), Kenya's value is relatively small (World Bank, 2021a). Between 1990 and 2019, the **annual GDP growth rate** of Kenya averaged 3.89%. This rate is smaller compared to its neighbours Ethiopia (6.85%), Tanzania (5.31%) and Uganda (6.48%) but is nevertheless higher than the SSA average of 3.54% and the relative number for OECD member states, which is 2.12%.

Despite its strong economic position in Eastern Africa, like the majority of African countries, Kenya is still considered a developing country. Kenya's **Human Development Index** (HDI) value of 0.601 for 2019 places the country in the medium human development category (UNDP, 2020, p. 2). Kenya is the

² When comparing Kenya economically to its neighbours, the comparison is only made with Ethiopia, Tanzania and Uganda.

The persistent level of state fragility due to the ongoing civil wars in Somalia and South Sudan (see CSP, 2020) makes a comparison with these two countries less relevant because of the different economic and social challenges faced.

only country in Eastern Africa to reach this level instead of low human development, which its surrounding countries are declared to have (UNDP, 2020, pp. 241–244).

To acquire a better understanding of Kenya’s level of development, it is worth examining the **Multidimensional Poverty Index** (MPI). The MPI provides a more profound understanding of the sources of poverty. It reflects the intensity of deprivation and the proportion of people who live under deprivation (head count ratio) in education, health and living standards. The smaller the value, the more developed is the country (OPHI, 2020a). In the last evaluation (2014), Kenya’s MPI value was 0.178 and thereby smaller than the corresponding values for Ethiopia (0.489 in 2016), Tanzania (0.273 in 2015–16) and Uganda (0.269 in 2016). Kenya moreover exhibits smaller values for every indicator that the MPI calculates (for details, see Table 2).

Table 2: Head Count Ratio of Multidimensional Poverty Index in Kenya and Neighbouring Countries

Dimension	Indicators	Kenya	Ethiopia	Tanzania	Uganda
Health (deprivation in percent)	Nutrients	22.8	52.2	28.9	30.8
	Child mortality	3.8	5.6	5.8	5.3
Education (deprivation in percent)	Years of schooling	10.3	52.5	12.2	22.6
	School attendance	5.3	33.9	25.5	13.8
Living Standards (deprivation in percent)	Cooking fuel	37.8	82.7	55.3	54.8
	Sanitation	33.9	80.4	52.1	48.7
	Water	27.4	60.6	42.3	40.7
	Electricity	35.8	74.4	53.6	48.6
	Flooring and roofing	38.6	82.9	46.3	47.9
	Assets	20.2	66.1	25.8	26.1
MPI		0.178 DHS (2014)	0.489 DHS (2016)	0.273 DHS (2015/16)	0.269 DHS (2016)

Source: own table based on OPHI (2020b)

In 2015, Kenya's Gini coefficient was 40.8, which was comparable to Uganda’s (42.8 in 2016) and Tanzania’s (40.8 in 2017). Ethiopia’s Gini coefficient (35 in 2015) was noticeably lower. Kenya’s score was a bit above the average of all countries in the sample, which was 38.8, which places Kenya in the lower midfield range. The **Gini Index** measures the inequality of the distribution of income or consumption expenditures among individuals or households. In this numerical measure, a value of 0 means completely equal distribution, and a value of 100 corresponds to extreme inequality in which a single person owns everything (World Bank, 2021b).

Table 3 summarises the value added and employment by sector for Kenya and the average of SSA countries in 2019. Examining the **added value** in both SSA countries and Kenya, the tertiary sector is the largest. In Kenya, it is approximately 43%, while in SSA countries, it is something less than one-half of the output. However, the numbers differ markedly in the first two sectors. The primary sector, with an added value of 34%, is more than double the size of the primary sector in SSA countries (14%). Additionally, the added value in the secondary sector is larger in SSA countries compared to Kenya (27% to

16%). To summarise, Kenya's primary sector is larger than the primary sector in the average SSA country, and the secondary and tertiary sectors are smaller than the SSA average.

Table 3: Value Added and Employment by Sector, 2019

Sector	Kenya: Value Added (%) ³	SSA Countries: Value Added (%) ³	Kenya: Employment (%) ⁴	SSA Countries: Employment (%)
Primary Sector	34.1	14.0	54.3	52.9
Secondary Sector	16.1	27.1	6.2	10.7
of which: Manufacturing	7.5	11.0	n/a	n/a
Tertiary Sector	43.2	48.8	39.4	36.4

Source: own table based on World Bank (2021c)

The picture is different when considering the **employment shares by sector** in the different sectors. In both Kenya and the average SSA countries, more than one-half of the workers are employed in the primary sector. The second highest share is in the tertiary sector, where 39% (Kenya) and 36% (SSA countries) of the working force is employed. The secondary sector employs the smallest portion of the workforce. Notably, the numbers of the employment shares by sector in Kenya and the average SSA country are more similar than the added values. The share of the labour force in the various sectors is an important indicator when examining educational systems.

Figure 1 presents Kenya's development of employment by sector as a percentage of total employment from 1991 until 2019. The share of the workforce in the primary sector in 2019 was higher than in 1991. This is the result of a significant increase in the primary sector labour force between 2000 and 2007. Since 2007, the share in the first sector has declined each year. However, even in 2019, the share of the labour force in the first sector was still approximately 10% higher than in 1991. An opposite trend can be observed in the third sector, where the share declined between 2000 and approximately 2005 from just over 40% to just over 30% but then increased again to approximately 40% in 2009. The share of the workforce in the second sector has steadily declined from approximately 16% in 1991 to just over 6% in 2019.

According to the World Economic Forum's (WEF) **Global Competitiveness Index 4.0** (GCI) rankings from 2019, Kenya ranked 95 of 141 countries, which was a slight decrease from the 93rd rank in the 2018 report. With a general score of 54.1 of 100, Kenya placed in the top one-third of SSA countries, 20 places ahead of Uganda, 22 places ahead of Tanzania and 31 places ahead of Ethiopia (Schwab, 2019, p. xiii). Kenya's rank being slightly higher than the SSA countries average and the lower-middle-income group average can be explained through its relatively satisfactory rankings in business dynamism (51st), institutions (68th), market size (72nd), financial system (78th) and labour market (79th). However, the country lacks in health topics (116th), ICT-adoption (116th), infrastructure (110th) and economic stability (100th) (Schwab, 2019, p. 334).

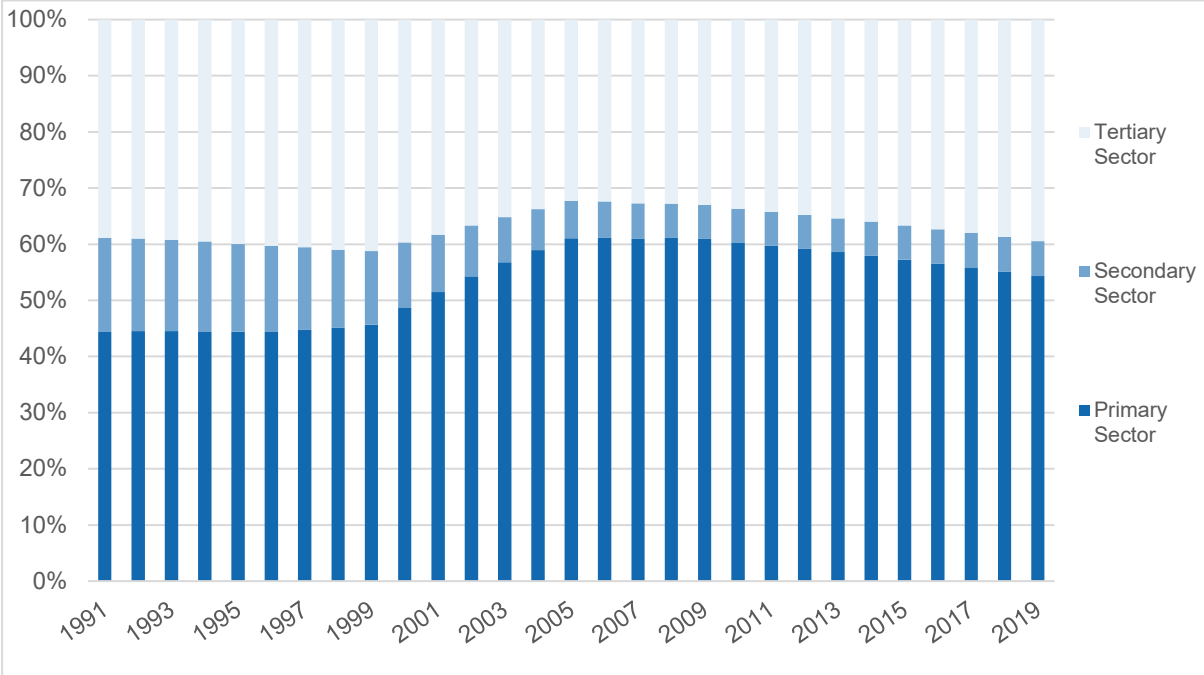
In the **Global Innovation Index** (GII) rankings of 2020, Kenya ranked 86 of 131 (Dutta et al., 2020, pp. xxxii–xxxiii). It scored 10th in the subgroup of the lower-middle-income economies and 2nd for the SSA countries, lagging behind South Africa (Dutta et al., 2020, pp. xxi–xxii). Kenya's current ranking as an

³ In the majority of developing countries, frequent censuses and surveys of industry and businesses are not the norm. Due to this irregularity, a significant portion of economic activity is unreported and therefore unrecorded, including work that women and children perform for little or no pay, work of the self-employed, one-person businesses and large businesses or corporations that operate in the informal sector. Such activities must often be estimated, utilising techniques that are not that accurate. This makes it difficult to obtain coherent numbers. This might be a reason for numbers that do not total 100%.

⁴ Due to rounding differences, the sum of all sectors falls below 100%.

innovation leader among SSA countries can be explained through its strong position in market and business sophistication (57th and 68th, respectively) as well as its technology and knowledge output (70th). However, Kenya falls behind in infrastructural innovation (114th) and human and capital research (110th).

Figure 1: Employment by Sector (as a percentage of total employment), 1991–2019



Source: own figure based on World Bank (2021d).

In conclusion, Kenya is a lower-middle-income country among SSA countries. It has a strong economic position in the region, with an overall performance that surpasses its neighbouring countries in Eastern Africa. Its added value comes mainly from the primary and tertiary sectors, whereas more than one-half of its labour force is occupied in the tertiary sector. In the GCI and the GII, Kenya is ranked in the top quarter overall, meaning that it performs better than the majority of SSA countries. The reports accentuate Kenya’s strong economic institutions and innovation on the one hand, and a shortcoming in ICT adoption, infrastructure and human as well as capital research on the other hand.

1.2 The Labour Market

In the first part of this section, we describe the general situation of Kenya’s labour market. In the second part, we focus specifically on the youth labour market.

1.2.1 Overview of the Kenyan Labour Market

In 2014, 82.73% of the labour force was occupied in the **informal sector**. This number had increased exponentially since 1985, when only 17.41% of the labour force was occupied in the less regulated informal sector (Kimenyi et al., 2016, pp. 126–128). This makes it difficult to rely on official statistics.

Basic labour rights in Kenya are guaranteed in the Constitution. There are general rights and freedoms that are relevant for the protection of the labour force, such as the prohibition of inhumane treatment (Art. 74) or the anti-discriminatory provision (Art. 82 [3]). Additionally, there are also **articles explicitly guaranteeing labour-related rights to workers**, such as Article 80, in which the freedom of association is guaranteed. This article also regulates in detail the procedure for the registration and association of trade unions as well as restrictions (Art. 80 [2]). Although the right to strike is not explicitly listed in the Constitution, there are nevertheless notes in it that authorise activities to protect the interests of workers

(ILO, 2011). Unions must represent a simple majority of the employees in a firm to be recognised as bargaining agents. The provisions extend to public and private sector employees. For members of the police force, the prison service and the armed forces, the formation of a union is not allowed. Furthermore, these state employees are denied the right to strike (U.S. Department of State, 2017, p. 42).

The unions are allowed to undertake their activities without government interference. According to the U.S. Department of State's Country Reports on Human Rights Practises, the Kenyan government generally respects this right (U.S. Department of State, 2017, p. 43). The government supports a strengthened labour dispute system but is inconsistent in enforcing it. Current issues related to **inconsistent enforcement or law protection** include the position of migrant workers, who often lack formal organisation, and the misuse of internships and other forms of transitional employment, such as when employers do not hire employees after an internship ends. There has also been a visible increase in **casual or contract labour** instead of permanent positions. This tendency can be seen primarily in the agricultural or manufacturing sector, but it has also been observed in the public sector, where state agencies outsource jobs to the private sector (U.S. Department of State, 2017, p. 44).

Although the Constitution prohibits forced labour and slavery (Art. 73), **forced labour** occurs in Kenya (ILO, 2011; U.S. Department of State, 2017, p. 45). The country made moderate advances to prevent or eliminate forced labour by introducing programmes that design economic opportunities for poor households and support orphans or vulnerable children to allow them to remain in school. The criticism is that resources, inspections and remediation are not adequate to prevent forced labour, and penalties are not sufficient to deter violations. Forced labour significantly affects migrant workers from neighbouring countries; additionally, the government prosecuted 50 cases of forced labour in 2016 (U.S. Department of State, 2017, p. 45).

Kenya requires a minimum age of 16 to work and a minimum age of 18 for hazardous work. Nevertheless, **child labour** is widespread in Kenya. According to national data from 2009, almost 33% of all children between ages 5 and 14 were engaged in child labour (U.S. Department of State, 2017, p. 47). The **minimum wage** for general labour in Kenya was KES10,954 (approx. US\$100) per month in 2016. The minimum wage for skilled workers was KES17,404 (US\$170) per month and KES6,780 (US\$68) per month for agricultural workers. A normal workweek was 52 hours (U.S. Department of State, 2017, p. 49).

Table 4 presents the **labour force participation rate** and the **unemployment rate** by age in Kenya and the OECD. In both the average OECD country and Kenya, the youth labour market participation, at 45% to 50%, is lower than total labour market participation, at 70% to 75%. Despite these similar levels, unemployment rates vary widely. Kenya has lower rates of both youth and total unemployment than the OECD average. However, the concept of unemployment can only be compared to a limited extent between high- and low-income countries. According to the definition of unemployment from the International Labour Organization (ILO), people need to spend an entire week doing no work to be registered as unemployed (Fields, 2012, p. 5). This is possible in high-income countries that have well-developed social security systems. However, in less developed countries where social security barely exists, people are often in the position that they have to work to be able to cover basic needs. Many people in these countries cannot afford to spend a week without working. They often have no choice but to take low-quality jobs that are poorly paid or below their skill level rather than rely on social security systems and spend time off the labour market to find a job that matches their skill level. The lack of opportunity to spend time out of the labour force lowers the unemployment rate in these countries. Ultimately, the inability to compare the low wage rates in Kenya with the OECD means that the table should be interpreted with caution (Fields, 2012, p. 5; Kudrzycki et al., 2020, p. 1).

Table 4: Labour Force Participation Rate and Unemployment Rate by Age, 2016

Age Group	Labour Force Participation Rate (%)		Unemployment Rate (%)	
	Kenya	OECD average	Kenya	OECD average
Total (15–64 years)	74.8	71.8	2.9	6.6
Youth (15–24 years)	45.1	47.4	7.4	13.3
Adults (25–64 years)	25–54 years: 92.1 55–64 years: 90.4	77.5	25–54 years: 1.9 55–64 years: 0.2	5.7

Source: own table based on ILO (2020a, 2020b) and OECD (2021)

Table 5 displays the labour force participation rate and the unemployment rate by educational attainment for Kenya and the OECD. Here the numbers for the average OECD country and Kenya deviate. In Kenya, the labour force participation rate is the highest for those who have less than upper secondary education and lowest for those who have completed tertiary education, whereas the opposite is true in the OECD. This reversal of rankings can also be seen in the unemployment rate: in Kenya, the rate is the lowest for those with less than upper secondary education, and in the OECD average, the rate is the lowest for those who have completed tertiary education.

Table 5: Labour Force Participation Rate and Unemployment Rate by Education, 2016

Education Level	Labour Force Participation Rate		Unemployment Rate	
	Kenya	OECD average	Kenya	OECD average
Less than Upper Secondary	79.1	57.0	1.6	11.8
Upper Secondary	70.9	74.8	4.2	7.0
Tertiary	69.1	84.3	7.8	4.6

Source: own table based on OECD (2020a, 2020b) and ILO (2020c, 2020d)

1.2.2 The Youth Labour Index for Low Income Countries

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI) to compare the youth labour market situation across countries (Renold et al., 2014). The foundation for this index is the critique that a single indicator, such as the widely used youth unemployment rate, does not suffice to describe the youth labour market situation adequately nor provide enough information for a comprehensive cross-country analysis.

Building on KOF Youth Labour Market, which primarily relies on high-income country data, Kudrzycki et al. (2020) proposed an **index for lower-middle and low-income countries**. This index, which is the first to combine indicators specifically tailored to the realities of low-income countries, provides an assessment of individual countries' progress in addressing the needs of young workers. The YLMI helps to make a complex and multidimensional phenomenon more tractable by generating country-specific rankings that allow for comparisons across countries (for an overview of the different dimensions and indicators, see the information box to the right).

To construct the index, **12 youth-specific labour market indicators** were selected from three broad dimensions that best reflect the situation of the youth in the labour market: transition from education to the labour market, working conditions in the labour market, and educational background. The indicators were obtained from three reputable compilers of international data: the ILO, UNESCO and the Demographic and Health Surveys. The index score is calculated as the arithmetic mean of the three dimensions and is scaled to vary from 0 (dysfunctional youth labour market) to 100 (functioning youth labour market).

The transition dimension reflects the **quantity of employment** for youth and encompasses (1) the share of youth not in employment, education or training (NEET), which captures the share of inactive youth, (2) the relative unemployment ratio, which measure the degree to which unemployment affects young people more than adults and (3) the skills mismatch rate, which shows whether unemployment disproportionately affects those with high or low education.

The working condition dimension captures the **quality of employment** and contains six indicators. The youth working poverty rate measures the proportion of working youth in poverty. The youth underemployment rate measures the share of employed youths who are willing to increase their workload. The informal employment rate captures the share of young people employed without contracts and/or social security. The vulnerable employment rate measures the share of own account workers and contributing family workers. The share of workers in elementary occupations measures the proportion of young workers in low-skilled basic tasks, which may require great physical effort and can carry a high risk of injury. Finally, the share of workers in agriculture complements the previous indicator, as jobs in agriculture are generally low-paid and labour-intensive.

Finally, the education dimension captures the **skill level of youth** and comprises (1) the proportion of youth with no secondary education, (2) the proportion of illiterate youth, and (3) a measure of schooling quality in the form of harmonized test scores.

Dimensions and indicators of the YLILI
Transition - Share of youth not in education, employment, or training (NEET rate) - Relative unemployment ratio - Youth skills mismatch rate
Working conditions - Youth working poverty rate - Youth time-related underemployment rate - Share of youth in informal employment - Youth Vulnerable employment rate - Share of youth in elementary occupations - Share of youth in agriculture, fishery, or forestry
Education - Share of youth with no secondary education - Youth illiteracy rate - Harmonized test scores
Source: Kudrzycki et al. (2020)

1.2.3 The YLILI for Kenya

For Kenya, data completeness was not provided. Of 12 indicators to calculate, reliable data was available for only seven. To compute the index, there must be data for a minimum of two indicators in the transition and education dimensions and three indicators in the working conditions dimension. For the transition dimension (quantity of employment), two of three indicators were available; for working conditions (quality of employment), two of six were available; for education (skill level of youth), three of three were available. Therefore, it was not possible to calculate the score for the working conditions dimension, and therefore, the YLILI score could not be utilised to compare the summarised indicators of Kenya's youth labour market to other countries (Kudrzycki et al., 2020). Nevertheless, there are results for the transition and education sections.

Kenya obtained a score of 72.54 for transition and 62.42 for education. These scores correspond to the 48th rank for transition (of 58) and the 16th rank for education (of 62) (Kudrzycki et al., 2020, pp. 17–18).⁵ The results suggest that Kenya's quantity of employment is relatively low compared to other SSA countries (for a comparison, Tanzania scored 9th in this subcategory). However, Kenya scored relatively high on education. The results are not perfectly consistent since the year of data obtainment varies. Data for Kenya was from 2014, 2016 and 2018 (Kudrzycki et al., 2020, pp. 37–38).

In summary, Kenya seems to have a relatively low quality of transition, meaning that many people experience inactivity. However, the nation is relatively strong in education, indicating a high general skill level of youth. Nothing can be said about working conditions due to missing data.

⁵ For the YLILI ranking, 82 lower-middle- and low-income countries were analysed. Only 48 of those were ranked, as the remaining 34 countries, including Kenya, had insufficient data available. The restriction limits not only the total score but also the scores for the subcategories (transition, working conditions and education). Therefore, the number of countries also varies for these subscores.

1.3 Kenya's Political System

Understanding the basics of a country's political system and learning the political goals regarding its educational system are crucial points for comprehending the educational system in a broader sense. Therefore, in Section 1.3.1, we start by presenting Kenya's named political system generally. Then, in Section 1.3.2, we focus on the politics and goals of the educational system.

1.3.1 Overview of the Kenyan Political System

Kenya gained its **independence from Great Britain** in December 1963, shortly after the majority of its neighbouring countries had gained their independence. Under its first Constitution, the prime minister as the head of the cabinet was chosen by a bicameral national assembly (Hongo Ominde et al., 2020). In the following autonomous general election, the Kenya African National Union (KANU) won against the Kenya African Democratic Union. Additionally, KANU, in the following year, provided the first Black prime minister, Jomo Kenyatta. Shortly after the election, the KANU-led government changed the political system from the Westminster model (parliamentarian system), which was introduced upon independence, to a **presidential system** (Nyadera et al., 2020, pp. 1–3).

The presidential system remained in place for more than four decades before a coalition government was formed after the 2007 elections. In the presidential system, the government gradually awarded itself extensive rights, such as detaining persons without trials or dismissing at will the attorney general and senior judges (Hongo Ominde et al., 2020). These extensive rights of the president were strengthened most notably during the tenure of long-time president Daniel Moi, who led the country between 1978 and 2002. In his role, the president had power over budget questions, the parliament and the judiciary. The system was highly centralised, with little independence for local governmental authorities and even less participation opportunities for citizens (Nyadera et al., 2020, p. 3). From 1969 (de facto) or 1982 (de jure) until 1992, Kenya was effectively a one-party system with KANU as the ruling party (Embassy of the Republic of Kenya in Japan, n. d.).

In 2013, Kenya's **new Constitution** came into force and was expected to produce democratisation in the country. Primarily, the Constitution was designed to remove power from the government and strengthen the role of the parliament as well as the independence of the courts. Furthermore, the electoral system was renewed and the military forces, the police and the intelligence agencies were newly regulated by the Constitution (Nyadera et al., 2020, p. 4). After a short period (from 2007 to 2013) in which the country had a prime minister, the new Constitution reinstalled the presidential system. To become president, a candidate must cross the 50% threshold of votes in the first round of an election and have support of at least 25% in more one-than half of the 47 regions (counties). In 2020, the president was Uhuru Kenyatta of the Jubilee Party (*The Economist*, 2020). In 1991, Kenya had previously introduced a new multiparty system. In the 2017 election, no party gained a majority of seats in the parliament, the National Assembly (lower house, 349 seats) or the Senate (upper house, 67 seats) (*The Economist*, 2020). The bicameral system represents the semi-federal system in which the Senate represents the 47 counties and links the county governments to the central government. Semi-federal refers to the federal structure of the system but considers that the majority of the key functions of the state remain at the national level (Nyadera et al., 2020, p. 9).

Reforms in recent years, notably the enforcement of the new Constitution, have brought the country from being labelled 'not free' in the 1990s to 'partly free' in 2020 according to the **Freedom House Index** rating (Freedom House, 2021; Nyadera et al., 2020, p. 12). According to **World Bank's Worldwide Governance Indicators (WGI)**, Kenya primarily progressed in the categories 'Rule of Law' and 'Control of Corruption'. In the first category, Kenya was ranked in the bottom 20% of all countries in 1996. The ranking has recently improved to the bottom 40% of countries (scoring 35.8% in 2019). In 'Control of Corruption', the country reached 24.5%, still belonging to the bottom one-quarter of all countries but reaching the highest value since the beginning of measurement in 1996 (Kaufmann et al., 2010; World Bank, 2020a).

The positive development is also supported by data from the **Corruption Perceptions Index** in which Kenya ranked 146 of 180 in 2009 and 124 of 180 in 2020 (Transparency International, 2021). In the other WGI, 'Voice and Accountability', 'Government Effectiveness' and 'Regulatory Quality', Kenya has not seen major shifts since 2002, ranking in the bottom quarter among the countries. In the final indicators, 'Political Stability' and 'Absence of Violence/Terrorism', Kenya's rankings have barely improved, hovering between 10% and 20% with no apparent trend toward improvement (World Bank, 2020a). In the **Economist's 2020 Democracy Index**, Kenya ranked 95 of 167 countries (*The Economist*, 2021).

1.3.2 Politics and Goals of the Education System

According to the Kenyan Constitution, the **responsibility for education** and training is shared between the national government and the regional (county) governments. The national government is responsible for educational policy, standards, curriculum, examinations, university charters, universities, tertiary educational institutions, institutions of research, higher learning, primary schools, special education, secondary schools, special education institutions as well as sports education. The county governments are responsible for pre-primary education, village polytechnics, home-craft centres, farmers' training centres and childcare facilities (MoE, 2016).

The Kenyan government has continued to invest heavily in formal education. The share of GDP flowing into education almost tripled from 1980–1981 (5.1% of GDP) to 2008–2009 (15% of GDP). This **share of GDP expenditure for education** is high compared to other SSA countries (Ojiamb, 2009). The major aim of the investment in education is the promotion of equity, economic growth and social progress. Therefore, the government implemented multiple educational policy reforms in recent decades. Positive results of those reforms include the establishment of responsive policy and legal frameworks; substantial investments by the government as well as private and international donors; a rapid increase in the number of learning institutions; high student enrolment and the production of professionals. Critics of the reforms find the current approach to be materialistic, examination centred and rigid in its objectives and curricula. Moreover, they claim the system lacks a focus on collective effort or social responsibility and it fails to eliminate economic, regional and gender disparities (Ojiambo, 2018, pp. 164–166). According to Abagi and Ogachi (2014), the future challenges in the Kenyan educational system are the creation of equal access to schooling, the installation and promotion of national development and the transformation of norms and values.

The **current political challenges** in Kenya's educational systems relate, above all else, to inequalities in access to education. An example of this inequality is the female literacy rate, which ranged from 90% in urban areas, such as Nairobi, to below 10% in poorer northern areas, such as Mandera, Turkana and Wajir counties (Fomiškina et al., 2021, p. 131). The 2014 National Education Sector Plan from the Ministry of Education (MoE) therefore highlights regional disparities as a key area to improve in the educational system. Other predominant challenges are the disparity of school funding across the country and insufficient infrastructure. These issues have intensified in the past decade because of increased enrolment numbers in primary and secondary schools. With the free primary education intervention (FPE) in 2003 and the free day secondary education programme in 2008, the enrolment rates and the transition rate from primary to secondary school rose significantly. This has not been matched with staffing in infrastructure, leading to overcrowded classrooms in poor rural and suburban regions (Fomiškina et al., 2021, pp. 130–131).

2. Formal System of Education

2.1 Formal System of Education

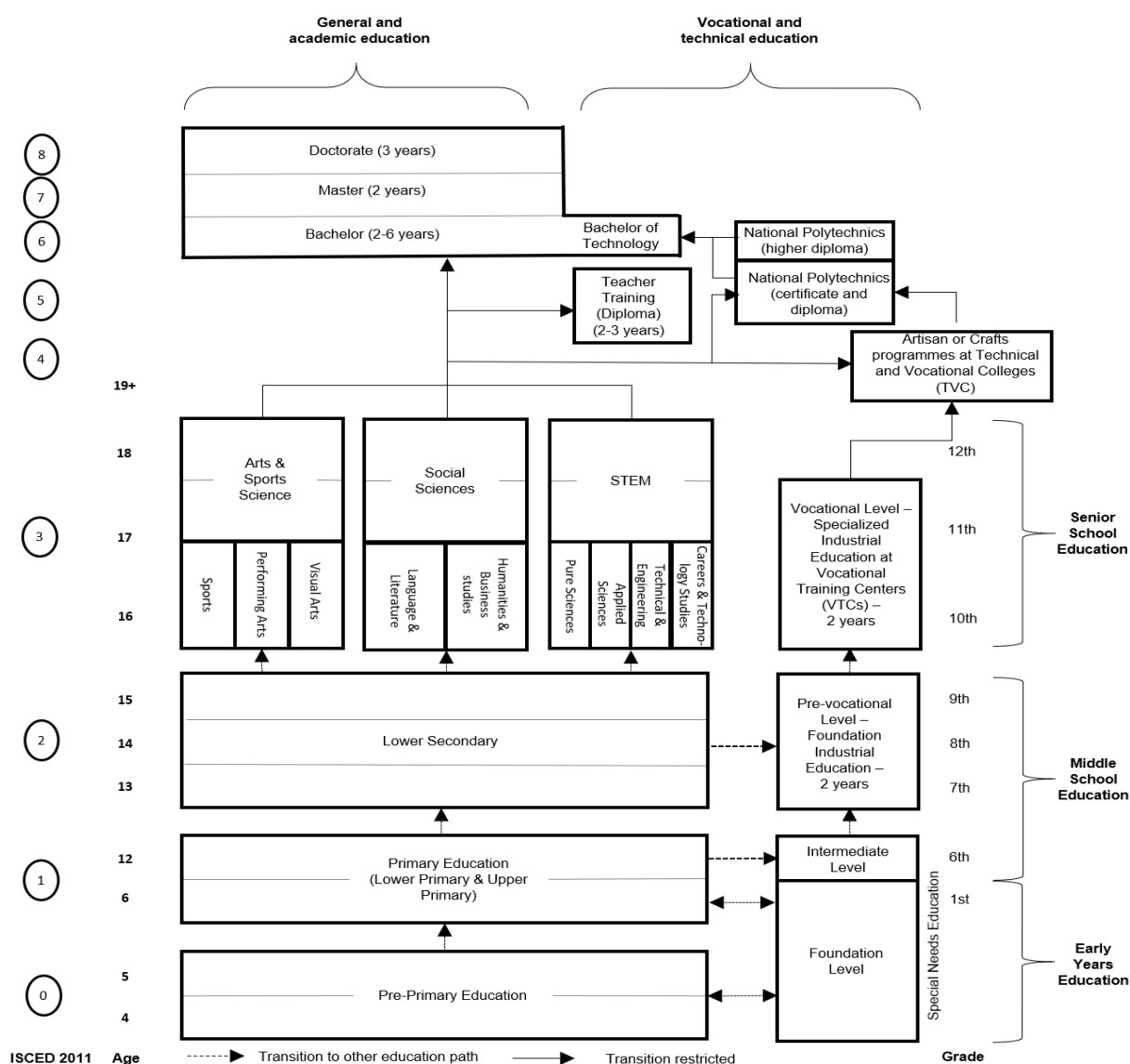
The provision of education in Kenya is, at all levels, a partnership between the government, communities, the private sector and civil society (religious organisations and NGOs). The formal system is entirely managed by the **MoE**. It organises formal education through a network that extends from the MoE's headquarters to the provinces, districts, divisions and zones (International Bureau of Education, 2010, p. 4). It has the main jurisdiction for monitoring educational policies and is directly responsible for implementing educational policies and teacher training (Kiru, 2018, p. 1). There are four state departments within the MoE that are responsible for different educational levels. **The State Department for Early Learning and Basic Education** is responsible for pre-primary, primary, secondary and teacher education; the **State Department for Vocational Education and Technical Training** is responsible for promoting technical and vocational education and training (TVET); the **State Department for University Education and Research** is responsible for university education, research, science and technology and the **State Department for Post Training and Skills Development** is responsible for facilitating connections among the government, academia and industries for the development of industry-relevant skills. Furthermore, there are several semi-autonomous government agencies within the State Departments and the Teachers Service Commission (TSC) that autonomously regulate and manage the teaching service in Kenya (KICD, 2021, p. 1).

Kenya is in the process of implementing a new curriculum. This **competency-based curriculum (CBC)** is designed as a 2-6-6-3 system (sometimes also called 2-6-3-3-3 system) that will replace the 32-year-old 8-4-4 system (eight years of primary education, four years of secondary education and four years of higher education). The **new 2-6-6-3 system** is characterised by (i) two years of pre-primary school, (ii) six years of primary school, (iii) three years of junior secondary high (lower secondary) school and (iv) three years of senior secondary high (higher secondary) school (Fomiškina et al., 2021, pp. 132–133; M'mboga Akala, 2021, pp. 1–3). Basic education will be organised into three levels: early years education, which includes two years of pre-primary school and three years of lower primary school education; middle school education, which includes three years of upper primary and three years of lower secondary education and several years of senior school, which includes three years of upper secondary education. Universities typically require three additional years for a bachelor's degree (KICD, 2017a). The curriculum reform was launched in 2017 and is expected to be fully implemented by 2028 (Fomiškina et al., 2021, p. 132). Figure 2 portrays Kenya's educational system after the latest curriculum reform.

The **national goals of Kenyan education** are (1) to foster nationalism and patriotism as well as promote national unity, (2) to promote social, economic, technological and industrial needs for national development, (3) to promote individual development and self-fulfilment, (4) to promote sound moral and religious values, (5) to promote social equity and responsibility, (6) to promote respect for and development of Kenya's cultures, (7) to promote international consciousness and foster positive attitudes toward other nations and (8) to promote positive attitudes toward satisfactory health and environmental protection (KICD, 2017a, pp. 11–12).

In addition to the regular basic school programme, the framework provides **programmes for persons with different educational needs**, which includes learners with impairments, physical disabilities, mild cerebral palsy, learning disabilities, mental disabilities, emotional and behavioural difficulties or communication disorders as well as gifted and talented children. The first groups follow the typical curriculum with adaptations. If learners cannot follow the curriculum, then the focus lies on enabling those children to live independently. For the second group, which contains gifted or talented children, the curriculum is enriched so they can be fully engaged and empowered (Njeng'ere & Ji, 2017, p. 15).

Figure 2: Map of Kenya's Educational System, 2020



Source: own figure based on Kenya Institute of Curriculum Development (KICD, 2017a), TVETA (2020), UNESCO (2016) and UNEVOC (2018)

Table 6 presents Kenya's **gross enrolment rate (GER)**⁶ and the **net enrolment rate (NER)**⁷ by educational level. The NER quantifies the total number of students in the theoretical age group for a specific educational level. The total number enrolled at that level is expressed as a percentage of the total population of that age group. The GER quantifies the number of students enrolled at a specific educational level—irrespective of age—as a percentage of the official school-age population that corresponds to the same level of education. For example, for the primary educational level, the NER indicates how many students at the typical primary school age are actually enrolled in primary school, while the GER places the actual number of students in primary education—irrespective of age—in relation to those who are in the official age range to receive primary education.⁸

⁶ The UNESCO Institute for Statistics (2021a) defines the GER as the 'number of students enrolled in a given level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to the same level of education'.

⁷ The UNESCO Institute for Statistics (2021b) defines the NER as the 'total number of students in the theoretical age group for a given level of education enrolled in that level, expressed as a percentage of the total population in that age group'.

⁸ A GER of 100 corresponds to a situation in which each child in a specific country is enrolled in the corresponding educational level. A value above 100 could occur due to students who are older than the typical enrolment age for primary education (e.g.,

Table 6: NER and GER, Latest Numbers Available

Educational Level	ISCED 2011	Net Enrolment Rate (%)	Gross Enrolment Rate (%)	Enrolled in Private Institutions (%)
Pre-Primary Education ⁹	020	78.4 (2018)	77.2 (2018) 109.4 (2019)	37.7 (2009)
Primary Education	1	92.5 (2018)	104.0 (2018) 99.6 (2019)	16.0 (2014)
Secondary Education	2–3	53.3 (2018)	70.3 (2018) 71.2 (2019)	12.7 (2009)
<i>Lower Secondary Education</i>	2	98.2 (2009)	92.6 (2016)	14.0 (2016)
<i>Upper Secondary Education</i>	3	68.9 (2009)	42.1 (2009)	12.0 (2009)
<i>Percentage Enrolled in Vocational Secondary Education</i>	2–3	0.5		
Compulsory Education	1–3	n/a	n/a	n/a
Postsecondary Non-Tertiary Education	4	n/a	7.1 (2016)	34.8 (2016)
Tertiary Education	5–8	n/a	11.4 (2016)	14.4 (2016)
<i>Short-Cycle Tertiary Education</i>	5	n/a	n/a	n/a
<i>Bachelor or Equivalent Level</i>	6	n/a	n/a	n/a
<i>Master or Equivalent Level</i>	7	n/a	n/a	n/a
<i>Doctoral or Equivalent Level</i>	8	n/a	n/a	n/a

Source: own table based on KICD (2016, 2021) and World Bank (2020b)¹⁰

Kenya's educational system has undergone major changes in recent decades. Responsive policy and legal frameworks were established, investments were intensified and enrolment rates were fostered. Today, Kenya's educational system is more professional and inclusive than in the past. Nevertheless, the system is still criticised as being examination centred, materialistic, less focussed on collective efforts and social responsibility, rigid in its objectives and curricula and riddled with economic, regional, and gender disparities (Ojiambo, 2018, p. 166). The country now hopes to overcome the deficiencies in the educational system with the upcoming educational reform.

repeated grades or adult learners). A value below 100 implies that not everyone who is in the typical age for primary education is actually enrolled.

⁹ In the 2018 school year, the 2-6-6-3 CBC educational system was introduced in pre-primary schools. Therefore, pre-primary as part of basic education has been made compulsory. This may explain the jump in the GER from 2018 to 2019 at the pre-primary level (NER was not available for 2019).

¹⁰ Due to incomplete data, data was compiled from several sources. Data from 2009 and 2016 is from the World Bank Databank (World Bank, 2020b), and data from 2014, 2018 and 2019 is from the *Kenyan Basic Education Statistical Booklet* (versions 2014 and 2019) (KICD, 2016, 2021).

2.2 Pre-Primary Education

Pre-primary education in Kenya consists of two years of schooling. The Basic Education Act of 2013 operationalises the Constitution by providing access to free and compulsory quality basic education, which includes pre-primary education, for all children (State Department for Early Learning and Basic Education, 2017, pp. 5–6). The curriculum design is divided into two levels: Level I (Pre-Primary 1) for children age 4 and Level II (Pre-Primary 2) for children age 5. In both years, the curriculum prescribes 25 hours per week (KICD, 2017b, 2017c) of schooling. Subjects include language activities, mathematical activities, environmental activities, psychomotor and creative activities as well as religious education activities (Christian, Islamic, Hindu) (KICD, 2017a, p. 30).

According to the Kenya Institute of Curriculum Development (KICD, 2021), the NER for pre-primary education was 77.2% in 2018, whereas the GER was 77.2% in 2018 and 109.4%¹¹ in 2019. These numbers are considerably higher than the rates in the two preceding decades. In 2009, according to the World Bank (2020b), the GER was 49.8%, which was up from the 2005 rate of 46.2%; in 1999, the rate was only 40.8%. The rise in the GER from 2018 to 2019 in pre-primary may be explained by the establishment of the new 2-6-6-3 CBC educational system that was introduced for pre-primary in 2018. Pre-primary school, as part of basic education, has been made compulsory and free.

The 2010 Kenyan Constitution assigned the function of pre-primary and childcare facilities to the counties and therewith to the subnational governments, who are now responsible for the management and coordination of the pre-primary curriculum. Pre-primary education is performed by public and private actors, such as local communities, religious organisations, local NGOs, private individuals and state agencies. Furthermore, the counties are also responsible to ensure the application of approved pre-primary education curricula and programmes and to enforce regulations (State Department for Early Learning and Basic Education, 2017).

2.3 Primary and Lower Secondary Education

Primary education in Kenya consists of three years of lower primary schooling (Grades 1–3) and three years of upper primary schooling (Grades 4–6). Children are 6 years old when entering primary education and typically exit at the age of 12. Lower secondary education (Grades 7–9) contains three years of schooling. Children enter typically at the age of 12 and finish at the age of 15. The lower primary education and pre-primary education together form early years education, whereas upper primary education together with lower secondary education form middle school education (KICD, 2017a). The curricula prescribe 35 hours per week for lower primary education (Grades 1–3) and 40 hours for upper primary education (Grades 4–6) (KICD, 2017d, 2017e). Primary school and lower secondary school are part of basic education and should therefore be compulsory and free (State Department for Early Learning and Basic Education, 2017, pp. 5–6).

According to the KICD (2021), the NER for primary education was 92.3% in 2018, and the GER was 99.6%. Compared to the numbers from previous years, these values increased. Since 2003, the NER was between 80% and 89%.¹² However, the data jumped from 69.8% in 2002 to 83.3% in 2003. This increase in children attending primary education is explainable through the FPE that the National Rainbow Coalition government introduced in early 2003 (Muyanga et al., 2010, p. 2). Technically, free primary education had already been introduced in Kenya in the late 1970s, but it was abolished in 1988 under the structural adjustment programmes in which parents had to financially contribute more to their children's education by covering expenses for school uniforms or textbooks and building school infrastructure. These costs, before the beginning of 2003, covered approximately 35% of the total cost of

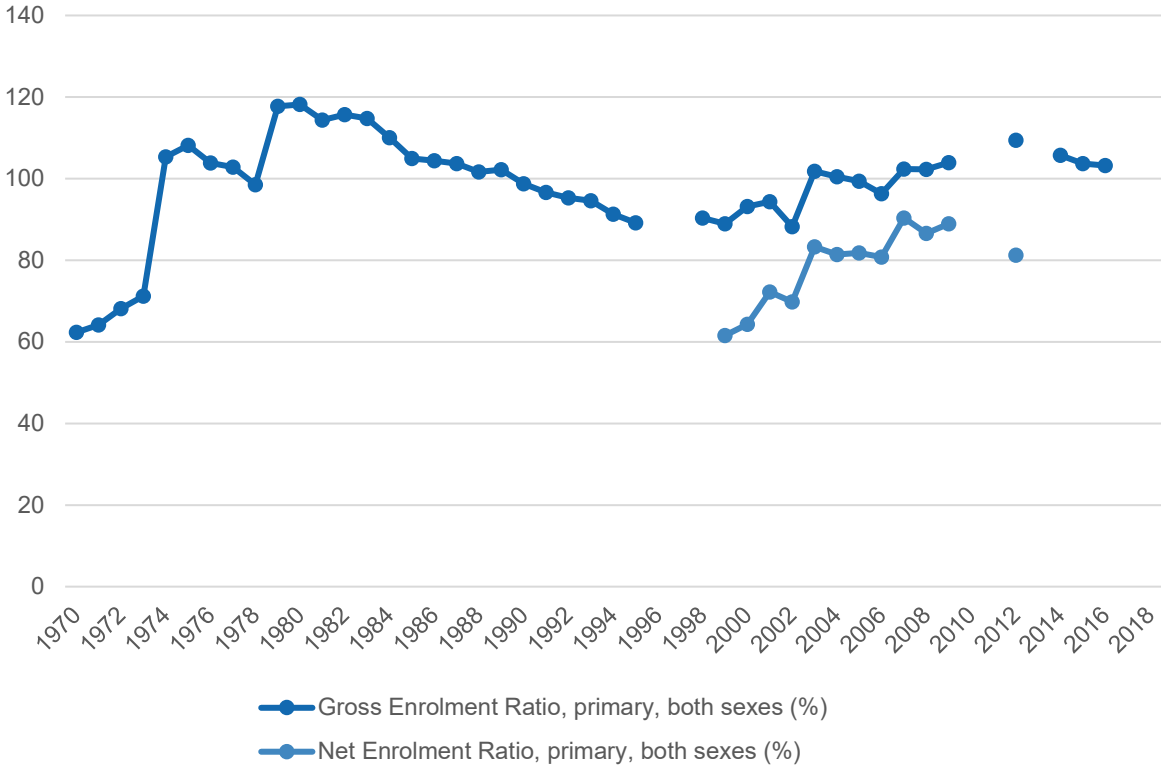
¹¹ The GER exceeding 100% indicates the existence of overaged and underaged children enrolled in primary school due to early or late entrances and grade repetition.

¹² Data is available only through 2014, and data is missing for 2010, 2011 and 2013.

primary school (Muyanga et al., 2010, pp. 1–2). Due to high costs, primary education in Kenya has been characterised by low enrolment, high dropout rates, grade repetitions and poor transitions from primary to secondary school (Muyanga et al., 2010, p. iii). This changed with the introduction of the FPE. In 2008, the Kenyan government also instituted a free secondary education programme. These interventions increased the enrolment rates of primary and secondary schools. Nearly 3 million more students were enrolled in primary school in 2012 than in 2003, and secondary schools' GER increased from 43% to 67% over the same period (Clark, 2015). The share of enrolment in private institutions on the primary level in 2014 was roughly 16%; for lower secondary education, it was 14% (World Bank, 2020b).

Figure 3 illustrates the NER and GER for primary education from 1970 to 2018. Due to a lack of data, the figure has gaps, mainly for the NER, in which no data is available before 1999. Nevertheless, it is visible that enrolment rates have not been static over the past 50 years. Jumps in the GER are observable in the 1970s and again in 2003, when the NER also grew. These changes can be explained through the introduction of free primary education in 1974 for Grades 1–4 (lower primary), in 1978 for Grades 5–7 (upper primary) and, after the reintroduction of primary school fees in 1988, again in 2003 with the FPE (Ohba et al., 2009, p. 8). However, after the introduction of free primary schooling and a rise in enrolment, the rate fell. This phenomenon can be explained by the declining quality of education after increasing enrolments that coincided with overcrowded classrooms and a shortage of qualified teachers as well as textbooks (Abuya et al., 2015, p. 2).

Figure 3: Kenyan Enrolment Rates for Primary Education, 1970–2018



Source: own figure based on World Bank (2020b)¹³

One goal that the Kenyan government wants to reach with the new CBC is a transition rate of 100% from primary to secondary school. Therefore, the Kenya certificate of primary education (KCPE) examination, which has been crucial in the previous examination-oriented approach, has been eliminated in the new system (Fomiškina et al., 2021, p. 138). As of early 2021, it is not yet clear which placement process will follow in 2023 when the first cohort in the new system fulfil their final year of primary school.

¹³ Gaps in the figure are due to missing data.

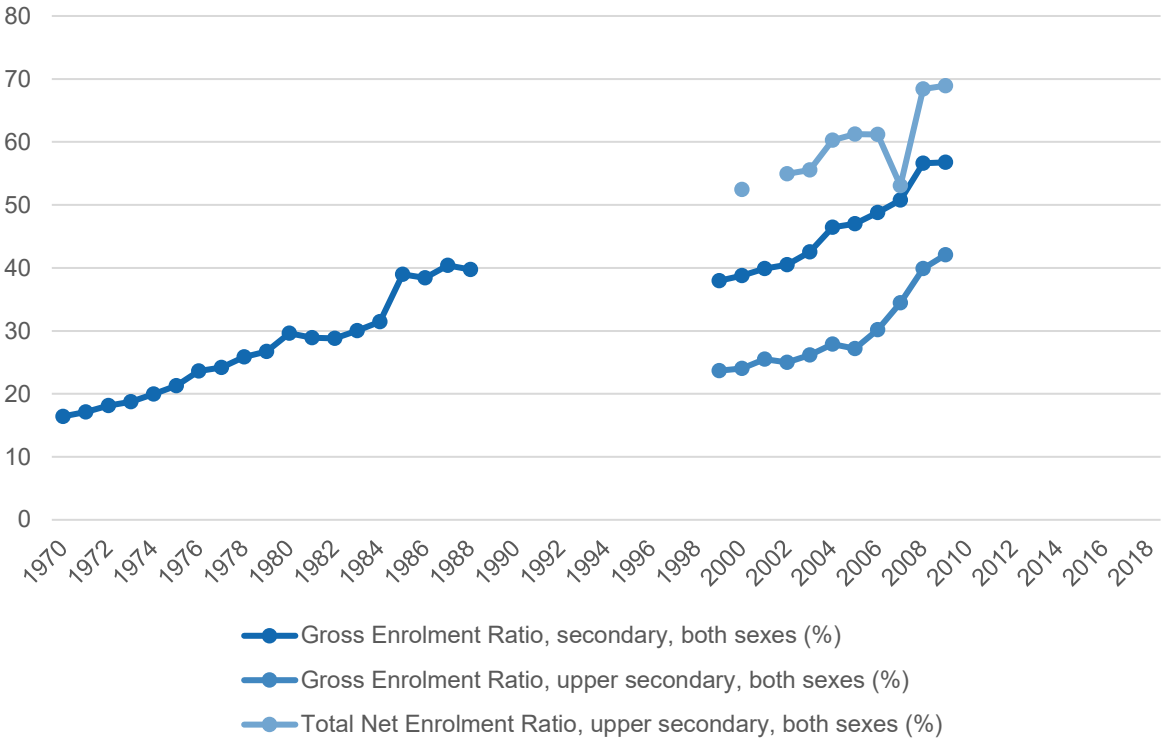
2.4 Upper Secondary Education

Upper secondary education in the Kenyan system forms senior school. In the 2-6-6-3 system, it comprises three years and covers Grades 10 to 12. Generally, students enter at age 15 and finish at age 17. On this level, it is expected that students focus on specialisation within a pathway. Three pathways can be chosen: arts and sports, social sciences or STEM (science, technology, engineering and maths). In this system, students can choose learning areas based on their interests, abilities and aptitudes. Furthermore, students in all three pathways are expected to perform at least 135 hours of community service outside of classroom time in the three years of senior school. This community service is required to apply to higher education and training after completing senior school (Njeng'ere & Ji, 2017, pp. 13–14). Senior school marks the end of basic education.

Currently in Kenya, the 8-4-4 system remains in place. In this system, secondary school consists of four years in which two two-year periods form a unit (lower and upper secondary). At the end of the fourth year, students undergo examinations to acquire the Kenya certificate of secondary education (KCSE) (Clark, 2015). It is not yet clear which placement process will follow in the new system. In the CBC, examinations are intended to be less central.

In 2009, approximately 12% of pupils were enrolled in private schools. Many private schools have religious affiliations and typically offer British or American curriculum (Clark, 2015). In addition to private schools, there also exist *Harambee* schools, which are community-based secondary schools that were introduced in the 1990s because the government could not provide sufficient government-funded schools. Although the schools were intended to receive government assistance for teachers' provisions and learning materials, the support often did not materialise (Hongo Ominde & Ntarangwi, 2020). Harambee schools tend to be less selective than private and public schools regarding examination results (Clark, 2015).

Figure 4: Kenyan Enrolment Rates for Secondary and Upper Secondary Education, 1970–2018



Source: own figure based on World Bank (2020b)¹⁴

¹⁴ Gaps in the figure are due to missing data.

The NER for upper secondary education in 2009 was 68.9%, and the GER was 42.1%. No numbers are available for more recent years. However, the numbers for secondary education, meaning lower and upper secondary education combined, imply that the enrolment rates for upper secondary rose in the past decade. The GER for secondary education in 2009 was 56.8%. It increased slightly through 2014 (58.7%) and then jumped to 71.2% in 2019. Most likely, this development was due to the introduction of free schooling at the secondary level in 2008, which also included upper secondary education and probably influenced the enrolment rates of upper secondary.

Figure 4 portrays the enrolment rates for upper secondary education (NER and GER) and secondary education (GER) based on World Bank data. Since World Bank data is available only through 2009, the numbers for later years that were published by the Kenyan government (see Table 6) are not included. Gaps in the figure are due to missing data. Nevertheless, an increase in enrolment rates over the whole time period is visible.

2.5 Postsecondary and Higher Education

In the previous 8-4-4 system as well as in the new 2-6-6-3 system, students are expected to finish secondary school within 18 years and begin higher education, whether that be TVET, teacher training or university and national polytechnics (NPs). In the 8-4-4 system, bachelor's degrees at universities typically comprise four years, while specific programmes, such as engineering and medicine, require five years; architecture requires six years. Youth polytechnics, artisan and crafts programmes as well as teacher training for pre-primary and primary requires two years, whereas NPs and teacher training for secondary schools take three years. The final assessment is typically based 30% on in-class assessment and 70% on examinations. A master's degree usually takes two years while a doctorate takes another three years (Clark, 2015). However, in the 2-6-6-3 system, university bachelor's degrees require three years, while college bachelor's degrees require two years (GYLA, 2019). The Commission for University Education (CUE) is responsible for coordinating, monitoring and accrediting tertiary educational institutions and curriculum; furthermore, it is a subdivision of the MoE (DAAD, 2020, p. 3)

Kenya has witnessed an expansion in tertiary education since 2010. Between 2011 and 2013, student enrolment increased by 21.3% (Jowi, 2019, p. 2). The increasing demand for tertiary education has been encouraged through the liberalisation of the university sector, which allows universities to diversify their funding streams, as well as the introduction of free primary and secondary education and the removal of hurdles such as stringent entrance examinations (McCowan, 2018). This growth in demand has been met by the state through expansion. In 2013 alone, 14 new public universities were created. This number is additionally impressive considering that in 2005, there were only five public universities in Kenya (DAAD, 2020, p. 2). The GER for tertiary education in Kenya in 2016 was 11.4%, which is substantially higher than the 2009 rate of 4.0%. Private universities are in the minority in Kenya, accounting for approximately 14.4% of all tertiary educational institutions in 2016 (World Bank, 2020b).

University programmes were classified in four levels: bachelor, postgraduate, master and doctoral. Thereby, of a total of 3,408 programmes, 48% were at the bachelor's level (1,627), 34% were at the master's level (1,162), 15% were at the doctoral level (518) and 3% were at the postgraduate level (96). Of the programmes, 81% were offered at state universities, and 19% were available at private universities. The most popular programmes across the levels were humanities and the arts (13.9%), followed by business and administration (11.3%) and life science and physical science programmes as well as agriculture, forestry and fisheries (10.7%). The least prevalent programmes were manufacturing (0.3%), law (0.4%), architecture (0.8%) and veterinary (0.9%) (Mukhwana et al., 2016, pp. 15–33).

Currently, in the 8-4-4 system, students must pass the KCSE to obtain access to tertiary education. The KCSE is a nationwide examination for all students at the end of secondary school. With a minimum

average score of C+ (55–59 of 100 points), students receive access to universities. Admission to a two-year postsecondary technical school with an advanced diploma degree requires a minimum grade of C (50–54 of 100 points) (DAAD, 2020, p. 2). Corruption and insufficient capacity at public universities meant that, for many years, only approximately 50% of students eligible for admission were actually able to attend college. In 2017, Kenya's MoE launched an effective anti-corruption campaign to reduce the number of students admitted to university without passing the examination. Therefore, the total number of secondary school graduates eligible for admission fell. In 2015, according to official figures, approximately one-third of the students passed the examination with a C+. In 2017, this rate was approximately 11% (DAAD, 2020, p. 3). In the new 2-6-6-3 system, the examination remains, but the MoE hopes with forthcoming adaptations to better guarantee the elimination of indiscriminate national examinations and to introduce learner assessments that employ a fairer, personalised scope (GYLA, 2019).

There are upcoming challenges in tertiary-level education in Kenya. Due to the rise in tertiary-level students, public universities suffer from significant overcrowding, insufficient numbers of lecturers and degraded facilities. Private universities that have lower student-to-staff ratios face challenges with lower-quality staff who often work part-time in multiple institutions (McCowan, 2018).

2.6 Continuing Education (Adult Education)

According to the Kenyan Constitution, every citizen has the right to basic education. This also includes adults who were not able to enjoy schooling as children. The Kenya Vision 2030 considers this and the government urges to continue implementing programmes aimed to foster the adult literacy rate (Kenya Vision 2030, 2017; Nyatuka & Ndiku, 2015, p. 52). In 2018, the literacy rate for Kenyans over 15 years of age was 81.5%; of this, the rate for men was 85.0% and 78.2% for women. This is above the SSA countries literacy rate of 65.5% (72.2% for men and 58.9% for women).

The literacy rate has increased in recent years (World Bank, 2021e). Nevertheless, it varies widely across regions. According to a UNESCO report, in 2006, Nairobi's literacy rate was 87.1%, while in the North Eastern Province, the literacy rate was only 8.0%. The cleavage is mainly between rural and urban regions (UNESCO, 2007). This finding is supported by a literacy survey that sought barriers to participating in and completing literacy programmes. According to the survey, a lack of centres nearby was by far the predominant barrier in the country for people who considered themselves to be insufficiently literate but were not participating in the programmes. For people who were leaving the programmes without completing them, a lack of teachers was the major issue by far (UNESCO Institute for Lifelong Learning, 2019, pp. 154–155).

The Directorate of Adult and Continuing Education is responsible for the national coordination of continuing education. On the local level, coordination and financing of adult education is a shared responsibility, and different providers are responsible for financing their own operations. The number of actors in addition to central and local governments makes it difficult to determine the amount of resources spent on adult education.

Providers of adult and continuing education include NGOs, development partners and donors (such as the German Technical Cooperation), UNICEF, UNESCO, the German Adult Education Association, communities and even individuals (Kenya Country Team, 2008, p. 15). The Kenyan government actively involves stakeholders through the establishment of adult and continuing education centres that offer community education programmes in public health and nutrition, cooperative education, financial literacy and digital literacy (UNESCO Institute for Lifelong Learning, 2019, p. 15).

2.7 Teacher Education

Teacher training in Kenya is primarily managed by government-funded teacher training colleges, diploma colleges and universities. There also exist private institutions that provide teacher preparation programmes, which are typically operated by religious organisations and individuals. However, those are not common compared to the governmental institutions. The training is fragmented in three tiers: The first tier involves pre-primary education, the second tier covers primary education and the third tier concerns secondary education. Special, vocational, technical, agricultural, industrial and commercial teacher training exist, but the different tiers (primary and secondary) determine pertinent teacher preparation, curricular needs, and examinations. Curriculum and examinations for certificate and diploma programmes in teacher education (apart from university education) are prepared centrally through the KICD (Ojiambo, 2018, pp. 172–174).

The TSC is responsible for registering all qualified teachers before they are permitted to teach in public or private schools. The respective TSC county directors are responsible to fill vacancies. The 2015 TSC Code of Regulations for Teachers stipulates the terms by which students are permitted to apply for teacher education at different school levels. There are certificate and diploma courses for pre-primary and primary education as well as certificate courses for adult and continuing education (the teacher certificate in adult education). Furthermore, there are diploma courses for special needs education and secondary education. Applicants must have a KCSE. The minimum score required in the final examination differs depending on the school level. For pre-primary teacher training, a D+ (40–44 of 100 points) is required, whereas for primary teacher training, a C (50–54 of 100 points) is necessary and for secondary education training, a C+ (55–59 of 100 points) must be achieved. Additionally, there are specific requirements in the individual subjects for each level. The courses require two years, except for secondary education, which requires three years. It is also possible to earn teacher education at university by completing a bachelor of education programme or via a postgraduate programme after procuring a bachelor of arts or science degree (KNEC, n.d.; TSC, 2019; UNESCO, 2016). Untrained practicing teachers have the opportunity for in-service teacher preparation that allows them to study part-time and continue teaching (Ojiambo, 2018, p. 174).

Kenya has generally suffered from teacher shortages both in primary and secondary schools, which intensified when, in 2003, the FPE programme was introduced. The ratio in primary education in 1998 was approximately 28 children per teacher, which had risen to 57 in 2012. Kenya subsequently enhanced its teacher education and almost doubled the number of teachers between 2012 (142,345) and 2015 (266,511). Additionally, the number of teachers in secondary school increased substantially during this time from 93,171 teachers in 2012 to 198,725 in 2015 (World Bank, 2021f). In 2016, the ratio in basic education for public and private schools in Kenya was 29 children per teacher for pre-primary and primary education and 20 children per teacher for secondary education. Hereby, the rates at all levels are lower in private schools compared to public schools (see Table 7) (KICD, 2016, p. 17).

Table 7: Student-to-Teacher Ratio in 2016 by Level of Basic Education

Student-to-Teacher Ratio	Public Institutions	Private Institutions	Average (all institutions)
Pre-Primary Education	31	25	29
Primary Education	34	17	29
Secondary Education	20	15	20

Source: own table based on KICD (2016)

3. The System of Vocational and Professional Education and Training

This section of the factbook describes the vocational education and training (VET) system at the upper secondary level and the professional education and training (PET) at the tertiary level in more detail. Hereafter, the term *vocational and professional education and training* (VPET) refers to both VET and PET systems. In Kenya, however, the VPET system is called TVET because a distinction is made between VET and technical education and training (TET). VET is intended to produce skilled operators to serve in the construction, maintenance and operation of equipment and infrastructure, whereas TET graduates are meant to perform supervisory and management functions as well as maintenance of systems, machines and equipment in industry (MoE & Ministry of Higher Education, Science Technology, 2012, p. 90). However, in official documents concerning the TVET system in Kenya, usually no differentiation is made between the VET and TET systems. The officials utilise the common term TVET, and statements about technical training as well as VPET are generalised for the whole TVET system.

TVET in today's Kenya faces many challenges. There is a lack of qualified trainers with pedagogical competency, a lack of TVET facilities as well as customised teaching and learning materials, a geographically uneven distribution of institutions, a low enrolment rate for females, a limitation in needed industrial participation and an inadequacy in research support services. The cost of technical training is high, and admission is uncoordinated (MoE & Ministry of Higher Education, Science Technology, 2012, p. 93). TVET is consequently often seen as a last choice in education because of negative impressions (TVETA, 2020, p. 2). It has the unfortunate preconception of being a dead-end for academic progress (TVETA, 2018a, p. 3). To meet these challenges, the government introduced in 2013 the TVET Act (Akala & Changilwa, 2018, p. 7).

Building on the TVET Act of 2013, the Kenya National Qualifications Framework (KNQF) was introduced in accordance with the KNQF Act of 2014. Its main goal is to classify Kenya's qualifications. It coordinates and classifies Kenya's qualification system and regulates the current multiplicity of qualifications and awarding bodies (over 300) that makes it difficult for employers to understand what competences they can expect from qualification holders. Additionally, many TVET institutions issue their own qualification certificates and diplomas, which increases the complication of maintaining an overview. It is believed that approximately 30%–40% of all qualifications in the country do not meet the national standard (Mukhwana et al., 2016, pp. 19, 23–25). Furthermore, the standard is intended to unify the fragmented TVET sector, which was previously scattered across 15 ministries, under the MoE. Additionally, it created two parallel progression routes from primary to university education; one is for general education and the other is for TVET (UIL, 2019). The KNQF covers all forms, levels and categories of education and training provided by the public and private sectors. It targets all areas of general education, higher education, non-formal education, and lifelong learning as well as vocational education (KNQA, 2018a, p. 3). The KNQF has defined 10 unique levels of competence. Table 8 provides an overview about certain aspects of the 10 levels of the KNQF.

While Levels 1–2 cover basic education and Levels 7–10 cover university education, Levels 3–6 fall in the TVET sector and cover technical and vocational education and training. Admission criteria for Levels 1–2 and 8–10 are designed so that the completion of the previous level is required for entry to the next level. Furthermore, in Levels 3–7, it is possible to enter the level by completing the previous level. For direct access, however, the admission is dependent on performance in the KCSE examination. To enter Level 3 education (National Vocational Certificate II, Governmental Trade Test (GTT) II or National Skill

Certificate II), a KCPE score of Level E is required. To obtain direct admission to a bachelor's programme after secondary school, a KCSE mean grade of C+ is required.

Table 8: Kenya National Qualifications Framework

Level	ISCED 2011	Qualifications	Admission Requirements	Duration
KNQF Level 1	2	Primary certificate		6 years
KNQF Level 2	3	Secondary certificate National Vocational Certificate I (NVC) GTT III National Skill Certificate (NSC) III	Level 1 qualification	6 years (except for NVC, GTT and NSC)
KNQF Level 3	4	Semi-Skilled Operator Qualifications (National Vocational Certificate II, GTT II, NSC II)	KCPE (Level 1); KCSE Mean Grade Level E (Level 2)	3 months
KNQF Level 4	4	Skilled Operator Qualifications (Artisan Certificate, National Vocational Certificate III, GTT I, NSC I)	KCSE Mean Grade Level E (Level 2); Level 3 qualification	6 months
KNQF Level 5	4	Advanced Operator Qualifications (Craft Certificate, National Vocational Certificate IV, Certified Public Accountant [CPA] I, Master Craftsperson III)	KCSE Mean Grade Level D (Level 2); Level 4 qualification	1 year
KNQF Level 6	5	Technicians/Skilled Supervisors (National Diploma, CPA II, Master Craftsperson II)	KCSE Mean Grade Level C- (Level 2); Level 5 qualification	2 years
KNQF Level 7	6	Bachelor of Technology (Bachelor's degree, CPA III, CPS, Master Craftsperson I, Higher national diploma)	KCSE Mean Grade Level C+ (Level 2); Level 6 qualification	3–4 years
KNQF Level 8	6	Postgraduate diploma Professional master craftsperson Professional bachelor's degree	Level 7 qualification	1 year
KNQF Level 9	7	Master's degree	Level 8 qualification	2 years
KNQF Level 10	8	Doctoral degree	Level 9 qualification	3 years

Source: own table based on KNQA (2018b, 2018c) and TVETA (2019a)

Parallel to the introduction of the CBC in basic education, the Kenyan authorities introduced competency-based education and training (CBET) for the TVET system. Similar to the TVET systems in many developing countries, the Kenyan TVET system is largely based on theoretical training that provides less attention to the assessment of competences that are required in the workplace. The CBET system is intended to be based on an industry and business demand-led model to establish approved and industry-validated occupational standards for all vocational jobs and trades (Akala & Changilwa, 2018, p. 5)

Table 9 offers an overview of facts regarding the TVET system in Kenya; this is discussed later in the chapter. Many informal TVET programmes exist and are offered by a wide range of actors; consequently, enrolment numbers and TVET programmes are difficult to track. Therefore, the numbers below and information that follows in the further course of the chapter cover only the formal TVET system (unless stated otherwise).

Table 9: Overview of the VPET System

Share of students enrolled in Vocational Programmes at Upper Secondary Level	1% in 2009
Programme Enrolment Share in all TVET Pathways	48.8%
Number of Curricula/Qualifications	275 in 2020
Programme Duration	2–3 years per programme
Involved Actors	MoE; State Department for Vocational Education and Technical Training; Directorate of Technical Education; TVET; Kenya National Qualifications Authority; TVET Authority; Curriculum Development, Assessment and Certification Council; TVET Fund; National Industrial Training Authority; Micro and Small Enterprise Authority; private actors (e.g., Kenya Association of Manufacturers); churches; NGOs
Reform Years (most recent)	2005: Kenya’s Sessional Paper No. 1 of 2005 2008: Kenya Vision 2030 2010: New Constitution 2013: TVET Authority Act 2014: KNQF Act 2015: Curriculum Reform Policy, Sessional Paper No. 2 2018: Third Medium Term Plan (2018–2022)
Reforms Summary	New distinction (basic education, TVET education, university education), upgrading of TVET, introduction of CBET, involvement of industry

Source: own table based on Akala and Changilwa (2018) TVETA (2020), UIL (2019), Woltjer (2006) and World Bank (2020b)

3.1 Vocational Education and Training (VET; Upper Secondary Education Level)

Entering the vocational education track in Kenya is possible after primary school (TVETA, 2018a, p. 3). In the ISCED-2011 mapping for Kenya (which referenced school year 2016), youth polytechnics was listed as the TVET pathway for lower as well as upper secondary education. According to the TVET Act No. 29 of 2013 (TVET Act, enacted 2014), youth polytechnics are now called vocational training centres (VTCs). This Factbook refers to youth polytechnics when the programme is meant and VTCs when the institutions are meant.

Youth polytechnics on the **lower secondary level** (which is considered foundational industrial education), also referred to as industrial secondary schools, are described in the ISCED-2011 mapping as the institutions that 'take primary completers who do not make it to secondary schools. Additionally, those who have been out of school can go into VTCs to learn some craft (all that is required is basic literacy that is assumedly acquired by Grade 3 and sustainably assured by Grade 6 of primary)' (UNESCO, 2016; UNEVOC, 2018, p. 6). To enter vocational training on the lower secondary level, applicants must have reached the third stage of primary education, which is Grade 8. County governments are responsible for the management of VTCs (TVETA, 2019a, p. 4).

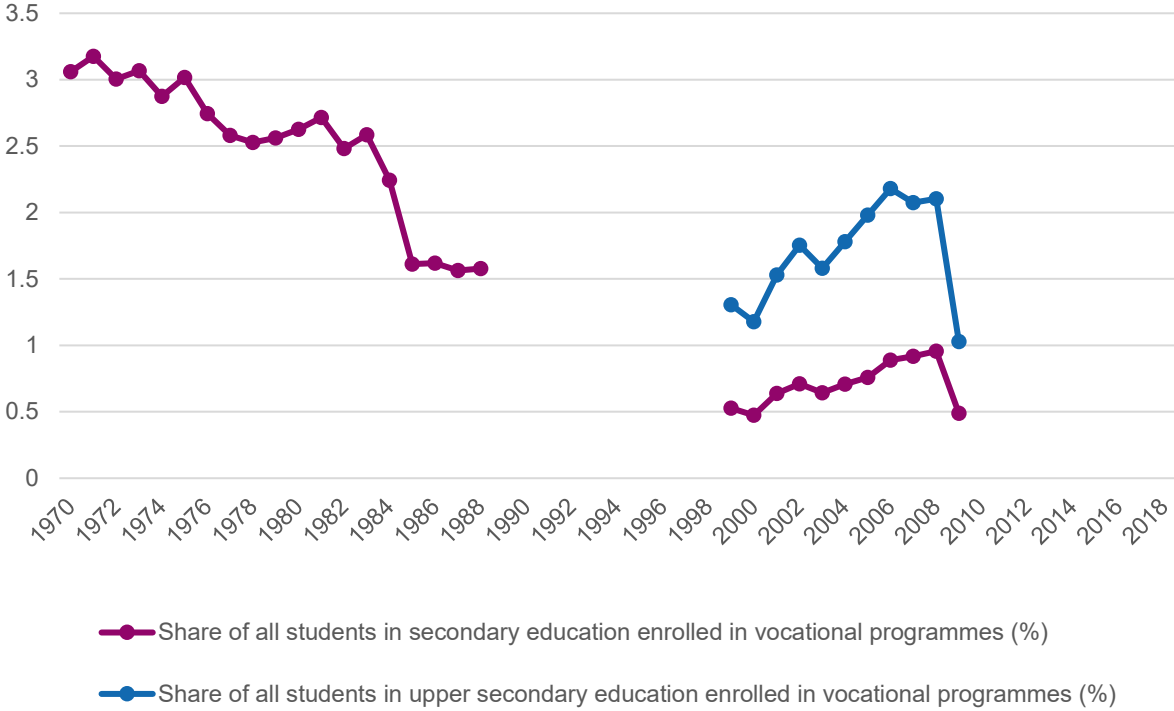
After completing training, the students receive a TVET certificate. Certificates are awards on the VET level that are below the level of diploma, which is offered at the TET level (TVETA, 2018b, pp. 44–45). Certificates at this level are, according to the KNQF, the National Vocational Certificate I, the GTT III and the National Skill Certificate III. The corresponding level in the KNQF is Level 2 (KNQA, 2018c). The theoretical entrance level age is 14 years, and the programmes normally take two years. The State Department for Early Learning and Basic Education is responsible for the courses (UNESCO, 2016; UNEVOC, 2018). Graduates can advance to specialised industrial education certificate programmes at the upper secondary level (ISCED 3 or KNQF 3) (UNEVOC, 2018, p. 6). There is little data for enrolment rates in lower secondary TVET, but there is evidence that the numbers are marginal, and since the Kenyan government wants to achieve a transition rate of 100% from primary to secondary school in the new CBC system (Fomiškina et al., 2021, p. 138), the enrolment rates in lower secondary polytechnics is likely to become even smaller.

Similarly, youth polytechnics on the **upper secondary level** (specialised industrial education) has been described for pupils whose work is 'insufficient for level completion or partial level completion, without direct access to postsecondary non-tertiary education or tertiary education' (UNESCO, 2016). The corresponding level in the KNQF is Level 3, and the qualifications, according to the KNQF, are the National Vocational Certificate II, the GTT II and the National Skill Certificate II (KNQA, 2018c). To enter secondary vocational training on an upper secondary level, a KCPE is required. Graduates from specialised industrial education either seek work or advance to further education at the postsecondary non-tertiary level (ISCED 4 or KNQF 4) (UNEVOC, 2018, p. 6).

In 2009, the share of all students in upper secondary education enrolled in vocational programmes was 1%. The enrolment rate was probably underestimated as the share of all students of lower secondary education in vocational programmes is higher, but still smaller than the share of all students in postsecondary non-tertiary education who were enrolled in vocational programmes (World Bank, 2020b). This is also visible in the share of programmes offered in TVET: only 44 of 275 accredited TVET programmes at ISCED Levels 3–6 in Kenya are offered in upper secondary institutions (ISCED 2011 Level 3), while the other 231 courses are at the postsecondary or tertiary level (ISCED 2011 Levels 4–6). The courses offered are primarily in the craft sector or the food industry. Approximately one-quarter of the courses include training for jobs in meat processing. There are also courses for aspiring bakers, landscape designers or hair stylists as well as courses in sales, agriculture, home management, security or fashion design. Programmes that are aimed to place participants in office jobs are difficult to find at the upper secondary educational level, as the only courses aiming toward office jobs include one course in computer applications and one course for front desk office management (TVETA, 2020, pp. 195–202).

Figure 5 presents the share of students in secondary and upper secondary education enrolled in vocational programmes. Due to missing data, the latest numbers are from 2009 for upper secondary vocational programmes; this data was not compiled before 1999. The share of students in secondary education enrolled in vocational programmes was higher in the 1970s than in recent years. In 1971, it was over 3%, while in 2009, it was lower than 0.5%. Vocational training on the secondary education level is also connected to free schooling (Fomiškina et al., 2021). In 2008, for example, after the introduction of the free day secondary education programme, secondary education fell by 0.5% and upper secondary education dropped by 1%; it had been increasing since 2000.

Figure 5: Share of Students in Secondary and Upper Secondary Education Enrolled in Vocational Programmes



Source: own figure based on World Bank (2020b)¹⁵

3.2 Professional Education and Training (PET; Post-Secondary Level)

Post-secondary TVET, formally called TET in Kenya, is broadly referred to as TVET. TVET on the post-secondary educational level is provided through a variety of state and non-state institutions, including NPs, technical training institutes (TTIs), institutes of technology (ITs), industrial training centres, government training institutes, national industrial training agencies as well as non-governmental organisations and private TVET institutions (Akala & Changilwa, 2018, p. 8). Additionally, some ministries, such as the Ministry of Agriculture, have VTCs (Ngugi & Muthima, 2017).

On the **post-secondary educational level**, the 2020 national *Technical and Vocational Education and Training Authority (TVETA) Standards Report* lists 231 approved TVET courses. This includes 54 courses at ISCED Level 4, 71 courses at ISCED Level 5 and 106 courses at ISCED Level 6 (TVETA, 2020, pp. 195–202).

Similar to courses at ISCED Level 3, ISCED Level 4 comprises programmes leading to jobs in the craft and agricultural sectors. These courses include machine operation, welding, mechanics, plumbing, instrumentation and control, gardening, carpentry and joinery as well as produce and processing. Additionally, several programmes in food production are offered, such as poultry processing, bakery technology and confectionery arts as well as fashion design technology, food and beverage sales, hair styling or service. Office job programmes are rare, but there exist curricula for ICT or office assistance.

¹⁵ Gaps in the figure are due to missing data.

On ISCED Level 5, the programmes offered are less artisanal or agricultural, although there are also programmes in manufacturing, food construction and infrastructure or agriculture, such as, welding, scaffolding and carpentry and joinery. On this level, programmes are more diverse, including food production; office jobs, such as credit administration, financial sales or office administration; management courses, such as project, supply chain and cooperative management as well as human resources; social services, such as marriage and family therapy or social work; sales courses; library and information science as well as records and archives and various programmes in the oil sector.

On ISCED Level 6, there is the highest number of approved curricula, and the programmes are the most diverse. Fewer courses are offered for blue-collar jobs, but there are still programmes in scaffolding or welding and fabrication. The vast majority of courses, however, are designed to train individuals for jobs in engineering and construction, such as aeronautical, mechanical, marine, highway and agricultural engineering, but there are also courses such as industrial automation and robotics or industrial control systems installation. Furthermore, there are programmes in medical laboratory, pharmaceutical or food technology. Moreover, several management courses are offered, such as project, supply chain, cooperative, tourism, road transport and security management as well as corporate governance. Courses aimed at office jobs are not diverse but still exist. They include bank clerk, human resources management, marketing, forex and security or office administration. Additionally, there are also programmes aimed at social jobs, such as community health, social work or child protection. Currently, ISCED 6 is the only programme level that offers courses in the arts, such as film production, fashion and graphic design, fine arts, music technology and theatre arts. There is also a programme for future journalists, called *broadcast journalism* (TVETA, 2020, pp. 195–202).

On the **tertiary level**, there exist several technical universities or polytechnic university colleges in Kenya, including the Technical University of Kenya or the Technical University of Mombasa. At these institutions, students take academic courses such as engineering, building, construction, water and mining technology as well as chemical and petrochemical engineering. However, these programmes are academic, and courses are typically the same for students at both technical and academic universities. Furthermore, the curricula of these universities detract the purpose of the technical university has been usurped by standard university curricula. There is a lack of innovation in curriculum development at technical universities in Kenya because it is not a mandate from TVETA or the Curriculum Development, Assessment and Certification Council (CDACC) but is independently performed by the CUE (Akala, 2017, p. 214).

Transition from post-secondary to tertiary education can be difficult in Kenya. Some of the TVET institutions on the post-secondary level offer certificate and diploma programmes that are not accredited by TVETA. These qualifications are therefore not recognised by universities (Akala, 2017, p. 214).

3.3 Regulatory and Institutional Framework of the VPET System

3.3.1 Central Elements of VPET Legislation

The regulatory and institutional framework for the VPET (TVET) system was built and still has its foundation in several acts and legislations:

In the **2010 Constitution of Kenya**, the functions of TVET are defined as a shared responsibility of the country and county governments (TVETA, 2020, p. 39).

Kenya Vision 2030 was launched in 2008 and represents the long-term economic blueprint of the country. It is based on three pillars: economic, social and political. Its aim is to create a prosperous and competitive nation with a high quality of life by 2030. Kenya Vision 2030 is the leading guide to transform

Kenya into a newly industrialised, middle-income country. It has acknowledged TVET as a leading engine for the economy to rely upon to produce adequate numbers for a middle-level workforce. TVET in Kenya Vision 2030 is seen as a key factor to drive the economy toward the attainment of the vision goals (TVETA, 2020, p. 30).

The **TVET Act No. 29 (2013)** proposes changes to the curriculum to make it more labour-market oriented in an attempt to ensure that graduates can adapt to the requirements of the labour market (Jairo, 2020, p. 2). Consequently, the government established TVETA to coordinate all TVET activities in the country. Furthermore, the act also saw the creation of the CDACC and the TVET funding board, which have key roles in standardising accreditation, quality assurance, curriculum development, certification and resource mobilisation (Akala & Changilwa, 2018, p. 7).

With the **KNQF Act No. 22 (2014)**, the Kenya National Qualification Authority (KNQA) was established. Its mandate is to introduce and regulate the national qualifications framework (Akala & Changilwa, 2018, p. 7). The objectives of the KNQF Act were to establish a system of accreditation and a database of institutions that award qualifications as well as harmonise the educational system regarding examinations, assessments and quality assurance. Furthermore, it stresses the importance of promoting national and transnational mobility of workers while facilitating mobility and progression within education, training and career paths (UIL, 2019).

Sessional Paper No. 2 of 2015 requires a GER of 20% in TVET. It pushes for the provision of adequate opportunities for accessible CBET, the curricula of which must offer the required flexibility for adult learners and facilitate paths to different careers in academic, professional or occupational areas (Akala & Changilwa, 2018, p. 5).

3.3.2 Key Actors

In the TVET Act (2013), no distinction is made between VET and TET. Consequently, the key actors in both are the same.

Government

In Kenya, the MoE has four distinct sectors: (i) basic education, which involves pre-primary, primary and secondary education, (ii) higher education, (iii) post training as well as skill development and technical, and (iv) vocational training (Akala, 2017, p. 213; MoE, 2016). The **State Department for Vocational Education and Technical Training** under the **MoE** is responsible for the development of TVET and related policies. Furthermore, it is in charge of promoting TVET. The MoE works on TVET with other ministries, primarily the Ministry of Public Service, Youth and Gender Affairs and the Ministry of Labour, East Africa and Social Protection (KICD, 2021, p. 1; UNEVOC, 2021). In the State Department for Vocational Education and Technical Training are two directorates that share responsibility in the TVET system.

- The **Directorate of Technical Education** is responsible for promoting access, equity, relevance and quality training in TVET. Therefore, its main tasks are policy formulation, implementation, monitoring, reviewing and guidance. Furthermore, the directorate must harmonise and manage the TVET system according to the overall strategy. Therefore, it needs to provide oversight of all actors and supervise the different institutions and programmes within the MoE. It also builds on capacity, meaning infrastructure, equipment, training facilities and trainers as well as managers of TVET institutions. The directorate is responsible for the implementation of CBET (State Department for Vocational Education and Technical Training, 2018, pp. 2–3).
- The **Directorate of Technical and Vocational Education and Training** is responsible for the VET system. It develops the national policy on VETs, implements and reviews VET curriculum and oversees construction, rehabilitation, equipping and expansion of VETs. The directorate is

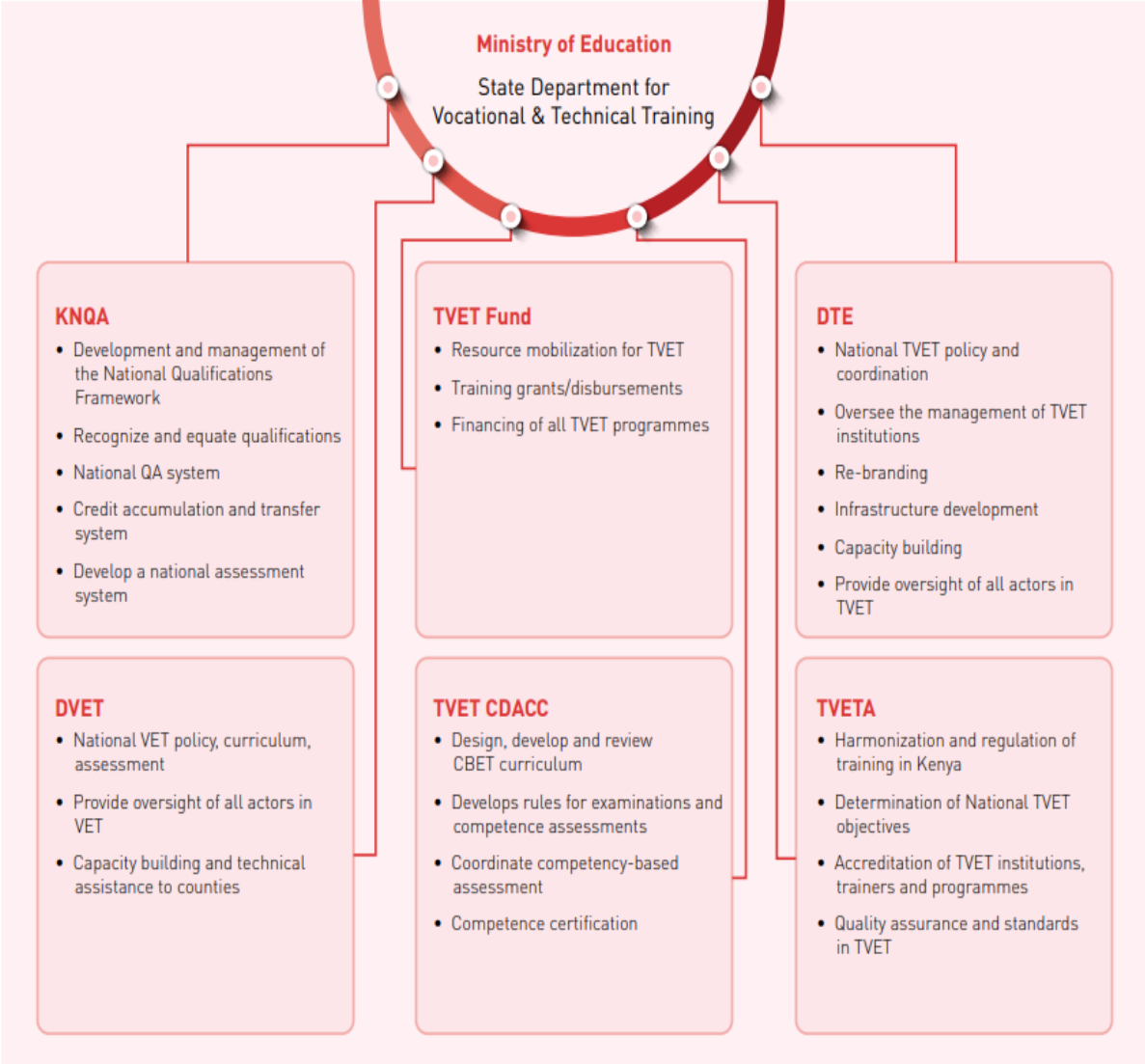
additionally responsible for fostering collaborations and connections with industries and development partners on matters related to VTCs (State Department for Vocational Education and Technical Training, 2018, pp. 2–3).

To coordinate and harmonise TVET in Kenya, four state corporations or semi-autonomous agencies (SAGAs) were established. In 2013, under the TVET Act, TVETA, the CDACC and the TVET funding board were created, and in 2014, under the KNQF Act, the KNQA was established (Akala & Changilwa, 2018, p. 7; TVETA, 2020, p. 39).

- The **KNQA** was introduced in 2014 to coordinate and harmonise education, training, assessments and quality assurance in basic education, TVET and university education. Its main goal is the development, implementation and maintenance of the KNQF, which it developed in 2018. The KNQF promotes access to and equity in education, quality and relevance of qualifications and evidence-based competences and flexibility of, access to and affordability of education, training, assessments and qualifications. Additionally, it ensures that standards and registered qualifications are internationally comparable. The KNQA is responsible for data collection on all qualifications in the country. It works closely with other state authorities, such as CUE, TVETA, Kenya National Examinations Council, the Kenya Accountants and Secretaries' National Examinations Board as well as universities, TVET institutions, local and international assessment and examination bodies, professional bodies and other organisations within the educational sector (KNQA, 2019; UNEVOC, 2021).
- **TVETA** is a state corporation that is mandated to regulate and coordinate the TVET sector in Kenya in accordance with the TVET Act of 2013. It promulgates policies, plans, programmes and guidelines for the effective implementation of the 2013 TVET Act. It is responsible for the development and supervision of standards within the TVET system and is currently developing occupational training standards to guide curriculum development. It is intended to establish and administer a system of accreditation for public and private institutions as well as determine and approve systematic procedures for accrediting trainers. Additionally, it regulates and coordinates trainers, accredits institutions, programmes and courses through inspection and licensing and determines the national technical and vocational training objectives. It must ensure quality and relevance in training programmes and therefore monitors, evaluates and inspects trainings and institutions. It ensures quality standards and licensing, regulates and coordinates training and determines national TVET objectives. Moreover, it promotes access to and relevance of training programmes with the national socioeconomic plans and objectives (State Department for Vocational Education and Technical Training, 2018, p. 3; TVETA, 2020, p. 41; UNEVOC, 2021).
- The **CDACC** is responsible for the TVET training institutions' CBC development, assessment and certification. It coordinates the development of occupational standards and CBET curricula with industrial partners, experts and governmental organisations. Members are the principal secretary of TVET, the director general of TVETA, representatives of the Senate of technical universities, representatives of TVET principals and industry members. The chair is appointed by the cabinet secretary (State Department for Vocational Education and Technical Training, 2018, p. 3; TVETA, 2020, p. 41; UNEVOC, 2021).
- The **TVET fund**, which was anticipated in the 2013 TVET Act, is responsible for resource mobilisation for TVET, training grants and disbursements and financing all TVET programmes. To date, the fund has not yet been created, and the **TVET funding board** that should administer the TVET fund is not operational (ILO, 2019, p. 23).

Figure 6 provides an overview of the roles and functions of the TVET authorities within the State Department for Vocational Education and Technical Training.

Figure 6: Central TVET Authorities in Kenya



Source: TVETA (2020)

Representation and Advisory Bodies

TVET in Kenya has been primarily organised and financed by the Kenyan government. The involvement of companies, workers’ organisations and business associations has been weak. Nevertheless, in the CBET system, the **business community** sits on TVET steering committees (such as the KNQA council, the National Industrial Training Board or sector training committees) to contribute to curriculum development, primarily via sector skills advisory committees (SSACs) (see Chapter 3.5) (ILO, 2019, p. 22).

Generally, the private sector's involvement in education in Kenya is limited. Nevertheless, there are a number of **public private partnerships** in TVET. One example is training academies that have been established by business associations, such as the Kenya Association of Manufacturers in partnership with the German Corporation for International Development. These programmes, however, must be accredited by TVETA. The Kenya Association of Manufacturers furthermore is committed to addressing the gap in the system by working with TVET institutions as well as manufacturing industries to ensure that skills training is demand driven (Manyonge & Kyalo, 2020, pp. 52–53).

Unions are not typically active in TVET governance, because their role is focussed on collective bargaining for teachers and other educational staff within the TVET system. If counselling is needed, though, then teachers’ unions have a more active role than learners’ unions (ILO, 2019, p. 22).

Education and Training Providers

According to the TVET Act of 2013, there are three categories of institutions in the secondary, postsecondary and non-tertiary levels (TVETA, 2020, pp. 40, 44):

1. **VTCs**, previously called **youth polytechnics**, offer artisan courses and on-the-job training in formal and informal sectors. The programmes offer training up to certificate or craft level. County governments are responsible for the management of VTCs.
2. **Technical and vocational colleges (TVCs)** mainly offer craft-level courses, but technical courses are also available. TVCs comprise TTIs and ITs. They award craft certificates and technician diplomas.
3. **NPs** offer technician and technologist courses. They award technician diplomas (and higher diplomas) and technologist degrees (in collaboration with universities).

Furthermore, there are **polytechnic university colleges and technical universities** on the tertiary level that train technologists and award technologist and postgraduate degrees (Akala & Changilwa, 2018, p. 8).

In 2020, there were approximately 1,200 public VTCs, 47 private VTCs, 134 registered TVCs (TTIs and ITs)—of which 99 were public and 35 were private—11 NPs and two technical universities (Technical University of Mombasa and Technical University of Kenya). The government aims to have at least one TVC in each of the 47 counties by 2030 (KNBS, 2020, p. 245; Malechwanz, 2020, p. 53). The 2013 TVET Act and the resulting strengthened focus on TVET have led to considerable growth in the TVET sector. According to the MoE, the number of TVET institutions increased from 700 in 2013 to 1,300 in 2018. Over the same period, enrolment grew by 92.5% from 148,009 in 2013 to 284,844 in 2018 (MoE, 2019, p. 5).

Non-Formal TVET

In addition to the formal TVET system, Kenya has a non-formal network of TVET institutions operated by **churches or other religious institutions, NGOs and individual proprietors**. These institutions offer various courses, mainly at the artisan level, such as tailoring, metal fabrication or baking skills (Woltjer, 2006, p. 15).

A number of ministries in Kenya, such as the Ministry of Labour, East Africa Affairs and Social Protection, the Ministry of Trade and Industry, the Ministry of Water, the Ministry of Tourism and the Ministry of Public Service, Youth and Gender Affairs, offer non-formal TVET programmes. These industrial training courses are typically offered by state corporations. The two most prominent are as follows:

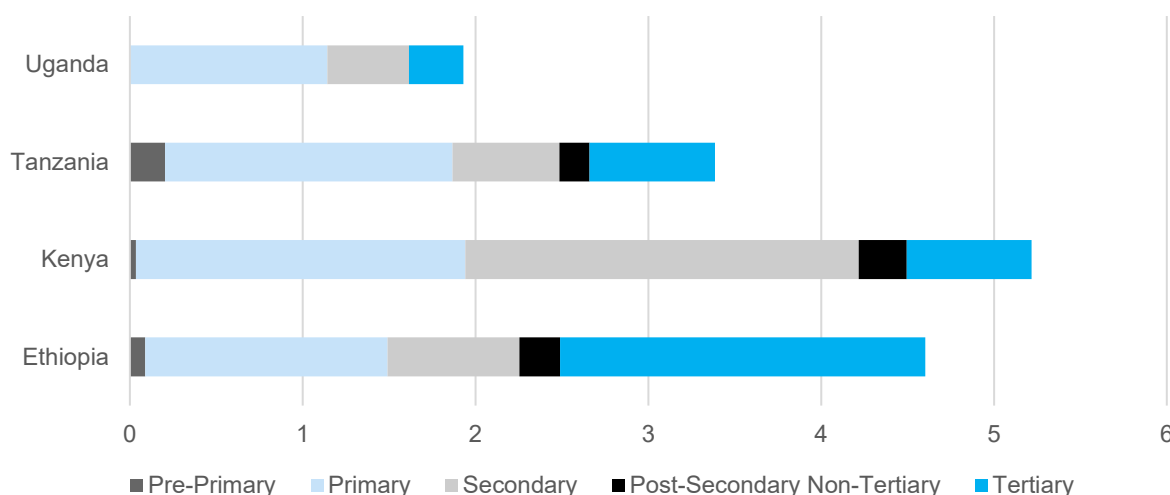
- The **Micro and Small Enterprise Authority**, established under the Micro and Small Enterprise Act No. 55 of 2012 and categorised in the Ministry of Industry, Trade and Co-operatives, regulates, harmonises and coordinates the sector and encourages its growth. It trains entrepreneurs in business, managerial and leadership skills and thereby facilitates their access to the market (MSEA, 2021; UNEVOC, 2021).
- The **National Industrial Training Authority (NITA)**, established under the Industrial Training Act No. 12 in 2011, oversees industrial training and assessment. It collects industrial training levies and fees and regulates trainers. Additionally, it is tasked with curriculum development, the integration of labour-market information, equivalence of certificates, accreditation of institutions that assess industrial training, evaluation of occupational skills and awarding of certifications (UNEVOC, 2021). Furthermore, NITA has five industrial training centres across the country that provide certificate courses for skilling as well as apprenticeships to people with any skill and educational level. Courses at these institutions include short and long programmes with durations of some months up to two years (NITA, 2021; Somo College Guide, 2021; UNEVOC, 2021).

3.4 Educational Finance of the VPET System

National and local government bear the main financial responsibility for the TVET system in Kenya. However, several other financiers of the TVET system exist, such as **public financing through revenue, enterprise financing** for training its own labour force, **private- and public-sponsored financing** and **international donor assistance**. International partners are necessary for setting standards, such as achieving internationally recognised practises (UNEVOC, 2021).

Between 2010 and 2017, the Kenyan government spent **5% of GDP on average on education and training**. This was lower than in the early 1990s and 2000s, when spending on education was between 6% and 7% of GDP. The expenditure on education as a percentage of total government expenditures in 2014 was 17.1%. This is similar to the share Tanzania spent on education (17.3%) and above Uganda's share (10.1%) but below the relative expenditure on education in Ethiopia (25.9%) (World Bank, 2020b). In the academic year 2014–15, public **TVET entities in Kenya received only 5% of the total budget for education**, while 41% of the budget went toward primary education, 31% toward secondary education and 15% toward university education (ILO, 2019, p. 23). Expressed as a percentage of the GDP, Kenya in 2014 spent 0.28% of GDP on secondary and postsecondary non-tertiary vocational education. This is beyond the share of GDP that Uganda spent that year (0.40%) but above the share that Ethiopia spent (0.13%) (World Bank, 2020b). Figure 7 illustrates governmental expenditures on educational levels as a percentage of their respective GDPs. Of the four countries, Kenya in 2014 spent the highest share of GDP on education and focussed most on secondary education.

Figure 7: Governmental Expenditures on Educational Levels as a Percentage of GDP



Source: own figure based on World Bank (2020b)¹⁶

To foster TVET financing, the 2013 TVET Act anticipated the establishment of a **TVET funding board** to administer a public TVET fund, which has not yet been created; furthermore, the responsible TVET funding board is not yet operating (ILO, 2019, p. 24). Public TVET institutions are therefore still primarily funded through the national treasury, and additional funding is guaranteed through **public-private partnerships**. Furthermore, there exists a fee for the public industrial skills system—the **training levy** under the NITA—whereby every company registered in Kenya is required by law to contribute to the financing of the TVET system. The levy is currently at KES 50 per employee per month (ILO, 2019, p. 24; UNEVOC, 2018, p. 9). Paying companies are entitled to reimbursements when they accept apprentices or indentured learners or participate in other industrial training programmes implemented by NITA (ILO, 2019, p. 24). Another source of financing is **enrolment fees** at certain institutions, since TVET in the

¹⁶ No data was available for the post-secondary non-tertiary level in Uganda.

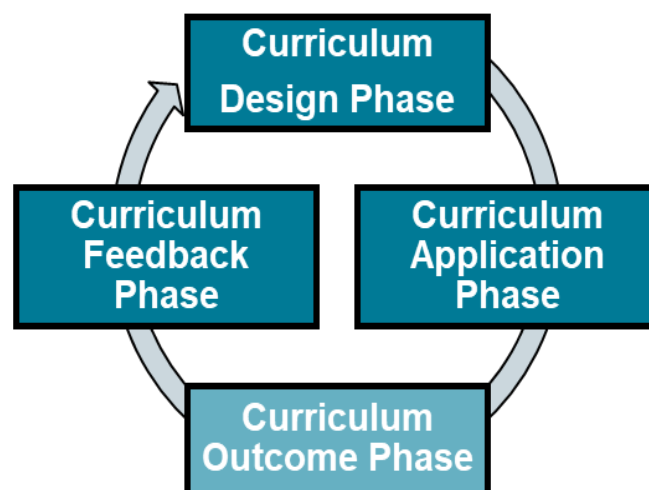
formal education system is not legally free. Fees in public institutions are established by the boards of governors and councils, which are guided by the MoE. Tuition fees range from US\$300 to \$800 per annum. For NPs, the cost is KES 30,000 (approximately US\$280), for TVCs, the cost is KES 20,000 (approximately US\$185) and for VTCs, the cost is KES 5,000 (approximately US\$45) (TVETA, 2017). In private institutions, tuition fees range from US\$1,200 to \$2,500 per year (UNEVOC, 2021).

Due to the new focus on TVET in Kenya through Kenya Vision 2030, **spending on TVET has increased**. This is possible, among other reasons, due to bolstered funding from several developments, the most important of which are the African Development Bank, the World Bank and NEPAD, as well as bilateral governmental donors, including China, Canada and Germany (UNEVOC, 2021). In 2018, the government increased public funding of TVET by over 30%. Fees for students in TVET institutions were thereafter reduced, and the government agreed to provide an annual bursary of US\$300 to every student who joins TVET institutions (Erima, 2021, p. 1; University World News, 2018).

3.5 Curriculum Development

The curriculum is a central element in a VPET system because it defines the framework and the quality standards for the educational system. The development of a curriculum can be divided into a three-step process of curriculum design, application and feedback. This theoretical concept is called the *curriculum value chain* and is depicted in Figure 8 (for more details, see Renold et al. (2015); Rageth & Renold; 2019)).

Figure 8: Curriculum Value Chain



Source: Renold et al. (2015) and Rageth and Renold (2019)

In the curriculum design phase, the relevant actors decide upon VET curriculum content and qualification standards. Therefore, the discussion in Section 3.5.1 focusses on the degree and the amount of stakeholder participation concerning curriculum design in Kenya. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ substantially across countries, especially with respect to the prevalence of workplace learning, Section 3.5.2 focusses on learning environments. Specifically, it addresses where learning occurs and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase, which is the focus of Section 3.5.3. This evaluation process is important because it may render a more refined curriculum design than was initially possible.

3.5.1 Curriculum Design Phase

The design phase is crucial for the curriculum process. To ensure that the skills taught in the VPET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning content of the curricula.

In Kenya, curriculum development is under the responsibility of the TVET CDACC (see Chapter 3.3.2), which works closely with industry and business stakeholders. It established SSACs that include industry and development partners. These committees comprise industry experts, trainers, professional bodies, societies and regulators. Representatives develop, evaluate and validate occupational standards and curricula. Together with these SSACs, the TVET CDACC has developed competency-based national occupational standards and their corresponding curricula for training institutions (Orina, 2021). To align TVET programmes to industry demands, curriculum development follows a process of developing national occupational standards based on international classifications (ISIC-08, ISCO-08 or ISCED Level F 2013), national sector priorities and occupational training standards (TVETA, 2019a, pp. 6–7, 2020, p. 7). The process is described in detail in the following.

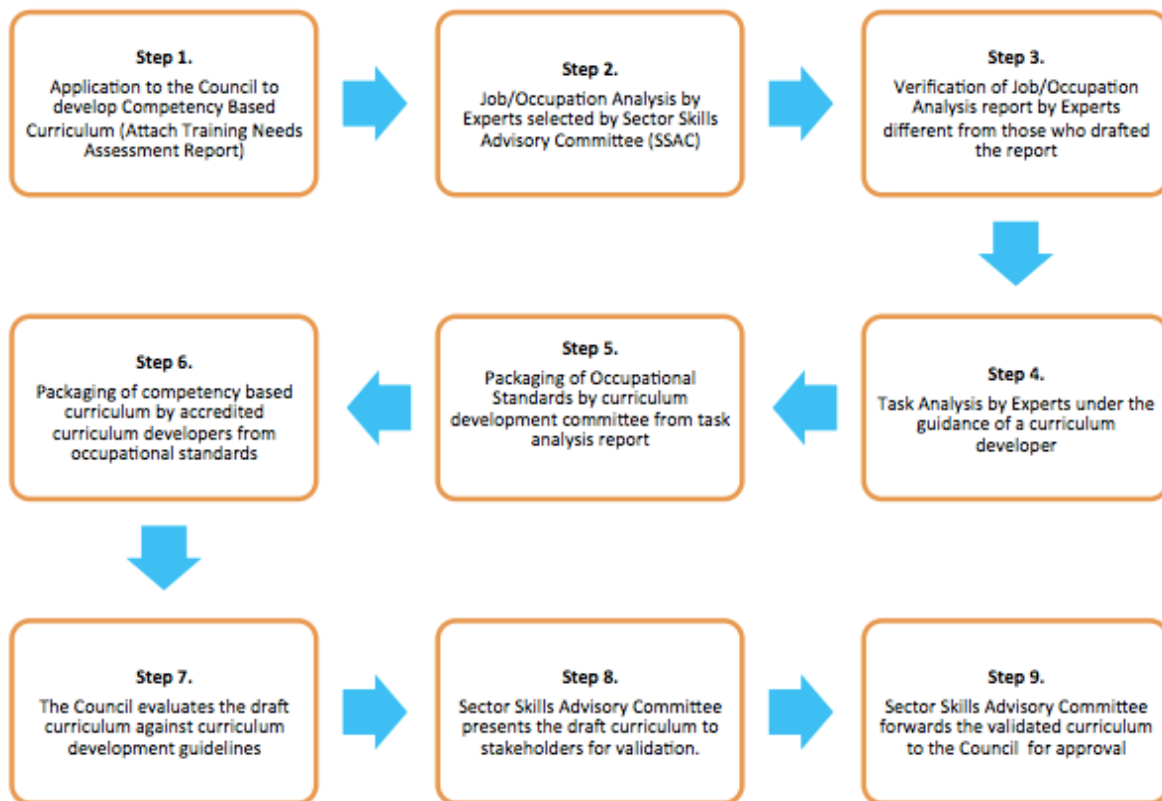
The CDACC has adopted a process for developing CBC that covers the curriculum design phase. In the **first step (application)**, an institution or organisation that is interested in developing a CBC applies to the CDACC. With the application, the institution or organisation completes a training needs assessment report that provides evidence of a competence gap that can be addressed through training. The CDACC must approve the application. In a **second step (occupational analysis)**, sector experts, selected by the SSAC, participate in a workshop to identify duties, tasks, tools, equipment, materials and supplies needed to perform the profession. The result of this workshop is a draft occupational analysis report. The **third step (verification of occupational report)** is the confirmation of said draft report. Therefore, the SSAC selects experts different from those involved in drafting the report to verify it. After verification, the report is submitted to the CDACC.

In a **fourth step (task analysis)**, a curriculum developer guides sector experts in identifying steps in performance standards, tools, equipment, materials, supplies, knowledge, skills, attitudes and safety precautions. The **fifth step (occupational standards packaging)** consists of the development of occupational standards (statements of performance that a worker is expected to achieve) from the occupational analysis report by the curriculum development committee. These standards are then evaluated and validated by the SSAC and the stakeholders. Validated occupational standards are submitted to the CDACC for approval. In a **sixth step (competency curriculum packaging)**, accredited curriculum developers draft CBC from the approved occupational standards. The drafts are then resubmitted to the CDACC.

Step 7 (evaluation) involves evaluation of the draft curriculum by the CDACC against curriculum development guidelines. The council is allowed to invite experts for the evaluation. Additionally, the SSAC, with assistance from accredited curriculum developers, evaluates the draft curriculum. After evaluation, in Step 8 (**validation**), the SSAC presents the draft curriculum to stakeholders for endorsement. Stakeholders may comment on the draft curriculum, while the curriculum development committee incorporates stakeholders' input. In a **ninth step (curriculum approval)**, the SSAC submits the validated curriculum to the CDACC for approval (CDACC, 2020). The development process is illustrated in Figure 9.

Figure 9: CDACC's Process for Development of CBC

Curriculum Development Process



Source: CDACC (2016)

Curriculum development by institutions such as TVET, CDACC and the KICD is undertaken based on stakeholder requests. Stakeholders complete needs forms, requesting the development of competency-based training programmes. For example, KICD has a vast number of TVET training programmes; however, this curriculum requires revisiting and aligning the course to updated industry requirements. Lack of a centralised and up-to-date labour management information system provides a challenge for identifying programmes for TVET (TVETA, 2020, p. 44). In 2020, there were 1,490 occupational training standards registered by TVET and 275 TVETA-approved TVET CDACC curricula (TVETA, 2020).

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented, especially with respect to learning environments, is important to achieve the intended learning outcome.

In the majority of TVET institutions, curriculum delivery is **strongly theory based** rather than a combination between theory and practice. The reason for this theory-based approach is not an absent desire to include practice in the training but a lack of up-to-date training equipment combined with obsolete technologies (Musyimi et al., 2018, pp. 347, 351). With the introduction of CBET, TVET is intended to be more practically oriented on all levels (State Department for Vocational Education and Technical Training, 2018, pp. 2–3).¹⁷

¹⁷ However, general information or standards about the share of theoretical and practical education and training in the CBET system is difficult to find and probably sector specific. Additionally, there are no empirical studies or statistics on the topics since the introduction of CBET is still at its beginning. Curricula exist, as do standards from TVETA. These documents are to a large extent written generally and in some cases are not available to the public.

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase manages the questions of whether and how educational outcomes are analysed. Based on this, the curriculum could be reworked and improved.

In Kenya, **TVETA is responsible for quality assurance** in TVET. Its task is to approve, register, accredit and licence all TVET institutions. Furthermore, it is responsible for quality audits and assurance. According to the 2013 TVET Act, external quality assurance is needed to examine how well the delivery processes function as well as the quality of TVET components, such as trainers, facilities and materials (TVETA, 2018b, p. 8). In accordance with the internal quality assurance of TVET institutions, TVETA lists 50 general indicators for external quality assurance that are categorised in six components: (1) institutional leadership, management and governance, (2) physical resources (property, facilities and equipment), (3) human resources, (4) training delivery, (5) trainee support and (6) research, innovation and stakeholder cooperation (TVETA, 2018b, pp. 9–10).

Quality assurance personnel undertake regular monitoring, evaluation and quality assessments of training and institutions to ensure compliance with established standards and guidelines. Quality standards comprise aspects of training, including in-person learning, distance and electronic learning (TVETA, 2018b, pp. 13, 28). Additionally, TVET institutions are obliged to file **annual self-evaluation reports** in a manner prescribed by TVETA. These reports are specifically focussed on the development of the institutions' physical infrastructure and training (TVETA, 2018b, p. 26). Furthermore, TVETA audits assessment centres (TVETA, 2018b, p. 22).

Quality audits of TVET institutions are conducted for initial registration, accreditation and licensing and are **repeated every five years**. These regular audits cover the whole institution. Additionally, programmed quality audits in which only chosen parts of the institutions are inspected may be conducted every two years or randomly without prior notification of the institutions. **Random checks** when risks, non-compliance or irregularities are reported are possible at any time (TVETA, 2018b, p. 34).

External quality assurance, referred to as *inspections* in the 2013 TVET Act, is performed by TVETA staff, service institutions or personnel mandated by TVETA to audit and monitor TVET institutions, programmes and trainers. External quality assurance personnel therefore must have an academic education (bachelor's degree for evaluator, monitor or auditor and master's degree for audit team leader) and several years of work experience in TVET or a suitable profession in the technical field of interest. Furthermore, they must undertake **quality assurance training** offered by TVETA. They must have knowledge and skills in quality assurance and auditing as well as sector and generic knowledge and skills (TVETA, 2018b, p. 31).

According to the 2013 TVET Act Section 17, persons or institutions are not permitted to offer TVET in Kenya unless they have been accredited, licenced and registered by the competent authority. The same is true for programmes or courses and academic awards (TVETA, 2018b, pp. 16, 21). It is a function of TVETA to maintain an overview about registered trainers and training institutions. **TVET institutions and trainers must register to provide training**. The registers are available online, are open to the public and are free of charge (TVETA, 2018b, p. 20).

3.6 Supplying Personnel for the VPET System (Teacher Education)

TVET teacher training has been offered in Kenya in many different forms since the nation's independence in 1963. Today, teacher training for TVET is generally practised in two ways: first, future TVET teachers undergo an integrated curriculum with subject-specific and pedagogical courses as well as a subsequent period in the industry (**concurrent model**). Second, trainees first obtain subject-focussed

specialisation and work experience before beginning pedagogical training (**consecutive model**) (Akala & Changilwa, 2018, p. 10).

There are two types of TVET teachers: **trainers** and **instructors**. TVET trainers' education and quality assurance is the responsibility of the MoE. They teach in NPs, technical and VTCs and at secondary schools. TVET instructors teach only in VTCs and private industrial centres. Both trainers and instructors must be qualified for the job. At the secondary level, a diploma or craft certificate (ISCED Level 5) is required. At the tertiary level, trainers must have a higher diploma or a bachelor of technology degree (ISCED Level 6) (UNEVOC, 2018, p. 10).

Trainers and instructors obtain their training at the Kenya Technical Trainer College (KTTC) (Kipkirui, 2021). To become a TVET trainer at the diploma level, special teachers' training at the KTTC is required. There, aspirants receive not only technical competency and pedagogical skills but also industrial work experience. Trainers' training, including internships in the industry (industrial attachment), requires five years of commitment. Training in business and industrial arts takes only three years to complete, since there is no industrial attachment foreseen (Akala & Changilwa, 2018, p. 10). Typically, students pay for themselves, but governmental subsidisation is possible (UNEVOC, 2018, p. 10).

Apart from **pre-service training**, meaning service of TVET teacher aspirants, there also exists **in-service training** for instructors and trainers who are already teaching at TVET facilities but do not have the required education. In the past, TVET trainers were not required to have pedagogical competency as a condition for recruitment, which has led to personnel who are not meeting modern teaching standards in Kenya (Akala & Changilwa, 2018, p. 10). In-service programmes are offered on a self-finance basis. However, in several programmes, development partners in cooperation with the government may pay for the training in selected institutions (UNEVOC, 2018, p. 10).

The 2013 TVET Act requires that TVET teachers must be **licenced by TVETA to practise at TVET institutions** (Kipkirui, 2019). Additionally, trainers licenced by TVETA are obliged to renew their training licence periodically with evidence of continuous professional development in the form of in-service training (Kipkirui, 2019). TVETA is working on implementing policies, standards, guidelines and a framework for continuous professional development that will be established in upcoming years (Kipkirui, 2021).

To increase not only the number of TVET trainers but also their quality, TVETA is working to establish the trainer qualification framework, which consists of four levels of TVET teachers (TVETA, 2019b):

1. On Level I, technical instructors prepare to establish training material, set up equipment for practical workshops or laboratories and maintain training equipment. To acquire education on this level, applicants must have achieved KNQF Level 5 and a certificate of earning the level of approved trainer of trainers (ToT).
2. On Level II, those who complete training earn a title of TVET trainer (lecturer). They learn how to write plans for instruction, conduct training sessions ensuring integration of theory and practice, assess students' competencies and integrate ICT in training. Applicants must have a bachelor's degree, which is equivalent to KNQF Level 7.
3. On Level III, those who complete training receive the title of senior trainer-developer (senior lecturer and examiner). They are prepared to design and develop curricula, courses and instructional materials. Entry requirements for the programme are KNQF Level 9 and experience as a trainer (a minimum of four years) as well as an approved ToT for developers.
4. On Level IV, those who finish coursework obtain the title of principal trainer or manager (deans, heads of departments and principals), and they are responsible for the day-to-day operations of training a department in an institution. The entry requirement is the same as Level III, except that they also need a ToT for training managers.

To date, information about the integration of the trainer qualification framework in the current system is not available. Remarks in the qualification framework document note that the ToT courses required for the different levels in the framework have yet to be developed (TVETA, 2019b).

4. Major Reforms in the Past and Challenges for the Future

4.1 Major Reforms

This section focusses on the major national reforms concerning the TVET system in Kenya, which has undergone significant changes in recent decades. Technical secondary schools had already been established in the 1960s, but even before that time, vocational trade schools existed. In the 1970s, village polytechnics, which were mainly located in rural areas, provided skilled training to meet the workforce need of the village societies. In the beginning of the 1980s, the Mackey Commission recommended the establishment of a second university in Kenya that was based on technology education. Concurrently, the government recommended establishing TTIs from former technical schools to tertiary institutions. The TTIs were intended to teach practical skills to facilitate direct employment, self-employment and employment in the informal sector (Ngugi & Muthima, 2017, pp. 12–13).

One key factor for TVET was **Kenya's Sessional Paper No. 1 of 2005** that divided education in Kenya into three distinct levels: basic education, TVET education and university education (Malechwanz, 2020, p. 48). Therewith, it established a progressive structure that allows TVET learners to have equal opportunities to advance to the highest level of learning not only through academic channels but also through TVET. Consequently, it is now possible for graduates of youth polytechnics to attend a technical university and even graduate as doctors (Ngugi & Muthima, 2017, p. 13).

More recent reforms in the TVET system have been implemented since the adoption of the **new Constitution** in 2010 and the 2008 **Kenya Vision 2030**, which placed special demands on TVET as the leading economic engine. Kenya Vision 2030 is seen as essential to produce middle-level professionals who satisfy the needs of the labour market (MoE & Ministry of Higher Education, Science Technology, 2012, p. 3). Several acts and sessional papers were passed between 2012 and 2019 that are the legal basis for a diverse array of new agencies and entities. The most important of these acts are the **TVET Act No. 29 (2013)**, the **KNQF Act No. 22 (2014)** and the associated subsidiary regulations from the **Sessional Paper No. 2 of 2015**. They establish guiding principles for vocational skills formation, identify the training institutions that comprise the TVET system, stipulate management arrangements and regulate the accreditation of TVET institutions as well as the licensing of trainers (for more information, see Chapter 3.3.1 regarding the central elements of the VPET legislation) (Akala & Changilwa, 2018, p. 5; ILO, 2019, pp. 17–18).

Further reforms include the **Curriculum Reform Policy (2015)** that established CBET for all levels and the **Third Medium Term Plan for 2018–2022** of the Kenya Vision 2030. It defines several flagship projects, programmes and policy reform objectives in TVET and aims to strengthen the connection between training institutions and industries as well as develop internship programmes for graduates. It further supports the upgrading, expansion and revitalisation of TVET entities and industrial education (FAO, 2018; ILO, 2019, pp. 17–18).

4.2 Major Challenges

Kenya's TVET system is key to the country's development. To conclude this factbook, the most important challenges affecting the TVET system are summarised as follows:

- **Resource constraints** impact several indicators in the TVET system. There is a significant **shortage in TVET administrative staff in SAGAs and trainers in TVET institutions**. Specifically, there is an insufficient number of trainers with pedagogical competency in public institutions since private institutions and the informal sector provide them with stable jobs that offer higher salaries. Another issue is the **shortage of teaching materials and infrastructural equipment** in TVET institutions, especially in VTCs. Generally, there is an **inadequate number of TVET centres** and TVET institutions in Kenya. Additionally, these institutions are often **poorly distributed geographically**. Therefore, opportunities are not offered evenly across the country, and rural populations often lack the opportunity for TVET education and training. Weak governance in many regions further impacts resource mobilisation and allocation (Ngugi & Muthima, 2017, p. 10; TVETA, 2020, p. 45).
- **Negative perceptions of TVET** are widespread among high school students and generally among the Kenyan population. TVET in Kenya, as in many African countries, is regarded as a second chance or dead-end education for those who have failed to continue their academic education. The negative attitude toward TVET is often attributed to Africa's colonial past and Africans' discrimination against the White colonialists' children in education. This is visible in the low enrolment rates in TVET. Furthermore, career advisers tend to emphasise universities over TVET institutions. TVET therefore recruits from a small pool of learners. Currently, there is no systematic vocational and career guidance in schools; additionally, there is generally little public awareness of the qualification paths and career opportunities in TVET. This also affects the choice of qualified trainers to work in TVET. The negative perception of TVET is further reinforced because TVET graduates usually receive lower wages in the labour market than university graduates (Erima, 2021, p. 6; Ngugi & Muthima, 2017, p. 10; TVETA, 2020, p. 46).
- Graduates of TVET institutions have a higher likelihood to secure **jobs in the informal sector** than university graduates. The informal sector is characterised by insecure contracts, little social protection or worker benefits and generally fewer regulations than the formal sector. This further lessens the attractiveness of TVET programmes (Erima, 2021, p. 6).
- There is a **mismatch between skills offered in TVET institutions and the actual labour-market demand**, leaving a significant share of TVET graduates unemployed. Curricula are still theory based and not practise oriented. Another obstacle is quality assurance, which has been inadequate in the past and is not up to date on industry developments and needs (Erima, 2021, p. 6). This challenge has not been met adequately since labour-market research is underdeveloped. For instance, there is a lack of labour-market data on the skills needed. Furthermore, occupational training standards that meet industries' needs are underdeveloped or not in existence. Curriculum development institutions, such as TVETA, CDACC, KICD or NITA, have produced ad hoc occupational standards, but there is still a lack of synergy and harmonisation in the approach to identify training needs and development processes (TVETA, 2020, p. 44). It remains to be seen how the latest reforms of the TVET system, especially in curriculum development with input from industry representatives and sector experts, will affect this issue.
- Kenya still has a **fragmented TVET system**. There is a lack of coordination between the different ministries, departments, directorates and SAGAs. The existence of many different standards for certification and curriculum development as well as various official and non-official providers of TVET have led to an uncoordinated system. Because of the divergence in curricula in the various TVET institutions, prospective employers struggle to determine the comparative value of qualifications from centralised and decentralised systems, which makes it difficult to know the value of a potential employee from TVET institutions (Erima, 2021, p. 8; MoE, 2012; TVETA, 2020, p. 44).

5. References

- Abagi, O. & Ogachi, I.O. (2014). *Fifty Years of Education Development in Kenya: Mapping out the Gains, Challenges and Prospects for the Future*. Nairobi: Jomo Kenyatta Foundation.
- Abuya, B.A., Admassu, K., Ngware, M., Onsomu, E.O. & Oketch, M. (2015). Free Primary Education and Implementation in Kenya: The Role of Primary School Teachers in Addressing the Policy Gap. *SAGE Open* 5(1): 1–10.
- Akala, W.J. (2017). The Challenge of Contextualization and Domestication of VET Reforms for Higher Education Staff Capacity in East Africa. In F. Eicker, G. Haseloff & B. Lenartz (eds.), *Vocational education and training in Sub-Saharan Africa: current situation and development*. Presented at the Vocational Education and Development Symposium, Bielefeld: W. Bertelsmann Verlag GmbH & Co. KG.
- Akala, W.J. & Changilwa, P. (2018). Status of Technical and Vocational Education and Training (TVET) in Post-Secondary Education in Kenya. *Journal of Popular Education in Africa* 2(7): 15–25.
- CDACC. (2016). Curriculum Development. *TVET Curriculum Development Assessment and Certification Council*. Retrieved from <https://www.tvetcdacc.go.ke/curriculum-development-2/>
- CDACC. (2020). *Competency Based Curriculum Development Process*. Nairobi: TVET Curriculum Development Assessment and Certification Council.
- Clark, N. (2015). Education in Kenya. *WENR - World Education News + Reviews*. Retrieved 3 May 2021, from <https://wenr.wes.org/2015/06/education-kenya>
- CSP. (2020). Major Episodes of Political Violence, 1946-2013. *Center for Systemic Peace - State Fragility Index and War List*. Retrieved 16 April 2021, from <http://www.systemicpeace.org/warlist/warlist.htm>
- DAAD. (2020). *Kenia - Kurze Einführung in das Hochschulsystem und die DAAD-Aktivitäten | 2020*. Bonn: Deutscher Akademischer Austauschdienst.
- Dutta, S., Lanvin, B. & Wunsch-Vincent, S. (2020). *Global Innovation Index 2020: Who will finance innovation?* Fontainebleau, Ithaca and Geneva: Cornell University, INSEAD and WIPO.
- Embassy of the Republic of Kenya in Japan. (n. d.). The Government and the Political System | Kenya. Retrieved 23 April 2021, from http://www.kenyarep-jp.com/kenya/government_e.html
- Erima, G.E. (2021). Placing greater emphasis on vocational education in Kenya. *Open Science Journal* 6(2). Retrieved from <https://osjournal.org/ojs/index.php/OSJ/article/view/2080>
- European Commission. (2010). *The Bruges Communiqué on enhanced European Cooperation in Vocational Education and Training*. Bruges: Luxembourg: Publications Office of the European Union.
- FAO. (2018). FAOLEX Database Kenya Vision 2030 (Third Medium Term Plan 2018-2022 Policy) - Food and Agriculture Organization of the United Nations. Retrieved 8 June 2021, from <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC189643/>

- Fields, G.S. (2012). Poverty and Low Earnings in the Developing World. In P. N. Jefferson (ed.), *The Oxford Handbook of the Economics of Poverty*. Oxford University Press. Retrieved from <http://oxfordhandbooks.com/view/10.1093/oxfordhb/9780195393781.001.0001/oxfordhb-9780195393781-e-8>
- Fomiškina, J., Woogen, E., Peiris, A., Abdulrazzak, S. & Cameron, E. (2021). Nurturing Every Learner's Potential: Education Reform in Kenya. In F. M. Reimers (ed.), *Implementing Deeper Learning and 21st Century Education Reforms: Building an Education Renaissance After a Global Pandemic*. Cham: Springer International Publishing. Retrieved from https://doi.org/10.1007/978-3-030-57039-2_6
- Freedom House. (2021). Kenya: Freedom in the World 2021 Country Report. *Freedom House*. Retrieved 26 April 2021, from <https://freedomhouse.org/country/kenya/freedom-world/2021>
- GYLA. (2019). Update: Change in The Kenyan Education System. *Global Young Leaders Alliance*. Retrieved 10 May 2021, from <https://gyla.net/news/222399>
- Hongo Ominde, S., Ingham, K. & Ntarangwi, M. (2020). Encyclopaedia Britannica: Kenya - Government and Society. *Encyclopaedia Britannica*. Retrieved 23 April 2021, from <https://www.britannica.com/place/Kenya>
- Hongo Ominde, S. & Ntarangwi, M. (2020). Encyclopaedia Britannica: Kenya - Education. *Encyclopaedia Britannica*. Retrieved 17 May 2021, from <https://www.britannica.com/place/Kenya>
- ILO. (2011, June 17). National Labour Law Profile: Kenya. *International Labour Organization - National Labour Law Profile*. Document. Retrieved 21 April 2021, from http://www.ilo.org/ifpdial/information-resources/national-labour-law-profiles/WCMS_158910/lang--en/index.htm
- ILO. (2019). *State of Skills - Kenya*. Geneva: International Labour Organization.
- ILO. (2020a). ILO Data Explorer - Labour Force Participation by age. *International Labour Organization - Ilostat*. Retrieved 20 April 2021, from https://www.ilo.org/shinyapps/bulkexplorer30/?lang=en&segment=indicator&id=EAP_2WAP_SEX_AGE_RT_A
- ILO. (2020b). ILO Data Explorer - Unemployment by age. *International Labour Organization*. Retrieved 20 April 2021, from https://www.ilo.org/shinyapps/bulkexplorer41/?lang=en&segment=indicator&id=EAP_DWAP_SEX_AGE_RT_A
- ILO. (2020c). ILO Data Explorer - Labour Force Participation by education. *International Labour Organization*. Retrieved 21 April 2021, from https://www.ilo.org/shinyapps/bulkexplorer3/?lang=en&segment=indicator&id=EAP_DWAP_SEX_AGE_EDU_RT_A
- ILO. (2020d). ILO Data Explorer - Unemployment by education. *International Labour Organization*. Retrieved 21 April 2021, from https://www.ilo.org/shinyapps/bulkexplorer23/?lang=en&segment=indicator&id=UNE_DEAP_SEX_AGE_EDU_RT_A
- International Bureau of Education. (2010). *World Data on Education - Kenya*. Geneva: UNESCO, United Nations Educational, Scientific and Cultural Organization.
- Jairo, S. (2020). *Position Paper - Education Sector Development in Kenya*. Nairobi: Institute of Economic Affairs.
- Jowi, J.O. (2019). Higher Education Systems and Institutions, Kenya. In P. N. Teixeira, J.-C. Shin, A. Amaral, A. Bernasconi, A. M. Magalhaes, B. M. Kehm, ... T. Nokkala (eds.),

- Kaufmann, D., Kraay, A. & Mastruzzi, M. (2010). *The Worldwide Governance Indicators: Methodology and Analytical Issues* (SSRN Scholarly Paper No. ID 1682130). Rochester, NY: Social Science Research Network. Retrieved from <https://papers.ssrn.com/abstract=1682130>
- Kenya Country Team. (2008). *The Development and State of Art of Adult Learning and Education (ALE) - National Report on Kenya*. Nairobi: UNESCO, United Nations Educational, Scientific and Cultural Organization.
- Kenya Vision 2030. (2017). Adult Basic Education | Kenya Vision 2030. *Kenya Vision 2030*. Retrieved from <https://vision2030.go.ke/project/adult-and-continuing-education-programme/>
- KICD. (2016). *Basic Education Statistical Booklet 2014*. Nairobi: Kenya Institute of Curriculum Development. Retrieved from <https://kicd.ac.ke/curriculum-reform/basic-education-statistical-booklet/>
- KICD. (2017a). *Basic education curriculum framework*. Nairobi: Kenya Institute of Curriculum Development. Retrieved from <https://kicd.ac.ke/wp-content/uploads/2017/10/CURRICULUMFRAMEWORK.pdf>
- KICD. (2017b). *Pre Primary one curriculum designs*. Nairobi: Kenya Institute of Curriculum Development. Retrieved from <https://kicd.ac.ke/cbc-materials/curriculum-design/#pp1>
- KICD. (2017c). *Pre Primary two curriculum designs*. Nairobi: Kenya Institute of Curriculum Development. Retrieved from <https://kicd.ac.ke/cbc-materials/curriculum-design/#pp1>
- KICD. (2017d). *Lower Primary Level curriculum designs*. Nairobi: Kenya Institute of Curriculum Development. Retrieved from <https://kicd.ac.ke/cbc-materials/curriculum-design/#pp1>
- KICD. (2017e). *Upper Primary Level curriculum designs*. Nairobi: Kenya Institute of Curriculum Development. Retrieved from <https://kicd.ac.ke/cbc-materials/curriculum-design/#pp1>
- KICD. (2021). *Basic Education Statistical Booklet 2019*. Nairobi: Kenya Institute of Curriculum Development.
- Kimenyi, M., Mwega, F. & Ndung'u, N. (2016). Kenya: Economic Growth, Labor Market Dynamics, and Prospects for a Demographic Dividend. In H. BHORAT & F. TARP (eds.), *Africa's Lions*. Brookings Institution Press. Retrieved from <https://www.jstor.org/stable/10.7864/j.ctt1hfr23q.7>
- Kipkirui, L. (2019). Continuous Professional Development Guarantees Quality TVET Trainers. *TVET Authority*. Retrieved from <https://www.tveta.go.ke/2019/06/04/continuous-professional-development-guarantees-quality-tvet-trainers/>
- Kipkirui, L. (2021). TVET trainers undergo pedagogy training and CPD for lifelong learning. *TVET Authority*. Retrieved from <https://www.tveta.go.ke/2021/01/29/tvet-trainers-undergo-pedagogy-training-and-cpd-for-lifelong-learning/>
- Kiru, E. (2018). Special Education in Kenya. *Intervention in School and Clinic* 54: 105345121876791.
- KNBS. (2020). *Economic Survey 2020*. Nairobi: Kenya National Bureau of Statistics.

- KNEC. (n.d.). Teacher Examinations – KNEC. *Kenya National Examinations Council - Teacher Examination*. Retrieved from <https://www.knec.ac.ke/services/teacher-exam/>
- KNQA. (2018a). *The Kenya National Qualifications Framework*. Nairobi: Kenya National Qualifications Authority.
- KNQA. (2018b, October 16). Level Descriptors - Kenya National Qualifications Authority. Kenya National Qualifications Authority. Retrieved from <https://www.knqa.go.ke/index.php/level-descriptors/>
- KNQA. (2018c, October 18). About the Qualification Framework - Kenya National Qualifications Authority. Kenya National Qualifications Authority. Retrieved from <https://www.knqa.go.ke/index.php/about-the-qualification-framework/>
- KNQA. (2019, November 29). Kenya National Qualifications Authority. Kenya National Qualifications Authority. Retrieved from <https://www.knqa.go.ke/>
- Kudrzycki, B., Günther, I. & Lefoll, E. (2020). *Youth Labor Index for Low Income Countries* (No. LELAM Working Papers No. 13). Zurich: KOF Swiss Economic Institute, ETH Zurich.
- Malechwanz, J.M. (2020). *Effects of Engagement and Resources on Learning Outcomes in Vocational Colleges: Emerging Research and Opportunities*. IGI Global. Retrieved from <http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/978-1-5225-9250-1>
- Manyonge, L.M. & Kyalo, J.N. (2020). Effect of Public-Private Partnerships on revamping Technical Vocational Education and Training in Kenya: A Case of Kenya Association of Manufacturers (KAM) and Gesellschaft für Internationale Zusammenarbeit (GIZ) Partnership. *International Journal of Vocational and Technical Education Research* 6(2): 52–65.
- McCowan, T. (2018). Quality of higher education in Kenya: Addressing the conundrum. *International Journal of Educational Development* 60: 128–137.
- MESA. (2021). Background – Micro and Small Enterprises Authority (MSEA). Micro and Small Enterprises Authority. Retrieved from <https://msea.go.ke/msea-background/>
- M'imboga Akala, D.B. (2021). Revisiting education reform in Kenya: A case of Competency Based Curriculum (CBC). *Social Sciences & Humanities Open* 3(1): 100107.
- MoE. (2012). *Towards a globally competitive quality Education for sustainable Development - Report of the Task Force on the Re-Alignment of the education Sector to the Constitution of Kenya 2010*. Nairobi: Kenyan Ministry of Education.
- MoE. (2016). About us - Background Information. *Ministry of Education - About us*. Retrieved 26 April 2021, from <https://www.education.go.ke/index.php/about-us/background-information>
- MoE. (2019). *Sessional Paper No. 1 of 2019 on A Policy Framework for Reforming Education and Training for Sustainable Development in Kenya*. Nairobi: Ministry of Education.
- MoE & Ministry of Higher Education, Science Technology. (2012). *A Policy Framework for Education and Training on Reforming Education and Training Sectors in Kenya*. Nairobi: Kenyan Ministry of Education.
- Mukhwana, E., Oure, S., Kiptoo, S., Kande, A., Njue, R., Too, J. & Some, D. (2016). *State of University Education in Kenya*.

- Musyimi, C., Malechwani, J. & Luo, H. (2018). The Belt and Road Initiative and Technical and Vocational Education and Training (TVET) in Kenya: The Kenya-China TVET Project. *Frontiers of Education in China* 13: 346–374.
- Muyanga, M., Olwande, J., Mueni, E. & Wambugu, S. (2010). Free Primary Education in Kenya: An Impact Evaluation Using Propensity Score Methods. In *Child Welfare in Developing Countries*.
- Ngugi, M. & Muthima, P. (2017). Female Participation in Technical, Vocational Education and Training Institutions (TVET) Subsector: The Kenyan Experience. *Public Policy and Administration Research* 15.
- NITA. (2021). National Industrial Training Authority (NITA) - Who we are. Retrieved 16 June 2021, from <https://www.nita.go.ke/about-us/who-we-are.html>
- Njeng'ere, K. & Ji, L. (2017). *The why, what and how of competency based curriculum 2018 by david ny...* (No. 11). UNSESCO - International Bureau of Education. Retrieved from <https://de.slideshare.net/jmjmwanzo/the-why-what-and-how-of-competency-based-curriculum-2018-by-david-nyengere-kabita>
- Nyadera, I.N., Agwanda, B. & Maulani, N. (2020). Evolution of Kenya's Political System and Challenges to Democracy. In A. Farazmand (ed.), *Global Encyclopedia of Public Administration, Public Policy, and Governance*. Cham: Springer International Publishing. Retrieved from https://doi.org/10.1007/978-3-319-31816-5_3997-1
- Nyatuka, B.O. & Ndiku, J.M. (2015). Adult and Continuing Education in Kenya: The Need for Transformative Leadership. *World Journal of Education* 5(1): p52.
- OECD. (2017). *OECD Employment Outlook 2017*. Paris: Organization for Economic Co-Operation and Development. Retrieved from https://doi.org/10.1787/empl_outlook-2017-en
- OECD. (2020a). Employment - Employment by education level - OECD Data. *OECD Data*. Retrieved 20 April 2021, from <http://data.oecd.org/emp/employment-by-education-level.htm>
- OECD. (2020b). Unemployment - Unemployment rates by education level - OECD Data. *OECD Data*. Retrieved 20 April 2021, from <http://data.oecd.org/unemp/unemployment-rates-by-education-level.htm>
- OECD. (2021). LFS by sex and age - indicators. *OECD.Stat*. Retrieved 20 April 2021, from https://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R#
- Ohba, A., Consortium for Research on Educational Access, T. and E., University of Sussex, & Centre for International Education. (2009). *Does free secondary education enable the poor to gain access?: a study from rural Kenya*. Falmer: CREATE, University of Sussex.
- Ojiamb, P.C.O. (2009). Quality of Education and its Role in National Development: A Case study of Kenya's Educational Reforms. *Kenya Studies Review* 1(1).
- Ojiambo, P.C.O. (2018). Kenyan Teacher Education Policy Reforms: A Search for Holistic Individual and National Development. In N. Hobbel & B. L. Bales (eds.), *Navigating the common good in teacher education policy: critical and international perspectives*. New York: Routledge.
- OPHI. (2020a). Global Multidimensional Poverty Index. *Oxford Poverty & Human Development Initiative - Global MPI*. Retrieved 3 May 2021, from <https://ophi.org.uk/multidimensional-poverty-index/>

- OPHI. (2020b). Global MPI Country Briefings. *Oxford Poverty & Human Development Initiative - Global MPI*. Retrieved 16 April 2021, from <https://ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/>
- Orina, E. (2021). TVET CDACC: Revolutionizing TVET Sector through Industry-Led Curriculum Development. *TVET Curriculum Development Assessment and Certification Council*. Retrieved from <https://www.tvetcdacc.go.ke/publications/>
- Rageth, L. & Renold, U. (2019). The linkage between the education and employment systems: ideal types of vocational education and training programs. *Journal of Education Policy* 35(4): 503–528.
- Renold, U., Bolli, T., Caves, K., Rageth, L., Agarwal, V. & Pusterla, F. (2015). *Feasibility Study for a Curriculum Comparison in Vocational Education and Training. Intermediary Report I: The 20 Top Performers* (Research Report No. 70). KOF Studies. Retrieved from <https://www.econstor.eu/handle/10419/148991>
- Renold, U., Bolli, T., Oswald-Egg, M.E. & Pusterla, F. (2014). *On the Multiple Dimensions of Youth Labour Markets: A Guide to the KOF Youth Labour Market Index*. ETH Zurich. Retrieved from <http://hdl.handle.net/20.500.11850/97407>
- Schwab, K. (2019). *The Global Competitiveness Report 2019*. World Economic Forum (WEF).
- Somo College Guide. (2021). ABOUT NITA EXAMINATIONS BODY. *somo.co.ke*. Retrieved 8 June 2021, from <https://www.somo.co.ke/exam-body-nita-sm1-12>
- State Department for Early Learning and Basic Education. (2017). *National Pre-Primary Education Policy*. Nairobi: Kenyan Ministry of Education.
- State Department for Vocational Education and Technical Training. (2018). *Competency Based Education and Training Policy Framework*. Nairobi: State Department for Vocational Education and Technical Training.
- The Economist. (2020). Intelligence Unit - Kenya. *The Economist Intelligence Unit*. Retrieved 26 April 2021, from <http://country.eiu.com/article.aspx?articleid=80482191&Country=Kenya&topic=Summary&subtopic=Political+structure>
- The Economist. (2021). *Democracy Index 2020 - In sickness and in health?* The Economist Intelligence Unit. Retrieved from https://pages.eiu.com/rs/753-RIQ-438/images/democracy-index-2020.pdf?mkt_tok=NzUzLVJJUS00MzgAAAF8rDZW0BSd8q-CEmXQOFGgBbGRzEqv2qES6HZJ9_iftE6tw-_4bxHPT4sIKlic8XOCNleedyGow8As-GAverde074nfCZExQ-Sr3eCnzLJH_Lswkg
- Transparency International. (2021). Corruption Perceptions Index. *Transparency International Corruption Perceptions Index*. Retrieved 26 April 2021, from <https://www.transparency.org/en/cpi/2020>
- TSC. (2019). *Teacher Registration and Recruitment Requirements*. Nairobi: Teachers Service Commission.
- TVETA. (2017). *Gazette Notice No. 4983 - The Technical and Vocational Education and Training Act (No. 29 of 2013) - Fees for Services rendered by the Technical and Vocational Education Authority*. Nairobi: Technical and Vocational Education and Training Authority.
- TVETA. (2018a). *Strategic Plan 2018-2022*. Nairobi: Technical and Vocational Education and Training Authority.

- TVETA. (2018b). *TVETA Quality Assurance Training and Quality Audit Manual*. Nairobi: Technical and Vocational Education and Training Authority.
- TVETA. (2019a). *Competence -Based Education, Training and Assessment Standards & Guidelines (CBETA Standards and Guidelines)*. Nairobi: Technical and Vocational Education and Training Authority.
- TVETA. (2019b). *Trainer Qualification Framework*. Nairobi: Technical and Vocational Education and Training Authority.
- TVETA. (2020). *National TVET Standards - Kenya Report 2020*. Nairobi: Technical and Vocational Education and Training Authority.
- UIL. (2019). *Policy Setting for the KNQF*. Hamburg: UNESCO Institute for Lifelong Learning.
- UIS. (2021a). UNESCO Institute for Statistics - Statistics GER. Retrieved 17 May 2021, from <http://data.uis.unesco.org/>
- UIS. (2021b). UNESCO Institute for Statistics - Statistics NER. Retrieved 17 May 2021, from <http://data.uis.unesco.org/#>
- UNDP. (2020). *Human Development Report 2020: The Next Frontier - Human Development and the Anthropocene - Kenya country briefing note*. New York, NY, USA: United Nations Development Programme. Retrieved from <https://www.un-ilibrary.org/content/books/9789210055161>
- UNESCO. (2007). *Kenya National Adult Literacy Survey report*. Nairobi: United Nations Educational, Scientific and Cultural Organization. Retrieved from <https://www.eldis.org/document/A31868>
- UNESCO. (2016). *Kenya ISCED 2011 Mapping*. Paris: United Nations Educational, Scientific and Cultural Organization. Retrieved from <http://uis.unesco.org/en/isced-mappings>
- UNESCO Institute for Lifelong Learning. (2019). *4th global report on adult learning and education*. Hamburg: UNESCO - International Bureau of Education. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000372274>
- UNEVOC. (2018). *TVET Country Profile - Kenya*. Bonn: International Centre for Technical and Vocational Education and Training. Retrieved from <https://unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=KEN>
- UNEVOC. (2021). TVET Country Profiles - Kenya. *TVET Country Profiles - Kenya*. Retrieved 28 May 2021, from <https://unevoc.unesco.org/home/Dynamic+TVET+Country+Profiles/country=KEN>
- United Nations Statistics Division. (2020). UN Data - Kenya. *UN Data*. Retrieved 3 May 2021, from <https://data.un.org/en/iso/ke.html>
- University World News. (2018). Government promotes TVET sector as 'preferable' option. *University World News*. Retrieved 4 June 2021, from <https://www.universityworldnews.com/post.php?story=20180907073743134>
- U.S. Department of State. (2017). *Kenya 2017 Human Rights Report*. Washington D.C.: U.S. Department of State. Retrieved from <https://www.state.gov/wp-content/uploads/2019/01/Kenya-1.pdf>
- Woltjer, L. (2006). *Woord Daad - Kenya*. Word Daad.

- World Bank. (2020a). WGI 2020 Interactive > Interactive Data Access. *Worldwide Governance Indicators*. Retrieved 26 April 2021, from <http://info.worldbank.org/governance/wgi/Home/Reports>
- World Bank. (2020b). Education Statistics Indicators | DataBank. *The World Bank Data*. Retrieved 27 April 2021, from <https://databank.worldbank.org/source/education-statistics-%5E-all-indicators#>
- World Bank. (2021a). GDP per capita (current US\$) - Sub-Saharan Africa | Data. *The World Bank Data*. Retrieved 15 April 2021, from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=ZG&most_recent_value_desc=true
- World Bank. (2021b). Gini Index | DataBank. *The World Bank Data*. Retrieved 5 May 2021, from <https://databank.worldbank.org/source/world-development-indicators/preview/on#>
- World Bank. (2021c). World Development Indicators | DataBank. Retrieved 15 April 2021, from <https://databank.worldbank.org/reports.aspx?source=2&country=&series=NY.GDP.MKTP.KD.ZG&period=#>
- World Bank. (2021d). Jobs | DataBank. *The World Bank Data*. Retrieved 16 April 2021, from <https://databank.worldbank.org/source/jobs#>
- World Bank. (2021e). Literacy Rate | DataBank. *World Bank Databank*. Retrieved 12 May 2021, from <https://databank.worldbank.org/source/world-development-indicators#>
- World Bank. (2021f). Teachers Ratio | DataBank. *World Bank Databank*. Retrieved 11 May 2021, from <https://databank.worldbank.org/source/education-statistics-%5e-all-indicators#>

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