REPUBLIC OF KENYA

MINISTRY OF EDUCATION

NATIONAL EDUCATION SECTOR STRATEGIC PLAN

2018 - 2022

KENYA VISION 2030

REPUBLIC OF KENYA

MINISTRY OF EDUCATION

NATIONAL EDUCATION SECTOR STRATEGIC PLAN

FOR THE PERIOD 2018 - 2022

VISION

Quality and inclusive education, training and research for sustainable development

MISSION

To provide, promote and coordinate competency based equitable learner centered education, training and research for sustainable development

THEMES

Access and Equity; Quality and Relevance; Governance and Accountability

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LIST OF ACRONYMS AND ABBREVIATIONS

ACE: Adult and Continuing Education

AIDs   Acquired Immune Deficiency Syndrome

APBET   Alternative Provision of Basic Education and Training

ASAL   Arid and Semi-Arid Lands

BAB: Biosafety Appeals Board

BOGs   Board of Governors

BOM   Board of Management

Bn: Billions

CATs   Continuous Assessment Tests

CBA   Competency Based Assessment

CBC   Competency Based Curriculum

CBET   Competency Based Education and Training

CBOs   Community Based Organizations

CDE   County Director of Education

CDC   Center for Disease Control

CEMASTEA: Centre for Mathematics, Science and Technology Education in Africa

CLRC   Community Learning Resource Center

CPPMU   Central Planning and Project Monitoring Unit

CQASOs   County Quality Assurance & Standards Officers

CS: Cabinet Secretary

CSOs   Curriculum Support Officers

CUE: Commission for University Education

DLP   Digital Literacy Programme

DUC   Differentiated Unit Cost

EARCs: Education Assessment and Resource Centres

ECD   Early Childhood Development

ECDE   Early Childhood Development and Education

EDPCG   Education Development Partners Coordination Group

EGMA   Early Grade Mathematics

EFA   Education for All

EMIS   Education Management Information System

ERV   Public Expenditure Review

ESA	Education Sector Analysis
ESD	Education for Sustainable Development
ESP	Education Sector Plan
FBOs	Faith Based Organizations
FDSE	Free Day Secondary Education
FM	Financial Management
FPE	Free Primary Education
FTE:	Full Time Equivalent
GAAP	Governance and Accountability Action Plan
GDP:	Gross Domestic Product
GER:	Gross Enrolment Rate
GERD:	Gross Expenditure on Research and Development
GoK:	Government of Kenya
GPI:	Gender Parity Index
GTT	Government Trade Test
G-United	Greatness United
HE	Higher Education
HDI:	Human Development Index
HELB:	Higher Education Loans Board
HQs	Headquarters
IBQA	Institutional Based Quality Assurance
ICT	Information Communication and Technology
IE	Inclusive Education
IEC	Information Education Communication
IERCs	Inclusive Education Resource Centres
IFMIS	Integrated Financial Management Information System
IIEP	International Institute of Education Planning
IPPD	Integrated Payroll Personnel Database
IPR	Intellectual Property Rights
ISEMIS	Integrated Skills and Employment Information System
ISO	International Organization for Standards
KDHS	Kenya Demographic Health Survey
KCPE:	Kenya Certificate of Primary Education
KCSE:	Kenya Certificate of Secondary Education

KES:	Kenya Shillings
KEMI	Kenya Education Management Institute
KEYA	Kenya Early Years Assessment
KIB	Kenya Institute for the Blind
KICD	Kenya Institute of Curriculum Development
KISE	Kenya Institute of Special Education
KNALS:	Kenya National Adult Literacy Survey
KNBS	Kenya National Bureau of Standards
KNEC	Kenya National Examinations Council
KNQA:	Kenya National Qualifications Authority
KNQF	Kenya National Qualifications Framework
Km	Kilometer
KTTCs	Kenya Technical Training Colleges
KUCCPS:	Kenya Universities and Colleges Central Placement Service
LSA	Learning Support Assistant
MC	Master Crafts
MDTIs	Multipurpose Development Training Institutes
M&E	Monitoring and Evaluation
MLA	Monitoring Learning Achievement
MOE	Ministry of Education
MTEF	Medium Term Expenditure Framework
MTP	Medium Term Plan
NACADA	National Authority for the Campaign Against Alcohol and Drug Abuse
NACOSTI:	National Commission for Science, Technology and Innovation
NASMLA	National Assessment of Monitoring Learning Achievements
NEMIS	National Education Management Information System
NER:	Net Enrolment Rate
NESSP	National Education Sector Strategic Plan
NGOs	Non-Governmental Organizations
NRF:	National Research Fund
ODEL	Open Distance and E- Learning
OOSC	Out of School Children
PETS	Public Expenditure Tracking Surveys
PAUSTI:	The Pan African University of Science, Technology and Innovation

PC	Performance Contract
PFM	Public Finance Management
PISA-D	Programme for International Students Assessment for Development
PHC:	Population and Housing Census
PLWD	Persons Living With Disabilities
PPP	Public Private Partnerships
POEA	Public Officers Ethics Act
PRIEDE	Primary Education Development
PSEA	Primary School Education Assessment
PTR	Pupil Textbook Ratio
PTSD	Post Training and Skills Development
PTTCs	Primary Teachers Training Colleges
QAS	Quality Assurance and Standards
QASOs	Quality Assurance and Standards Officers
R&D	Research & Development
RPL	Recognition of Prior Learning
SAGAs:	Semi-Autonomous Government Agencies
SAQMEC	The Southern and Eastern Africa Consortium for Monitoring Educational Quality
SCDEs	Sub County Directors of Education
SCQASOs	Sub County Quality Assessments & Standards Officers
SDGs	Sustainable Development Goals
SET	Science Engineering and Technology
SEQIP	Secondary Education Quality Improvement Project
SMC	School Management Committee
SN&D	Special Needs & Disabilities
SNE	Special Needs Education
ST&I:	Science Technology and Innovation
STEM:	Science Technology Engineering and Mathematics
SSACs	Sector Skills and Councils
SSR	Staff Student Ratio
TE	Technical Education
TIMSS	Trends in International Mathematics and Science Study
TMIS	TVET Management Information System
TOT	Trainer of Trainers

TPAD:	Teacher Performance Appraisal and Development
TPD:	Teacher Professional Development
TPR	Teacher Pupil Ratio
TSC	Teachers' Service Commission
TTCs	Teachers Training Colleges
TTIs	Technical Training Institutes
TWG	Technical Working Group
TVCs	Technical Vocational Colleges
TVET:	Technical Vocational Education and Training
TVETA:	Technical and Vocational Education and Training Authority
UEMIS	University Education Management Information System
UFB:	Universities Funding Board
UNCRPD	United Nations Convention of the Rights of Persons with Disabilities
UNFPA	United Nations Population Fund
UNHCR:	United Nations High Commissioner for Refugees
VET:	Vocational Education and Training
VGAs	Volunteer Graduate Assistant
VTCs	Vocational Technical Colleges
WASH	Water Sanitation and Hygiene

FOREWORD

The Government of Kenya is committed to ensuring that no child is left behind in terms of access to education. Articles 43(f) and 53(1) (b) of the Kenyan Constitution provide for the right to education and the right to free and compulsory basic education, respectively. The Basic Education Act (2013) guarantees the right of every child to free and compulsory basic education. The government is also committed to implementing international and regional commitments related to education, such as the Education for All (EFA) goals and Sustainable Development Goals (SDGs), among others. In order to honor the above commitments, the Ministry of Education is committed to providing and promoting competence based and equitable learner centered education, training and research for sustainable development. It is important to note that the Government of Kenya continues to invest heavily in the education sector, committing about 5.4% of Gross Domestic Product (GDP) to the sector.

This National Education Sector Strategic Plan (NESSP) 2018-2022 is an all-inclusive, sector wide plan that spells out policy priorities, programmes and strategies for the education sector over the next five years. NESSP (2018-2022) builds on the successes and challenges of the National Education Sector Plan (NESP) 2013-2017. The Plan aims at achieving four important strategic objectives for education, training and research, which are: to enhance access and equity; to provide quality and competency based education, training and research; to strengthen management, governance and accountability; and enhance relevance and capacities for Science, Technology and Innovation (ST&I) in education, training, and research for labour markets. The achievement of these strategic objectives will contribute to the realization of the aspirations of Kenya's blueprint, the Vision 2030 (as well as the MTP III which provides direction on planning and investments of the Vision 2030 during the period 2018-2022).

The programmes identified in NESSP 2018-2022 are drawn from the education sector analysis, the lessons learnt from the implementation of the National Education Sector Plan (2013-2017), the Sessional Paper No 1 of 2019 and priorities identified in the Medium Term Plan III. This sector plan is a product of a highly participatory and consultative process bringing together representatives from all the State Departments; the Teachers Service Commission; Semiautonomous Government Agencies (SAGAs) in the Ministry of Education; development partners, through the Education Development Partners Coordination Group (EDPCG); Civil Society Organization(s); and research institutions, led by the Ministry of Education.

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PREFACE AND ACKNOWLEDGEMENT

The provision of quality education and training to all Kenyans is fundamental to the government's overall strategy for socio-economic development. Consequently, reforms in the education sector are necessary for the achievement of Kenya Vision 2030 and meeting the provisions of the Kenya Constitution 2010 in terms of human resource capital to support provision of high quality life for all citizens. This National Education Sector Strategic Plan (NESSP) is a sector wide reform programme that gives effect to the legislative frameworks developed to actualize the Sessional Paper No. 1 of 2019.

The NESSP 2018-2022, has been developed through an all-inclusive stakeholder consultative process. Through NESSP (2018-2022), Kenya strives to provide quality and inclusive education, training and research for sustainable development. This will be realised through providing, promoting and coordinating competency based equitable learner centred education, training and research that is relevant to the labour market. This plan purposes to increase access and participation, raise the quality and relevance and improve governance and accountability in education, training and research with an emphasis on Science, Technology and Innovation.

The NESSP 2018-2022 is a five-year plan that outlines the education sector reform implementation agenda in five thematic areas. The thematic areas include Access and participation; Equity and inclusiveness; Quality and Relevance; Sector Governance and Accountability; and Pertinent and Contemporary Issues and Values. Each of the thematic areas is further divided into policy priority, programmes and activities. An implementation plan in the form of a NESSP Results Framework has been developed detailing the outputs from the activities, targeted quantities and the respective financial implication. In addition, a monitoring and evaluation framework has been developed to enable tracking and reporting the implementation of the plan.

The implementation of the plan will be done under a multi sectoral approach with all the relevant stakeholders. For effective alignment and delivery, a NESSP Co-ordination Unit, in the form of a multi-agency secretariat will spearhead the implementation of this plan. The NESSP Co-ordination unit will report progress according to the NESSP Results Framework and the Monitoring and Evaluation Framework.

Financing of the plan will be a joint effort among national government, county governments, development partners, private sector and households. This calls for strengthening of coordination, linkages and collaboration among all the players to mobilise the requisite financial resources. The Government will continue strengthening governance and accountability to ensure value for money.

We wish to acknowledge the role played by the NESSP Technical Working Team and other colleagues in the sector in the conceptualisation and development of this sector plan. We would also like to thank the development partners, academics, and civil society organisations for their contributions to the development of this Plan. We call upon all players in Kenya's education, training and research sector to support this innovative National Education Sector Strategic Plan.

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EXECUTIVE SUMMARY

This NESSP 2018-2022 outlines policy priorities, programmes and strategies for the Ministry of Education over the next five years. It covers the following sub-sectors: Pre-Primary Education, Primary Education, Secondary, Adult and Continuing Education, Technical and Vocational Education and Training (TVET), University Education, Special Needs Education, and Teacher Education. There are also programmes related to National Qualifications Framework, Quality Assurance and Standards, as well as Science, Technology and Innovations. The Plan is divided into five chapters.

The first chapter provides an analysis of issues that have an implication on education in Kenya, including Kenya's demographic, macro-economic and social indicators, as well as the humanitarian context. Four in every ten Kenyans are of pre-school, primary and secondary school going age (that is age 4-17 years). In relation to the economy, the size of the economy has grown from GDP of about KES 4.8 trillion in 2013 to about KES 8.9 trillion in 2018. There are also improvements in a number of social indicators. For instance, Kenya's Human Development Index (HDI) increased from 0.53 in 2010 to 0.555 in 2015 and further to 0.59 in 2017 with life expectancy at birth increasing from 62.9 years in 2010 to 66.6 years in 2015 and 67.3 years in 2017. Kenya is also ranked as one of the countries with the highest number of refugees, with close to 155,000 school going children among them.

Chapter 2 provides a summary of the trends in education based on the Education Sector Analysis (ESA). Central government spending on education is about 5.3 percent of GDP. A large share, about 92 percent of this expenditure, goes to recurrent expenditure. In terms of access to education, the country has made strides. The number of Pre-Primary centres rose from 40,145 centres in 2012 to 41,779 centres in 2018. The enrolment in Pre-primary education increased from 2,865,348 in 2013 to 3,390,545 in 2018. The Gross Enrolment Rate (GER) in pre-primary education stood at 75.4 % in 2018 while the net enrolment rate was at 77.2% during the same year.

At primary school level, the number of primary schools increased from 28,026 in 2013 to 37,910 in 2018, with enrolment rising from 9.8 million in 2013 to about 10.5 million pupils in 2018. This growth translated to a reduction in GER from 105% to 104% in primary school education, while NER increased from 88.1% in 2013 to 92.4% in in 2018. On gender parity, the government investment in primary education has resulted to improved parity index from 0.96 in 2013 to 0.97 in 2018. The completion rate of primary education has also increased considerably from 80% in 2013 to 84.2% in 2018, while the retention rate increased from 77% to 86% during the same period.

The number of secondary schools increased from 8,734 to 11,399, while enrolment in secondary education grew from 2 million to 2.9 million during the period 2013 to 2018. As outlined in the Education Sector Analysis (ESA), the GER increased from 54.3% in 2013 to 70.3% in 2018 while NER increased from 38.5% to 53.2% during the same period. The gender parity now stands at 0.95 in 2018.

Technical and Vocational Education and Training (TVET) has experienced remarkable growth over the last five years. 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 363,884 in 2018. The gender parity index improved from 0.68 in 2013 to 0.78 in 2018.

The university sub-sector has witnessed growth in the last 5 years due to establishment of new universities and expansion of the existing ones. The number of universities increased from 57 in 2012 to 74 in 2018. The total university student enrolment increased by 48.8% from 361,379 in 2013 to 537,733 in 2018. The enrolment by gender was 310,367 (57.7%) male and 227,356 (42.35) female in 2018. Student enrolment, by gender, in public and private universities, from 2013/14 to 2016/17, shows that gender parity stood at 68.89% in 2014, 68.63% in 2015, 71.48% in 2016 and decreased to 70.86% in 2017.

Despite this, the country faces a number of challenges in the sector. At the basic education level, there are important sources of internal inefficiencies. For instance, more than 40 percent of children who start Grade 1 do not go up to Form 4. Another thing is that an estimated 1 million school going children are out of school, mostly in Arid and Semi-Arid Lands (ASAL) counties. There are also wide disparities in access to education, based on gender, location and region. For instance, girls are generally left behind in ASAL areas. Another aspect is that nearly 6 out of 10 children from the poorest quintile, who enrolled in Grade 1, are expected to complete Grade 6, compared to 9 out of 10 children from the richest quintile. Another challenge is that more children at basic education level are entering school but not adequately learning. In relation to performance, less than 20 percent of the candidates sitting for KCSE exams scored C+ and above over the last two academic years, which is the entry qualification for university education.

The TVET and university sub-sectors face a number of challenges too. The challenges of TVET include inadequate data, low enrolment among females, poor linkages with the industry, inadequate physical infrastructure and equipment to support the teaching of the Competency
Based Education and Training (CBET) curriculum, non-alignment of the curriculum to the CBET curriculum and to the Vision 2030, among others. The university sub-sector, on the other hand, faces a number of challenges such as inadequate funding, low proportion of Science Engineering and Technology (SET) subjects, low enrolment of female students in SET subjects, and inadequate qualified teaching staff, among others.

The policy priorities, goals and programmes identified in this Plan, for each sub-sector, are based on the following thematic areas: access and equity; education quality and relevance; education management, governance and accountability; and labour market relevance. The choice of these thematic areas is based on the challenges facing the education sector in Kenya, as identified in the Kenya Education Sector Analysis; the priorities identified in the Vision 2030's third Medium Term Plan as well as extensive consultations with education stakeholders in Kenya. The actual programme design, discussed in Chapter 3 of the Plan, has, at the top ,the policy priority level, the goal or general objective that addresses a given identified challenge and is linked to a target as an expected outcome within the results

framework. Within each goal or general objective, there are a number of programmes that address the underlying causes of the identified challenge, linked to a target as an intermediate outcome within the results framework. Finally, within each programme, there is a set of activities outlined to address the underlying challenges identified. The activities, within the results framework, are like output indicators.

The programmes and their associated activities are projected to cumulatively cost KES 2.985 trillion over the 5-year period, with recurrent costs projected to account for about 90 percent of the total projected cost. This projected cost, discussed in Chapter 4, is based on the ambitious increment in enrolment at all levels of education, and the desire to roll out the competence based curriculum coupled with the strengthening of the system for quality service delivery. The education sector is likely to receive, cumulatively, KES 2.32 trillion in budget over the 5-year plan period against the plan cost of KES 2.985 trillion. Without taking into account commitments from development partners, the resource gap is therefore projected to be KES 666 billion (USD 6.66 billion) over the 5-year period.

The Plan will be implemented through the existing structures of the Ministry of Education. As identified in the sector diagnosis, the non-alignment of systems and institutions in the sector stands out as a threat to the implementation of this Plan. The Plan, therefore, proposes the creation of the NESSP Co-ordination Unit, which will take the form of a multi-agency secretariat, to spearhead the implementation of this Plan. The NESSP Co-ordination Unit will be accountable to the Principal Secretaries of the four State Departments. It will report regularly to the Cabinet Secretary, through the Principal Secretaries, about progress according to the NESSP Results Framework and the Monitoring and Evaluation Framework.

DEFINITION OF TERMS

Assessments:	Wide variety of methods and tools that educators use to evaluate, measure and document the academic readiness progress, skills acquisition or educational needs of students
Accreditation:	Process of validation in which colleges, universities and other institutions of higher learning are evaluated
Guidelines:	Recommended practices that organizations should undertake to meet set standards
Quality Education:	One that provides all learners with capabilities they require to become economically productive, develop sustainable livelihoods, contribute to peaceful and democratic societies and enhance individual wellbeing
Refugee:	A person who (a) owing to a well-founded fear of being persecuted for reasons of race, religion, sex, nationality, membership of a particular social group or political opinion is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or (b) not having a nationality and being outside the country of his former habitual residence, is unable or, owing to a well-founded fear of being persecuted for any of the aforesaid reasons, is unwilling to return to it
Summative Evaluation:	A process designed to evaluate a student's learning, skill acquisition and academic achievement at the conclusion of a defined instructional period
Formative Evaluation:	A process designed to progressively evaluate a student's comprehension, learning needs and academic progress during the instructional period
Marginalized Groups:	Groups that have been socially disadvantaged and relegated to the fringe of society and denied involvement in mainstream economic, political, cultural and social activities
Education Assessment and Resource Centres:	Education Assessment and Resource Centres are supposed to play the role of identifying, assessing and placing children with special needs in education and disabilities.

1. THE CONTEXT OF EDUCATIONAL DEVELOPMENT AND REFORMS IN KENYA

1.1 Key Demographic and Macro Economic Indicators

Kenya is bordered by Tanzania to the south and southwest, Uganda to the west, South Sudan to the north-west, Ethiopia to the north and Somalia the north-east. It covers 581,309 km^2. Kiswahili is the national language of Kenya and the first official language, spoken by nearly all the population. The country's long-term development goals are set out in *Vision 2030*, which aims to transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment.

Four in every ten Kenyans are aged 4-17 and are of pre-primary, primary and secondary school going age. Table 1 presents the evolution of total population and Gross Domestic Product. As at 2018, Kenya's population was estimated at 47.8 million, reflecting a 14.4 percent growth rate between 2013 and 2018. The official school age in Kenya is classified as follows: 3-5 for ECDE, 6-13 for primary and 14-17 for secondary. As Table 1 shows, almost four in every ten Kenyans are of school going age. The school-age population grew by almost 13 percent between 2013 and 2018. This has an implication on the provision of education and employment opportunities for young people in the country.

Table 1: Total Population and Gross Domestic Product, 2013-2018

	2013	2014	2015	2016	2017	2018*
Population						
Total Population (Million)	41.8	43.0	44.2	45.4	46.6	47.8
Population (3-17) (Million)	17.3	17.7	17.9	18.1	18.5	19.5
3-17 as % of total population	41.3	41.2	40.6	40.0	40.0	41.0
Gross Domestic Product						
GDP, Market Prices (KES Bn)	4,745.0	5,402.6	6,284.2	7,023.0	8,144.4	8,905.0
GDP Growth, Constant Prices	5.9	5.4	5.7	5.9	4.9	6.3
GDP per capita current (KES)	113,539	125,757.0	142,315.9	154,802.3	174,790.7	186,2967
GDP per capita constant (KES)	87,261	89,430	91,989	94,797	96,788	100,310

Source: Economic Surveys, *Provisional

Kenya's economy recorded a relatively steady growth over the period 2013-2018. The economy increased by 88 percent, from a GDP (market prices) of close to KES. 4.8 trillion in 2013 to about KES. 9 trillion in 2018. Real GDP annual growth rate averaged 5.6 percent, increasing from 5.7 percent in 2016 to 6.3 percent in 2018. The average wealth of Kenyans increased steadily over the period under review. In real terms, the GDP per capita increased by 15 percent, from about KES. 87,000 in 2013 to around KES. 100,000 in 2018. Table 2 shows Kenya's fiscal outturn over the years 2014 to 2018. Revenues including grants, as a share of GDP, have remained constant- marginally increasing from 21.1 percent in 2014 to 21.2 in 2018. Total national government expenditures, as a share of GDP, did not also significantly change- reducing marginally from about 36.2 percent to 34.1 percent. On

average, the government has been running a budget deficit. On average, over the years 2014-2018, total national government expenditures, as percent of GDP, were above revenues by about 13 percentage points.

Table 2: Government Resources and Spending

	2014	2015	2016		2018*
				2017	
Recurrent Revenues and Grants (KES, Bn)	1141.6	1266.0	1429.8	1561.4	1886.0
Total National Government Spending (KES, Bn)	1953.5	2047.4	2283.0	2576.1	3033.6
Recurrent Revenue and Grants, % of GDP	21.1	20.1	20.4	19.2	21.2
Total National Government Spending, % of GDP	36.2	32.6	32.5	31.6	34.1

Source: Economic Surveys, * Provisional

1.2 Key Social Indicators

Kenya has shown improvements in a number of social indicators. Table 3 shows a number of social indicators related to Kenya. The country recorded a marginal growth in the Human Development Index (HDI), from 0.55 in 2013 to 0.59 in 2017. Expected years of schooling, defined as the number of years during which a child entering school can expect to spend in school in the course of their life cycle, based on the current school enrolment increased from 11 in 2013 to 12.1 in 2017. Looking at health indicators, life expectancy at birth increased from 65.7 years in 2013 to 67.03 years in 2017, showing that Kenyans are relatively living longer. Fertility rates (births per woman) reduced marginally, from about 4.1 in 2013 to about 3.9 in 2017. Despite improvements in a number of health related indicators, unemployment remains a challenge. For instance, Kenya recorded 39.1 percent unemployment rate according to a recent report by the United Nations- the Human Development Index (HDI) of 2017, higher than the unemployment rate in Ethiopia, Tanzania, Uganda and Rwanda.

Table 3: **Kenya Basic Social Indicators**

	2013	2014	2015	2016	2017
Human Development Index (HDI)	0.55	0.55	0.56	0.585	0.59
Education					
Expected years of schooling	11.1	11.1	11.7	11.9	12.1
Health					
Life expectancy at birth, total (years)	65.6	66.2	66.6	66	67.3
Fertility rate, total (births per woman)	4.1	4	3.9	3.85	3.79
Mortality rate, infant (per 1,000 live births)	39.6	38.2	36.5	35.6	34.9
Population and Infrastructure					
Rural population % of total population)	75.2	74.8	74.4	73.95	73
Total mobile money transfer (KES Bn)**		2,372.0	2,816.0	3,356.0	3,638.0
Individuals using the Internet (% of population)	13.0	16.5	21.0	26.0	30.2
Secure Internet servers (per 1 million people)	4.7	7.6	8.9	10.8	12.3
Secure Internet servers	212.0	350.0	421.0	522.0	623.2
Mobile cellular subscriptions (per 100 people)	71.8	73.8	80.7	81.3	81.9
Mobile cellular subscriptions (Mn)**		33.6	37.7	39.0	42.8

Source: World Development Indicators, 2017. ** based on Economic Survey (2019)

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1.3 Education in Humanitarian Context in Kenya

Kenya is ranked as one of the countries with the highest number of refugees and asylum seekers (hereafter referred to as refugees). As of December 2018, Kenya was host to 475,412 refugees and asylum seekers. The majority of refugees in Kenya reside in two camps (Dadaab – 209,979 and Kakuma – 188,513) with an additional minority living in urban areas across the country

(76,920). While the number of refugees hosted in Kenya has reduced by 86,365 since the onset of the Voluntary Repatriation Programme to Somalia in 2014, political instability in neighboring countries such as Somalia, South Sudan and the Democratic Republic of Congo continues to pose the risk of refugee influx to Kenya.

1.4 Kenya's Education Sector Structure and Policy Framework

The Education Sector in Kenya is committed to the provision of quality education, training, science and technology to all Kenyans. This is aimed at contributing to the building of a just and cohesive society that enjoys inclusive and equitable social development. Its Vision is: *Quality and inclusive education, training and research for Kenya's sustainable development.* Its Mission is: *to provide, promote and coordinate competency based equitable learner centered education, training and research for sustainable development.* Ultimately this will lead to empowerment of individuals to become responsible and competent citizens who value education as a lifelong process. The vision and mission are guided by the understanding that quality education and training contributes significantly to economic growth, better employment opportunities and expansion of income generating activities. Education is viewed as an enabler in the achievement of the Big Four Agenda.[1] Quality education is also one of the goals of the Sustainable Development Goals. It is also a contributor to other core SDG goals, including gender equality, poverty eradication, good health and well-being, decent work and economic growth.[2]

At present, a Cabinet Secretary, assisted by four Principal Secretaries, each heading a State Department, heads the Ministry of Education. The four State Departments are: the State department for Early Learning and Basic Education that is responsible for pre-primary, primary, secondary and teacher education; the State department for Vocational Education and Technical Training responsible for promoting technical and vocational education and training; the State department for University Education, responsible for university education; and the State department for Post Training and Skills Development responsible for promoting skills development. Under the state departments, there are Semi-Autonomous and Autonomous Government Agencies (SAGAs), which are charged with various responsibilities. In the education sector, there is also the Teachers Service Commission (TSC), an independent constitutional commission that regulates the teaching service in Kenya.

In the year 2010, Kenya ushered in a new Constitution that introduced a devolved system of government. A number of national government services were devolved to the 47 county governments. Education is one of the service sectors that had some roles and responsibilities being devolved under this new governance arrangement. The Fourth Schedule of the Constitution of Kenya Articles 185(2), 186(1) and 187(2) distributes functions between the National

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[1] The Big Four Agenda is a four-point agenda by President Uhuru Kenyatta, outlining what he will be focusing on in his last presidential term to improve the living standards of Kenyans, grow the economy and leave a lasting legacy. [2] Kenya adopted the SDGs in 2016.

Government and County Governments. The functions of the National Government one education and training are: education policy, standards, curriculum, examinations, granting of university charters, universities, tertiary educational institutions, institutions of research, higher learning, primary schools, special education, secondary schools, special education institutions and promotion of sports and sports education. The functions of the County Government in relation to education are: pre-primary education, youth polytechnics, home craft centres, farmers training centres and childcare facilities.

1.5 Structure of the Education System

Kenya follows the 8-4-4 system of education. This consists of 8 years of primary school, 4 years of secondary school and 4 years of university education. Although not mandatory, children also attend 1 or 2 years of pre-primary school, at age 3 to 5, before starting primary school.   Public primary education has been free and compulsory in Kenya since 2003, with the curriculum comprising of languages, mathematics, history, geography, science, crafts and religious studies.

The 8-4-4- system follows objective based curriculum, which lays emphasis on summative evaluation. As a result, a new competency based structure of education has been put in place and is set to replace the 8-4-4 system. The new system (2-6-3-3) consists of 2 years of pre-primary (for ages 4-5); 3 years of lower primary and 3 years of upper primary (for ages 6-11); and 3 years of junior secondary as well as 3 years of senior secondary (for ages 12-17 years). The new structure follows a Competency Based Curriculum, which seeks to nurture every learner's potential by ensuring all learners acquire the core competencies. The Competency Based Curriculum emphasizes on formative rather than summative evaluations. The government has begun rolling out the CBC in early years education. The Government hopes to completely phase out the 8-4-4 curriculum by 2026. Figure 1 shows the Structure of the New Education System in Kenya while Figure 2 shows the Education and Training Progression Pathways.
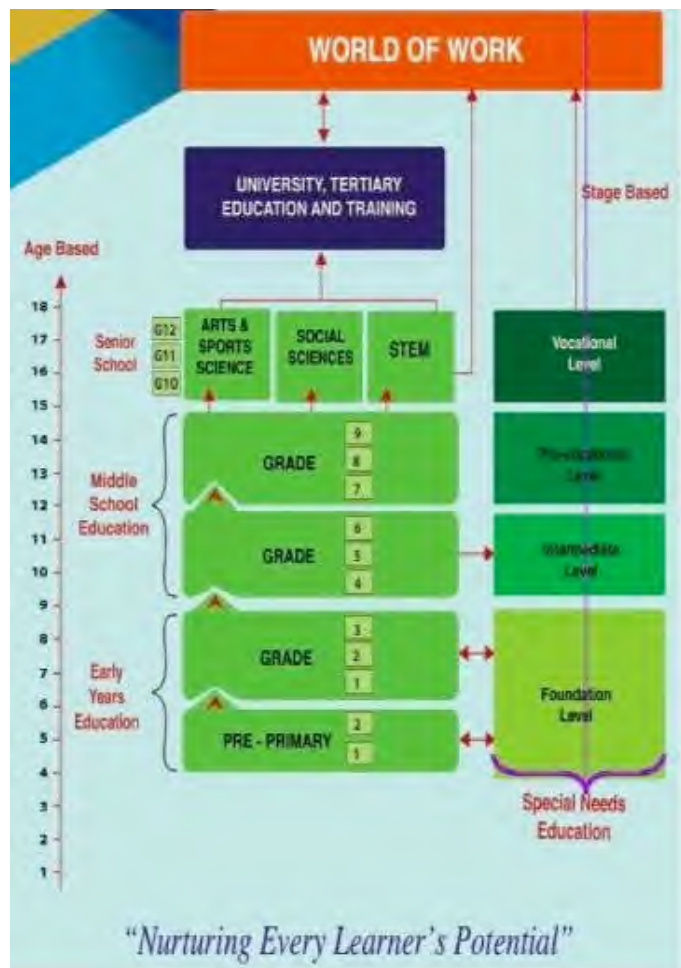
Figure 1: : Structure of the New Education System in Kenya
Source: Kenya Institute of Curriculum Development

MC-Master Crafts Person, GTT-Government Trade Test
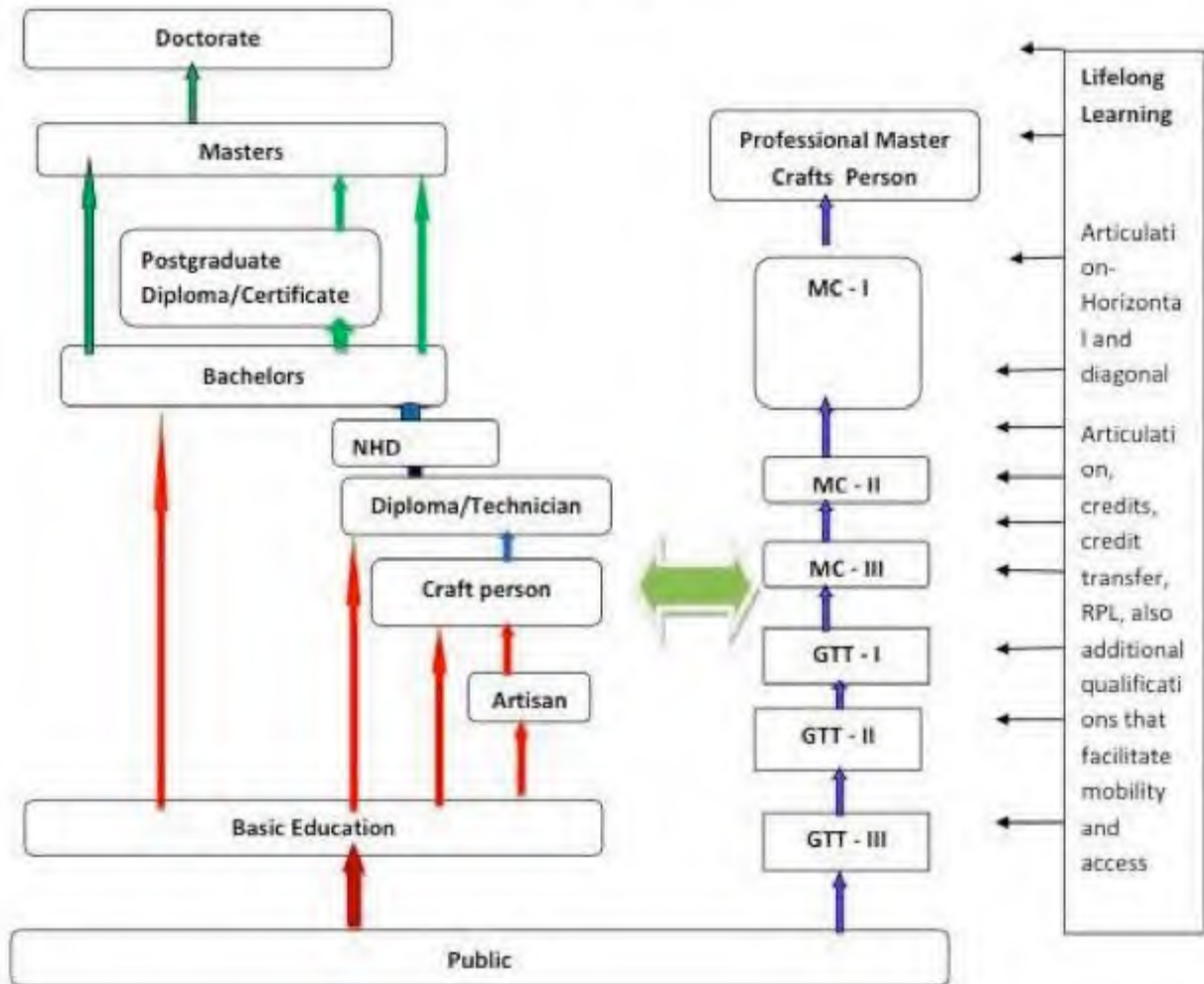
Figure 2: Education and Training Progression Pathways

Source: KNQA 2018

2. THE STATUS OF THE EDUCATION SECTOR AND ONGOING REFORMS

This chapter summarizes access, quality and efficiency issues in Kenya's education sector. The chapter provides a summary of the issues discussed in the evidence based Kenya Education Sector Analysis (2018). Readers are therefore encouraged to refer to the Education Sector Analysis (2018) for more details of the issues presented in this chapter.

2.1 Access and Participation

2.1.1 Pre-Primary Education

More children are enrolling in pre-primary centres although enrolment rates at this level show that a substantial proportion of children at pre-primary school going age are not enrolled. Table 4 shows key indicators in the Pre-primary Sub-Sector for period 2013-2018. In absolute numbers, enrolments in pre-primary schools increased from 2.8 million in 2013 to 3.4 million in 2018. The national pre-primary NER was 77.2 percent in 2018, meaning that accounting for age-school appropriateness, close to 25 percent of children who are supposed to be enrolled in pre-primary centres are not enrolled. A large proportion of them are out of school, while a few are directly enrolled in primary schools. In particular, access at pre-primary levels remains relatively low in arid and semi-arid areas with the NER being as low as 18 percent in Mandera County. At the national level, enrolments rates at pre-primary level do not indicate a significant attendance bias by gender, with the GPI of 0.96 in 2018. This, however, masks the low enrolments of girls, especially in ASAL areas.

Table 4 : Trends in Pre-primary Sub-Sector

	2013	2014	2015	2016	2017	2018*
Males	1,411,309	1,476,383	1,607,353	1,634,194	1,681,530	1,730,237
Females	1,454,039	1,543,482	1,560,502	1,565,647	1,612,283	1,660,308
Total	2,865,348	3,019,865	3,167,855	3,199,841	3,293,813	3,390,545
GPI	1.03	1.05	0.97	0.96	0.96	0.96
Gross Enrolment Rate (GER), %	71.6	73.6	76.4	76.6	77.1	78.4
Net Enrolment Rate (NER),%	66.9	70.4	74.6	74.9	76.9	77.2
Number of ECDE Centres	40,145	40,211	40,775	41,248	41,779	42,317
Number of ECDE Trained Teachers	83,814	88,154	92,906	97,717	106,938	112,703
Number of ECDE Untrained Teachers	17,248	16,630	14,281	13,102	11,338	10,452
Total No. of Teachers	**101,062**	**104,784**	**107,187**	**110,819**	**118,276**	**123,155**
Number of ECDE Training Colleges	131	140	143	147	276	

*Source: Economic Surveys, *provisional*

There are a number of constraints facing the provision and development of Pre-primary education in Kenya : marked regional disparities in access to pre-school opportunities; lack of policy establishing a minimum level of funding for Pre-primary; inadequate regulation and enforcement of quality standards; lack of comprehensive system for monitoring children's development across sectors; weak inter-sectoral coordination, which should bring together interventions from key sectors such as health, nutrition, education and social protection for a comprehensive delivery of pre-primary education/child development services ;high turnover of trained teachers and low teacher morale due to lack of scheme of services; shortage of instructional materials and teacher professional development; and lack of a clear implementation framework between national and county governments, as well as personnel capacity gap.

2.1.2 Primary Education

Kenya has made tremendous strides in terms of access to primary education. Table 5 shows key indicators in the Primary Sub-Sector for the period 2013-2018. Over this period, total enrolment in primary rose by 5 percent from 9.8 million to 10.5 million. With a national NER of 91 percent, only 9 percent of children expected to be in primary are not enrolled in primary school. The national GPI shows that Kenya is about to close the gender gap in primary enrolment and in fact, in some regions, especially in high potential non-ASAL areas, there are more girls enrolled than boys. Another important thing to note is that close to 8 out of 10 children who enrol in Grade 1, go up to and complete Grade 8. Also, almost the same number transit to secondary. However, over-age primary enrolments, coupled with high repetition rates, are likely to cause an enrolment bulge, especially at the lower grades.

Table 5: **Trends in Primary Sub-Sector**

	2013	2014	2015	2016	2017	2018*
Males (thousands)	5,019.7	5,052.5	5,127.9	5,214.5	5,293.9	5,364.3
Females(thousands)	4,837.9	4,898.5	4,962.9	5,054.9	5,109.8	5,178.3
Total Primary (thousands)	9,857.6	9,950.8	10,090.9	10,280.1	10,403.7	10,542.6
GPI	0.96	0.97	0.97	0.97	0.97	0.97
Gross Enrolment Rate (GER), %	105	103.5	103.6	104.1	104.0	104.0
Net Enrolment Rate (NER), %	88.1	88.2	88.4	89.2	91.2	92.4
Primary Completion Rate, %	80	79.3	82.7	83.5	83.6	84.2
Primary secondary transition, %	74.1	76.1	81.9	81.3	81.8	83.3
Number of public primary schools	21,205	21,718	22,414	22,939	23,584	24,241
Number of private primary schools	6,821	7,742	8,919	10,263	11,858	13,669
Total number of schools	28,026	29,460	31,333	33,202	35,442	37,910
Average school size	352	338	322	310	294	278

Source: Economic Surveys, * provisional

The national primary level education outcomes mask disparities based on gender, location and socio-economic factors. As discussed in ESA, estimates from different household surveys show that children from households that are classified as non-poor, those from non-ASAL areas, and those from urban areas, have higher chances of being in primary school and transiting from primary to secondary. For example, estimates from the KIHBS 2015/16 show that primary NER varies from 42 percent in Garissa to close to 96.8 percent in Nyeri. And then, the KDHS 2014 shows that primary NER are about 90 percent for children from top 20 percent quintile relative to 75 percent in the bottom 20 percent quintile. Furthermore, close to

9 out 10 children in urban areas are likely to be enrolled in Grade 6 compared to 7 out of 10 children in rural areas.

There are a number of constraints hindering access to primary education. Children cannot attend primary schools mainly due a number of factors, such as direct costs on uniforms and school meals; indirect costs; poverty; insecurity; long distances covered to schools; as well as lack of food and water at home. Those most affected are children from low economic status, urban informal settlements, and those in ASAL areas, including in refugee camps. For girls, in particular, there are retrogressive cultural practices that, for example, prioritize school attendance by boys and require girls to assume domestic responsibilities at home. There are also safety issues when girls are on transit and in school. Inadequate sanitary facilities at schools is another issue, as well as early pregnancy which can contribute to poor school attendance and dropping out of school.

2.1.3 Secondary Education

Despite increases in secondary enrolments in absolute terms, access to secondary schools is still low. Table 6 shows key indicators in Secondary Sub-Sector for the period 2013-2018. In absolute numbers, enrolments at secondary school level increased from 2.0 million in 2013 to 2.9 million in 2018 partly due to the Free Day Secondary School initiative. In 2018, the secondary GER and NER was estimated at 70.3 percent and 53.2 percent, respectively. This means that close to 50 percent of secondary school going age children are not enrolled in secondary schools. Additionally, there are marked disparities in access to secondary schools. For instance, secondary completion in North Eastern and Coast regions is about 3 times less than in Central and Nairobi. In the North Eastern and Coast regions, more than 7 out of 10 do not attend up to the end of secondary education, the majority of whom are girls. While factors that hinder access to secondary school education are similar to those highlighted in the primary section, the main hindrance to secondary school attendance is cost. When a child does not finish secondary school, potential costs are high for boys and girls alike in terms of loss in earning potential and social capital. However, not educating girls has particularly widespread impact on development progress, in part because of the link between low educational attainment, child marriage, and early childbearing, and the risks that they entail for young mothers and their children.

Table 6: Trends in Secondary Education Sub-Sector

	2013	2014	2015	2016	2017	2018*
Males (thousands)	1,127.7	1,213.3	1,348.5	1,396.9	1,450.8	1,505.30
Females(thousands)	967.6	1,118.4	1,210.5	1,323.6	1,380.0	1,437.40
Total Secondary (thousands)	2,095.3	2,331.7	2,558.0	2,720.5	2,830.8	2,942.70
GPI	0.86	0.92	0.90	0.95	0.95	0.95
Secondary GER, %	54.3	58.7	63.3	66.8	68.5	70.3
Secondary NER, %	38.5	47.4	47.8	49.5	51.1	53.2
Public Secondary Schools	7,686	8,297	8,592	9,111	9,111	9,643
Private Secondary Schools	1,048	1,143	1,350	1,544	1,544	1,756
Total # of Secondary Schools	8,734	9,440	9,942	10,655	10,655	11,399
Average school size	267	271	273	266	266	258

Source: Economic Surveys, * provisional

The projected enrolment growth of 8 percent in the secondary sub-sector level indicates the need to invest more in secondary education so as to achieve 100% transition. Currently,

secondary education is largely financed through capitation grants, boarding fees by households, county government contributions, income generating projects, sponsors, alumni, private sector, donors, Constituency Development Fund, agencies, and non-governmental organisations (NGOs).

The secondary sub-sector is faced with a number of governance, management and accountability issues. These include: (i) Absence of minimum professional standards and benchmarks for use when appointing institutional managers; (ii) Weak accountable governance structures and weak monitoring and tracking systems; (iii) Inadequate management skills for principals and Boards of Management; (iv) Mismanagement/ misappropriation of resources and funds at the school level; (v) Lack of implementation and monitoring of codes of conduct for management, teachers and other school personnel to prevent school-related exploitation and abuse of learners; (vi) Lack of standards for maximizing physical safety in and around schools; (vii) Lack of a framework on how to engage communities in the establishment, management and governance of schools and; (viii) Undue political interference in the management of schools. An efficient and effective secondary education will require that all stakeholders are aligned towards the goal of safe and equitable learning for girls and boys alike. There is, therefore, the need to have a clear focus, cultivate a collaborative culture, deepen learning and secure accountability in secondary education.

2.1.4 Adult and Continuing Education

Adult and Continuing Education includes all forms of organized education and training that meet basic learning needs of adults and out of school children and youth. The importance of adult and continuing education is underscored in view of the need to help those who are out of school to meet the ever-changing demands of society for improved skills in literacy and numeracy and other lifelong learning programmes. The role of Adult and Continuing Education (ACE) programmes in Kenya is to provide literacy knowledge and skills to illiterate adults and out-of school youth, aged fifteen years and above. ACE also provides an alternative pathway for overage learners who drop out of school due to various social and other factors and may wish to continue with learning through ACE primary and secondary programmes. It also has a component of Community Education and Empowerment that is designed to benefit community members and ACE learners by providing them with the required skills and knowledge to enable them to contribute towards building an informed and economically empowered society whose members are able to participate meaningfully in their own development and influence decisions that affect their lives.
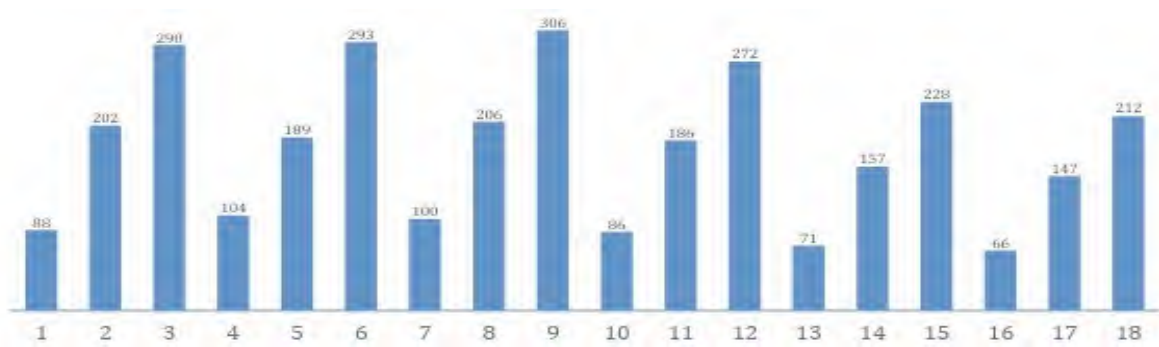
Figure 3: **Adult and Continuing Education Enrolment Trends in Kenya**
Source: Economic Surveys, * provisional

Figure 3 shows trends in Adult and Continuing Education enrolment trends in Kenya. Generally, access to ACE Programmes in Kenya is low and experiences both gender and regional disparities. For example, the period between 2012 and 2017 witnessed a drop, by about 34 percent, in enrolments among learners in all ACE programmes in Kenya. Enrolments by gender show that generally, there are more female than male learners enrolled in the various ACE programmes across the country. For every male learner, there are two female learners.

Low overall enrolment rates in the sub-sector are due to a number of factors. Some of these factors are**:** lack of qualified teachers; high teacher/volunteer turnover; inadequate learning centres and inadequate facilities in the learning centres; stigma associated with adult learners; family responsibilities on the part of learners; lack of societal information regarding adult learning; and irrelevance of curricula offered in ACE centres. That women and girls access ACE at significantly higher rates than men and boys may be a positive reflection of programmes specifically targeting out-of-school females in order to address gaps in female education and literacy. However, these programmes should not replace efforts to improve female completion of secondary education, especially in ASAL areas, including among refugee-hosting populations.

2.1.5 Technical Vocational Education and Training (TVET)
TVET in Kenya takes the form of Vocational Education and Training (VET) and Technical Education (TE). TVET institutions comprise formal and informal (Jua-Kali) entities. There is, however, inadequate data in this sub sector. The exact numbers of institutions operating in this sector and the types of courses offered, as well as enrolments, are not known since some private owned institutions are not accredited/registered. Nevertheless, available data shows that as at 2018, there were 1,300 institutions, from 700 in 2014. Similarly, trends in student enrolment show that the total enrolments in various TVET institutions rose from 148,009 in 2013 to 363,884 in 2018 as shown in **Table 7**. There are more males than females enrolled in the different TVET courses, especially in public institutions that are STEM oriented.

Table 7: Enrollment Trends in TVET 2013-2018

	2013	2014	2015	2016	2017	2018*
National Polytechnics Male						
	13,166	14,660	12,463	22,754	29,290	47,171
Female	7,329	8,602	8,078	14,161	19,202	32,207
Total	**20,495**	**23,262**	**20,541**	**36,915**	**48,492**	**79,378**
GPI	0.56	0.59	0.65	0.62	0.66	0.68
Public Technical and Vocational Colleges						
Male	31,956	29,632	32,221	17,589	29,584	49,454
Female	23,989	21,232	23,087	9,569	17,982	34,948
Total	**55,945**	**50,864**	**55,308**	**27,158**	**47,566**	**84,402**
GPI	0.75	0.72	0.72	0.54	0.61	0.71
Private Technical & Vocational Colleges						
Male				27,280	35,951	41,623
Female				30,298	38,689	43,997
Total				**57,578**	**74,640**	**85,620**
GPI				1.11	1.08	1.06
Vocational Training Colleges Male						
	42,942	45,473	47,625	46,340	59,756	66,894
Female	28,627	28,222	29,840	34,565	44,685	47,590
Total	**71,569**	**73,695**	**77,465**	**80,905**	**104,441**	114,484
GPI	0.67	0.62	0.63	0.75	0.75	0.71
Grand Total Male						
	88,064	89,765	92,309	113,963	154,581	205,142
Female	59,945	58,056	61,005	88,593	120,558	158,742
Total	**148,009**	**147,821**	**153,314**	**202,556**	**275,139**	**363,884**
GPI	0.68	0.65	0.66	0.78	0.78	0.77

Source: Economic Survey, Various

There are a number of constraints facing this sub-sector despite various interventions by the stakeholders. These are: inadequate data on the number and nature of institutions operating in the sub-sector, as well as types of courses they offer and their enrolment patterns; low enrolment among females, especially in National Polytechnics; TVET programmes in Kenya are generally perceived as being inferior to general academic educations;TVET institutions are spread across different ministries and there is no uniformity in the categorization of the institutions across the ministries; TVET institutions offer programmes that are not fully aligned to the Competency Based Education and Training (CBET) curriculum and to the Vision 2030. Certification is often based on completion of courses and passing examinations rather than demonstration of competence; There are no proper structures for pre-service and in-service professional development of trainers; most TVET institutions do not have adequate physical infrastructure and equipment to support the teaching of the CBET curriculum; TVET pathways have been rigid, thereby hindering accumulation, recognition and transfer of individual learning from one institution to another. However, with the Gazettement of Kenya National Qualifications Authority (KNQA) regulations, this problem is expected to be addressed with the full implementation of these regulations; and TVET Programmes are also characterized by weak industry linkages.

2.1.6 Inclusive Education

Kenya has made commitments to implement inclusive education. Kenya signed and ratified the UNCRPD (2006), adopted the SDGs, and made commitments to implementation of inclusive education during the Global Disability Summit (2018). In line with this, the Basic Education Act (2013), and the Sector Policy for Learners and Trainees with Disabilities (2018), as well as the Persons with Disabilities Act (2003), recognise the need to progressively transit from special education to inclusive education. The sector policy defines Inclusive Education as an approach where learners and trainees with disabilities are provided with appropriate educational interventions within regular institutions of learning with reasonable accommodations and support to enhance their safe participation.

The Ministry of Education (MOE) is taking concrete steps to transform provision of education for learners with special needs and disabilities to inclusive education. The Ministry has developed relevant policies and established institutions to ensure increased access to education by learners with special needs and disabilities. However, there are many learners with special needs and disabilities out of school. According to the MOE Statistical Booklet (2016), there were only 222,700 learners and 11,400 students enrolled in primary and secondary schools, respectively. There are a number of constraints facing Special Needs Education in Kenya, which include: inadequate data on key sub-sector indicators to guide planning and budgeting; ineffectiveness of the EARCs; poor understanding of the concept of 'special needs and disability' among education stakeholders; inadequate adaptable facilities to support children with special needs; poor maintenance of available facilities and assistive devices in learning institutions and EARCs; poor adoption and integration of ICT in teaching and learning; Inadequate number of teachers with prerequisite knowledge and skills to handle learners with special needs and disabilities; inadequate capacity of teachers and EARC's to carry out early identification, assessment and placement of learners; inadequate support to schools and teachers by EARCS, Curriculum Support Officers, and Quality Assurance Officers; stigmatization of learners with disabilities in learning institutions, homes and in the

community; inflexible curriculum that is not responsive to the needs of learners with disabilities; low transitions rates of learners with disabilities across all levels of education; and lack of policy and structures for recruitment and deployment of learning support assistants, as well as inadequate preparation of teachers to implement inclusive education.

2.1.7 University Education

The university sector in Kenya is regulated by the Universities Act. The Act provides for the development of university education; the establishment, accreditation and governance of universities; as well as the establishment of the agencies. The Act is premised on a policy framework whose objectives are to: enhance equitable access to university education and provide quality, relevant education, training and research in our universities; and improve governance and management of universities.

Over the last six years, Kenya witnessed an increase in the number of universities, both private and public. As a result, the university sector has grown immensely. The country has 74 universities in different parts of the country, providing ample opportunity for those interested, to access university education. There are 37 public universities and an equivalent number of private universities. The total enrolment has, as a result, increased two fold, from 251,196 students in 2013 to 520,893 in 2018. The growth was partially driven by the increase in the number of public universities, and public financing of students in private universities, by the Higher Education Loans Board.

Table 8: Enrolment by Gender in Universities (2013/14 - 2016/17)

	2013/2014		2014/2015		2015/2016		2016/2017		2017/18	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Public	173,987	115,746	217,164	146,170	258,688	174,068	286,840	192,472	255,875	171,090
Private	39,980	31,666	42,454	37,994	39,125	38,804	43,547	41,648	46,764	39,453
Total	213,967	147,412	259,618	184,164	297,813	212,872	330,387	234,120	302,639	210,543
Grand Total	**361,379**		**443,782**		**510,685**		**564,507**		**513,182**	
GPI public	0.67		0.67		0.67		0.67		0.67	
GPI private	0.79		0.89		0.99		0.96		0.84	
Total GPI	**0.69**		**0.71**		**0.71**		**0.71**		**0.70**	

Source: Commission of University Education, KNBS (2017)

The sub-sector faces a number of quality and relevance issues that are of concern. The number of public universities increased from 8 in 2012 to 32 in 2016. Chartered private universities, on the other hand, increased from 15 to 18 during the same period. The establishment of new universities has, however, not been matched with adequate funding to support infrastructure development. Although gross enrolment increased, enrolment growth among girls is lower than that of boys. The gender disparity, in favour of boys, is less pronounced in private than in public universities, suggesting that income levels may play an important role in females' access to education. In addition, there are very few students with special needs enrolled in the universities regardless of the affirmative action criteria put in place by KUCCPS.

A large component of the programmes offered in Kenyan universities consists of arts and social science based courses. In 2016, almost three quarters of the courses/programmes offered by both public and private universities were in arts and humanities, followed by business related courses. There are fewer courses in Science, Technology, Engineering, and Mathematics (STEM) in the universities. In addition, only 37% of academic staff in universities have doctorate degrees. Majority of academic staff (53%) have Masters as their highest educational attainment and about 10 percent of the university academic staff hold a Bachelor's degree and below. In addition, there are even fewer academic staff in science and engineering programmes.

The University Funding Board (UFB) has been operationalised and the funding criterion that was developed has been adopted for funding universities beginning from the 2017/2018 financial year. The criterion is based on a Differentiated Unit Cost (DUC) model which ensures that universities are funded according to the number of students in each subject area. However, the DUC does not address development, research and postgraduate funding for universities. Funding from the National Treasury to HELB increased from KES 2.448 Billion in 2014 to KES 6.414 billion in 2016. Over the same period, loan recoveries improved from KES 3.251Billion. However, loan recoveries increased at a slower rate and have lagged behind government capitation as a source of funds for HELB. The value of the loans awarded increased from KES 4.9 billion in 2012/13 to KES 8.158 billion in 2016/17. However, the average loan per student decreased from KES 43,579 to KES 41,730 suggesting that growth in number of applicants has outstripped the growth in funds allocated for student loans. There is, thus, a large financing gap for student loans, and it is likely to grow larger in the forecast period. Therefore, current practices for administering student loans could be more effective in targeting students with the most pronounced financing needs.

2.1.8 Science, Technology and Innovation

The development and application of science, technology and innovation is crucial to the success of national development policies and programmes. Economic, social and cultural development goes hand in hand with scientific and technological transformation. Knowledge-based economy is driven by high investment in education and training, research and development (R&D), the presence of high-quality scientific research institutions, extensive relationships between governments, academia, and industry, and the protection of intellectual property. Science, Technology and Innovation has been identified as one of the key enabling sectors to drive the country's long term development goals as espoused in the Kenya Vision 2030 and its successive medium term plans.

The Science, Technology and Innovation (STI) sector is governed by the Science and Technology and Innovation Act, 2013. The Act provides the legal framework to facilitate the promotion, co-ordination and regulation of the progress of science, technology and innovation of the country; to assign priority to the development of science, technology and innovation, and to entrench science, technology and innovation in the national production system.

There exists a shortage of human resources needed for the development of Science, Technology and Innovation. The 2014 African Outlook Report shows that Kenya had only 13, 012 research personnel in 2010, which translated to 322 research personnel per million

people in the population, which is low compared to established knowledge driven economies. More so, data shows that there is low participation by women in research. Similarly, enrolment of females in higher education is lower than males at all levels of training, especially in STEM programmes.

The growth of Science, Technology, Engineering and Mathematics in education and training institutions has not been rapid enough to support the ST&I sector. Universities in Kenya have shifted focus away from Science, Technology, Engineering, and Mathematics (STEM)-based courses. As a result, the large proportion of Kenyan enrolment is concentrated in non-sciencerelated fields. Second, universities do not have enough sufficiently qualified faculty with the capacity to teach STEM related programmes of sufficient quality to meet required standards. Another issue is that costs associated with delivering STEM related programmes are higher than those associated with delivering courses in the social sciences and humanities because of the need to invest in expensive equipment needed in delivering STEM based programmes. In addition, the low number of students transitioning from secondary education with the skills and qualifications required for enrolment in STEM programmes is another factor undermining the admission of students to STEM disciplines in higher education.

The government has increased support for research funding with the establishment of the National Research Fund and subsequent annual allocation of KES 3 billion to the fund. Universities are the central cog in R&D and are expected to allocate more resources towards research and development from both recurrent and capital expenditure. However, there is still need to harmonise the mobilisation and expenditure from the numerous funding sources in the R&D sector. In addition, to keep pace with a rapidly evolving ST&I sector, accelerated development of infrastructure is critical. ST&I Infrastructure is the key foundation upon which ST&I activities are operationalised. They include modern scientific laboratories and equipment.

There is low awareness of Intellectual Property Rights (IPR) among practitioners, stakeholders and policy makers. Furthermore, the existing policy is not flexible to accommodate the everemerging issues in Science, Technology and Innovation. Documentation and preservation of indigenous resources and traditional knowledge is inadequate and fragmented. The existing Intellectual Property Rights regime does not adequately facilitate the verification and protection of indigenous knowledge and resources. Furthermore, the level of uptake and commercialisation of intellectually protected products and services is low. Thus, there is still need to raise awareness on IPR to avoid exploitation of Kenya's biodiversity and indigenous knowledge.

The generation, storage and dissemination of ST&I data and information is not coherent and interactive to inform policy decisions for the growth of the ST&I sector. In addition, information on ST&I is neither mapped nor interlinked. The existing system for ST&I information management is not automated. There is also lack of promotion centres at national and county levels to create interest and a culture of science, technology and innovation. Furthermore, the country lacks a tracking system for the establishment of the status of ST&I indices to benchmark the national system of innovation for global competitiveness and inform relevant policy interventions and or actions.

Lastly, there is limited documentation and preservation of indigenous resources and traditional knowledge. The existing intellectual property rights regime does not adequately facilitate the verification and protection of indigenous knowledge and resources. This has led to inadequate ST&I data for inclusion in the national statistics.

2.2 Internal Efficiency in Basic Education

There are various sources of internal inefficiencies within Kenya's education system. As shown in Figure 4, the system is characterized by a relatively high Gross Intake in Standard 1 with learners generally staying in school up to Standard 7 before a considerable proportion drops out between Standard 7 and 8 and between Standard 8 and Form 1. Although there has been improvement in subsequent years, more than 40 percent of children who enroll in Standard 1 do not complete Form 4. Figure 4b, which shows trends in promotion and repetition rates, further confirms fears relating to the system losing learners, particularly between Standard 7 and 8, between Standard 8 and Form 1, as well as between Form 3 and 4. We observe a sharp drop in promotion rates between Standard 7 and 8 and between Form 3 and 4. The drop in promotion rates in Standard 7 and Form 3 could be attributed to national examinations (KCPE and KCSE) that are essential determinants of progress from primary to secondary in many Sub-Saharan Africa countries.
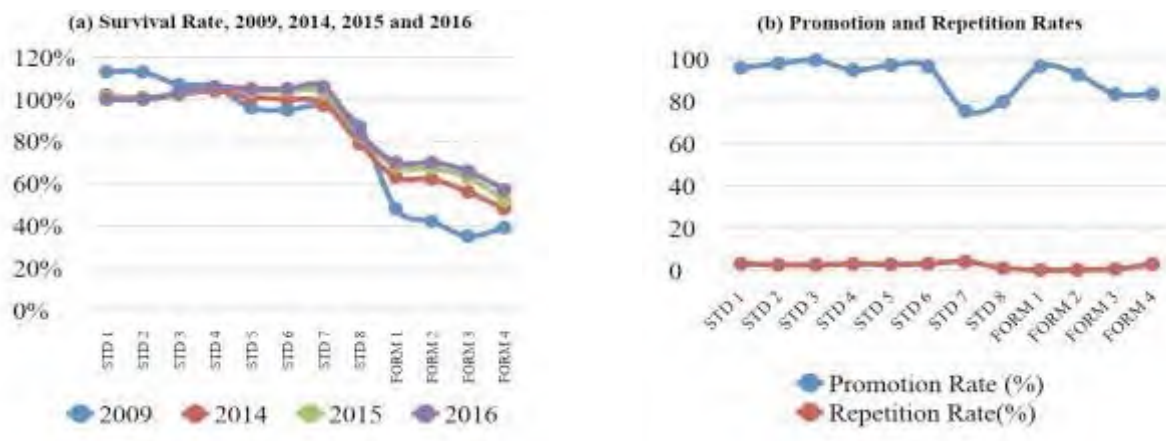
Figure 4: Trends in Survival Rates and Promotion and Repetition Rates
Source: KNBS 2017; KIHBS 2016/17

Another measure of internal efficiency is by looking at Out-Of-School Children (OOSC). Estimates from the 2014 Kenya Demographic and Health Survey (KDHS) show that close to 1 million children are out of school, either because they have never attended, or they dropped out. As shown in Figure 5, most of the OOSC either did not go to school at all or just went to primary school before dropping out. More than half of the OOSC are hosted by 6 counties (Mandera, Turkana, Wajir, Garissa, Nairobi and Bungoma). High costs are the leading reason respondents cite for non-attendance among drop-outs.
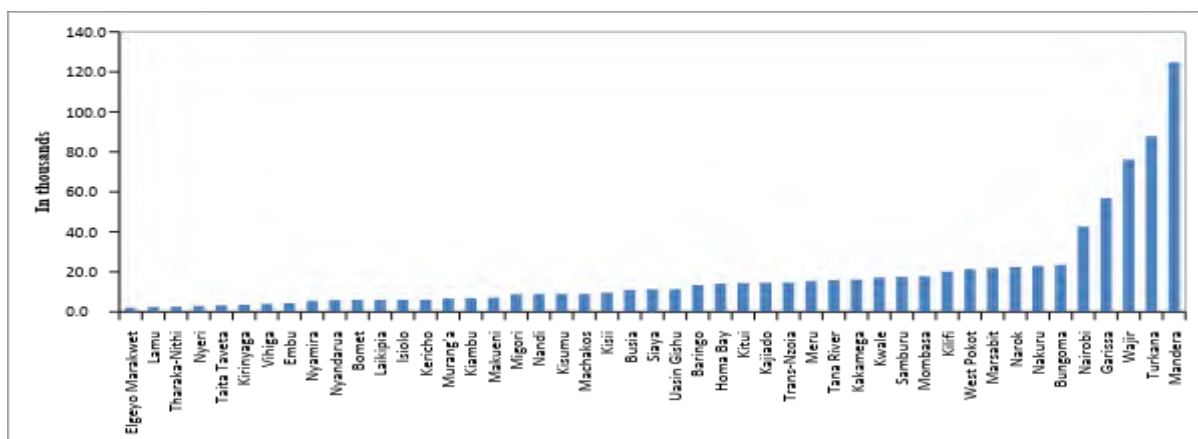
Figure 5: Out of School by County in Thousands, 2014
Source: Author's calculations based on Kenya Demographic Health Surveys

2.3 Disparities in Access to Basic Education

Findings from ESA show wide disparities in access to education based on gender, nationality, disability, location (rural/urban) and region. Generally, access is particularly low among children with special needs and those from rural areas; those in urban informal settlements; those in ASAL and less endowed areas; conflict-prone regions; and those from poor households.

- Participation by rural/urban shows that generally, children in rural areas are less likely to be in school compared to their counterparts in urban areas. However, an interaction of gender and location shows that rural boys have a lower chance of staying in primary, and transiting to secondary school relative to their fellow boys in urban areas and girls from both rural and urban areas. It should not be lost that girls are disadvantaged if we consider the interaction between gender and location in the case of ASAL areas, with significant impacts on girls' access to and completion of secondary education.

- Being born in a rich background increases the child's chance of enrolling and staying in school and transiting from one level to another. For instance, at Standard 8, 9 in 10 children from the richest families are likely to be in school compared to about 6 in 10 children from the poorest families. And then, nearly 6 out of 10 children from the poorest quintile who enrolled in Grade 1 are expected to complete Grade 6 compared to 9 out of 10 children from the richest quintile. At Grade 12 (Form 4), close to 9 out of 10 children from richest families are likely to be in school relative to only 1 in 10 children from poorest families.

- Children, especially girls, from ASAL areas are less likely to enroll and stay in school relative to their counterparts from high potential areas. Figure 6 shows the percentage of a cohort of students enrolled in Standard 1, who eventually reach Standard 8 in selected counties. The system in counties like Turkana and Mandera does very poorly in keeping learners in school once they are enrolled. There is a dramatic fall in the number of learners as they progress in subsequent classes. In contrast, counties like Kirinyaga and Kiambu are doing quite well in keeping the learners through the system.
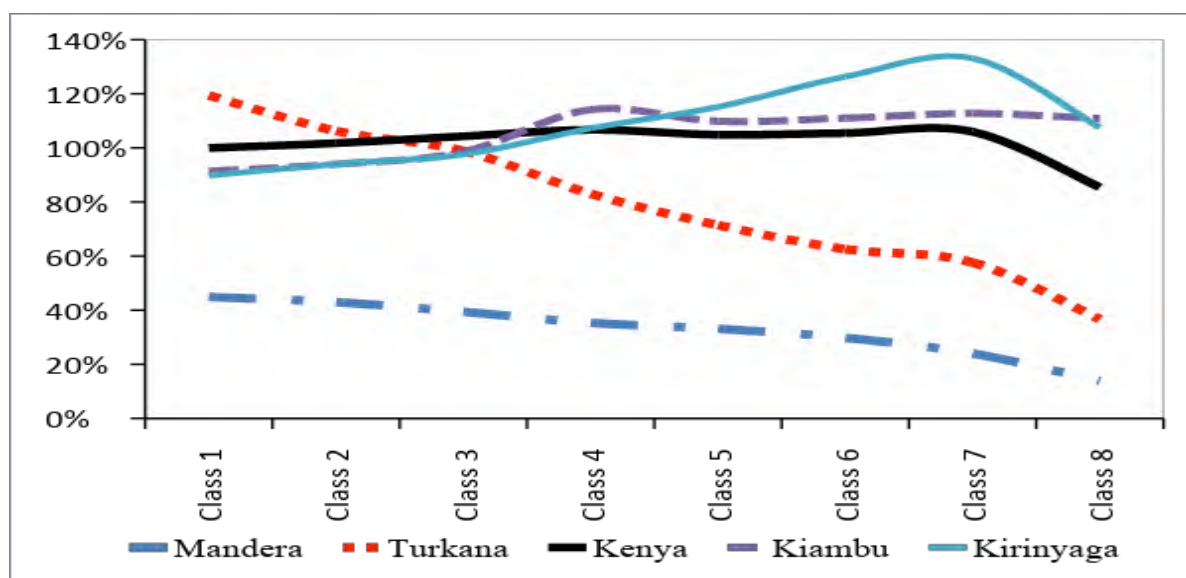
Figure 6: Disparities in Retention by Selected Counties
Source: EMIS, 2014

- There are a number of factors that limit access to learning by girls, especially in ASAL areas with child marriage and early childbearing (teenage pregnancy) being among the major factors. According to a survey by the United Nations Population Fund (UNFPA), close to a quarter a million adolescent girls in Kenya aged between 10 and 19 years became pregnant between July 2016 and June 2017. Levels of early childbearing (teenage pregnancies) in
Kenya are more worrying in some regions as compared to others. According to the Kenya Demographic Health Survey (KDHS) 2014 report, 4 out of 10 girls in Narok County got pregnant at a tender age. Other counties that have been put on the spotlight over teenage pregnancies include Homa Bay (33%), Kitui (36%), West Pokot (29%) Tana River (28%), Nyamira (28%), Samburu (26%), Migori (24%), Kwale (24%) and Nairobi (21%). A recent report by the children's affairs department shows that about 14,000 girls aged between 15 to 19 years got pregnant in 2018 in Kilifi County.

- Evidence around the world shows that there are significant negative effects on girls themselves, their families, and the country resulting from child marriage and early childbearing.[2] Girls who marry or drop out of school early, due to early marriage and/or early pregnancy, are more likely to have poor health, larger families, and earn less as adults.[3] In addition, girls who marry or have children at an early age and drop out of school are disempowered in ways that deprive them of their basic rights.[4] They are more likely to be victims of domestic violence due to lack of decision-making power within the household. Child marriage and early childbearing has a fertility effect, with research

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[2] World Bank (2018), *The Cost of Not Educating Girls: Low Educational Attainment for Girls and Child Marriage in Africa: Impacts, Costs and Solutions*, Washington, DC: World Bank.
[3] Nour, N.M., 2006. Health consequences of child marriage in Africa. Emerging infectious diseases, 12(11), p.1644.
[4] Nour, N.M., 2009. Child marriage: a silent health and human rights issue. Reviews in obstetrics and gynecology, 2(1), p.51.
[6] Raj, A., Saggurti, N., Balaiah, D. and Silverman, J.G., 2009. Prevalence of child marriage and its effect on fertility and fertility-control outcomes of young women in India: a cross-sectional, observational study. The lancet, 373(9678), pp.18831889.

showing that children of young mothers are at higher risk of dying before age 5, suffering stunting, and doing poorly in school.[6] Estimates by the World Bank, based on Tanzanian data, shows that the loss in earnings for adult women working today due to their marrying as children in the past stands at US$ 637 million (PPP).[5]

2.4 Quality and Relevance of Education

2.4.1 Student Learning Achievements

Results from student assessments by both the government (Ministry of Education) and non-state actors show that learning achievement remains quite low. The KCPE national mean score remained slightly above 50 percent in the last 7 years, characterised by poor performance in English composition. Figure 6 shows the KCSE results for the period 2011 to 2017. The number of candidates achieving a mean grade of C+ (the minimum university entry grade) and above, has been decreasing, more so, during the last two academic years. In addition, a majority of the candidates scored grades that cannot allow them to proceed to higher education or even secure gainful employment. Looking at Figure 7d, during the academic years (2017 and 2018), more than half of the candidates obtained grades D and below, which almost disqualifies them from pursuing any professional course.
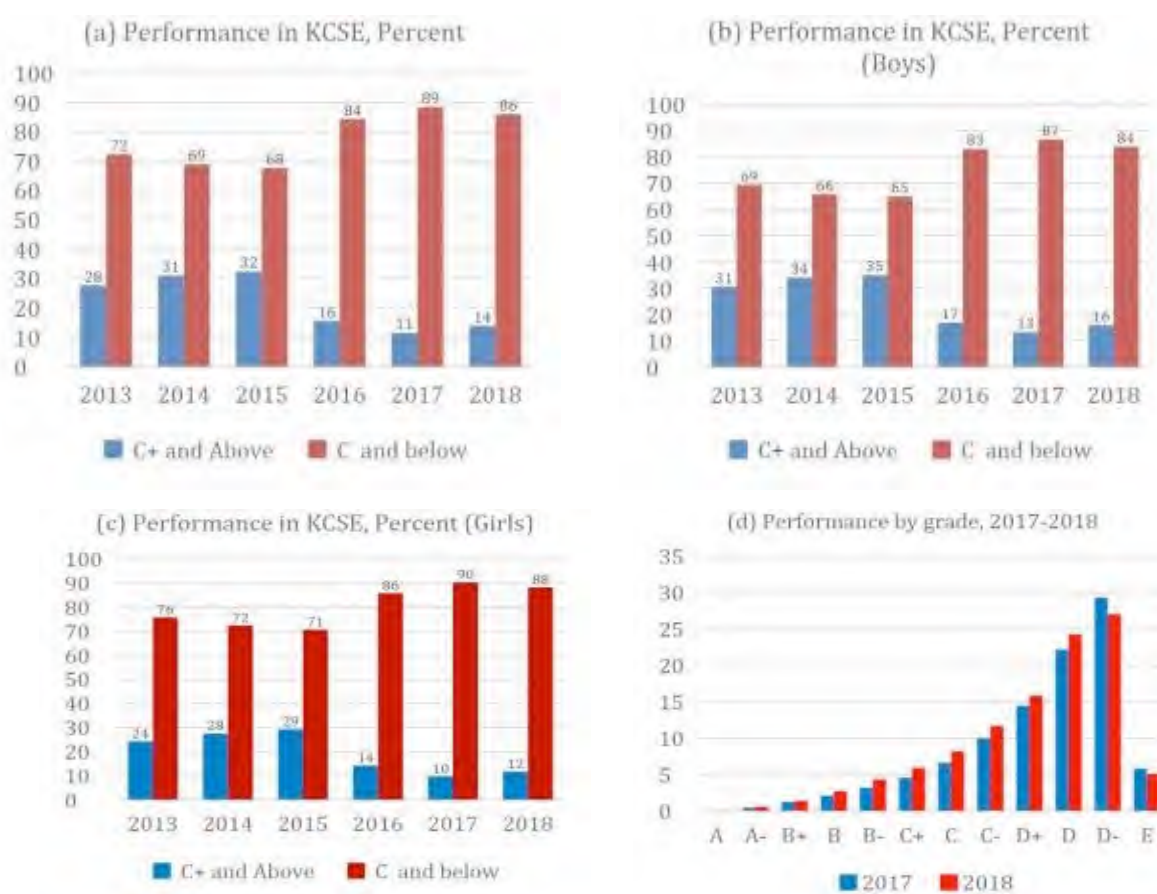

Figure 7: Trends in KCSE Performance
Source: Kenya National Examination Council

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[5] World Bank (2017), Tanzania Economic Updates, Washington, DC: World Bank.

Table 9 summaries the magnitude of the learning challenges based on other assessments undertaken by the Kenya National Examination Council. The assessments are National Assessment System for Monitoring Learner Achievement (NASMLA) for Grade 3 and Monitoring Learner Achievement (MLA) for Form 2 (Grade 10).

Table 9: Quality and Relevance of Education

Assessment	Subject	Key findings
NASMLA: Grade 3	Numeracy	● Almost 18 percent of Grade 3 pupils cannot add numbers without carrying over or subtract without borrowing; Almost three quarters (29 percent) cannot solve a two-step addition or subtraction involving carrying over and borrowing; Close to 64 percent cannot add or subtract simple fractions and interpret simple common everyday units of measurement such as days, weeks, and shillings; and almost all learners, 95 percent, cannot translate information presented in sentences into simple arithmetic operation.
	Literacy	● Over 85 percent and over 90 percent cannot arrange alphabetical order words in English and Kiswahili, respectively; Nearly 40 percent cannot spell simple everyday words correctly, recognise missing letters in words and use familiar words to complete simple everyday sentences; Close to 62 percent cannot use correct punctuation in simple sentences & interpret meaning by matching words and phrases; Close to 71 percent cannot read for meaning in English- they cannot infer meaning from short passages.
MLA: Form 2 (Grade 10)	Numeracy	● Majority of Form 2 students have not attained minimum competency levels in specific content areas in Mathematics, most of which are covered from primary level. For instance, over three quarters (70 percent) of the students did not attain the minimum competencies in content areas such as Algebra, Geometry, Numbers, Trigonometry and Vectors.
	Literacy	● Majority of Form 2 students have not acquired requisite literacy skills- more especially higher order literacy skills such as Reading Comprehension. For instance, 44.1 percent cannot read for meaning, that is, they cannot infer meaning from short passages and 49.6 percent cannot express themselves well in writing.

The following findings have been observed from National Assessment System for Monitoring Learner Achievement (NASMLA) for Grade 3 and Monitoring Learner Achievement (MLA) for Form 2 (Grade 10):

● The learning crisis is mainly among learners from low socio-economic status and those from ASAL areas.
● Girls perform better in literacy, especially at early grades, while boys perform better in numeracy.
● Absenteeism has been established as something that significantly affects learner achievement.
● Older pupils achieve less than younger pupils, indicating that the aspect of children being overage, and also underage, affects learning.
● Urban and private schools outperform their rural and public counterparts, respectively.
● Pupils sharing textbooks with more than one colleague had low achievement levels.
● Pupils attending schools with regular meals perform better than those attending schools with no feeding programme. Also, pupils who get regular meals (at least two and more) at home, do better than those who receive fewer meals.
● Pupils whose parents meet teachers regularly achieve better compared to those whose parents infrequently hold meetings with teachers.

2.4.2 Curriculum Reforms

Kenya's aspiration of becoming a middle-income country is an ambitious intention, which will heavily depend on the quality of her human capital. The quality of Kenya's human capital in turn, partly depends on the type of curriculum offered in the schooling system. A good curriculum contributes to the development of thinking skills and the acquisition of relevant knowledge that learners need to apply in the context of their studies, daily life and careers. The curriculum, therefore, needs to be a channel that brings about mastery of

acceptable global competencies. The curriculum should reflect the Kenya National Development Agenda reflected in the Constitution, Vision 2030, Sessional Paper No. 2 of 2015 and other policy documents. The Sessional Paper recommends reforming the Education and Training Sector to provide for the development of *individual learner's potential in a holistic and integrated manner*, while producing *intellectually, emotionally and physically balanced citizens*. It further recommends a competency based curriculum; establishment of a National Learning Assessment System; Early Identification and Nurturing of Talents; introduction of National Values in the curriculum; and introduction of three learning pathways at Senior Secondary School level.

Kenya's current curriculum, especially its form of assessment (which is largely summative), places too much focus on passing examinations rather than skill and knowledge acquisition. The current curriculum was last reviewed ten years ago, although international trends demand that a curriculum needs to be revised every five years. An evaluation undertaken by the Kenya Institute of Curriculum Development in 2009 identified a number of gaps regarding the primary and secondary school curriculum. The study indicated that the curriculum was geared towards passing examination and did not embrace holistic development of the learner. Some of the gaps identified include lack of capacity among curriculum implementers (teachers and field officers), as well as inadequacies in the assessment and in the management structures that support curriculum implementation. It called for more emphasis on practical and vocational education as well as nurturing of talent and de-emphasizing academics. It further called for the establishment of special schools for talents such as music, athletics, and sports in addition to the mainstreaming of ICT at all levels of Basic and Tertiary education.

It is for this reason that the Kenya Institute of Curriculum Development has developed Competency Based Curriculum (CBC) to replace the 8-4-4 system. The CBC seeks to nurture every learner's potential by ensuring that all learners acquire core competencies outlined. It places emphasis on Continuous Assessment Tests (CATs) over one-off examinations. Reform of the curriculum will ensure that the skills taught in educational institutions match the requirements of the industry and will also emphasize national values, integration of science and innovation and adoption of ICT technologies. In the next chapter, this plan highlights the investments and programmes put in place to facilitate CBC implementation.

2.5 Teacher Education, Professional Development and Management
Teachers are the most important inputs affecting learning in schools. The manner in which the country sources, develops, deploys, manages, and supports teachers will largely determine or influence the quality of education. Currently, the government, through the Teachers Service Commission (TSC) manages a working force of 313,542 teachers deployed to 30,892 public basic educational institutions in the country. These include 215,367 teachers serving in 22,263 public primary schools and 98,175 teachers serving in 8,629 public post primary institutions. The Education Sector Analysis (ESA) report of 2018 identifies a number of issues related to teacher education, management and professional development. These include:

2.5.1 Teacher Education
Pre-Service Teacher Development programmes in Kenya are presently handled at three main levels. The first level is at universities and diploma colleges for teachers training for

secondary schools. The other one is at Primary Teacher Training Colleges (PTTCs) for primary school teachers and finally, at various training centres targeting teachers for the ECDE level. Although there have been initiatives to transform teaching towards learner-centred approaches, such as the Early Grade Mathematics and Tusome, these have not been fully integrated in the formal teacher pre-service training curriculum. A major reform in the education sector is the introduction of the Competency Based Curriculum. This implies that pre-service teacher training programmes at all levels must be redesigned to adequately prepare persons entering the teaching profession, especially on pedagogical aspects. NESSP must, therefore, seek appropriate interventions and resources to address these challenges. There are a number of constraints facing pre-service teacher education in Kenya. Some of these include:

● Inadequate Teacher Training Institutions infrastructure facilities. There are 26 public primary teacher training colleges and 3 public diploma teacher training colleges, spread across the country. A number of these institutions lack modern facilities capable of delivering the Competency Based Curriculum. There is need to review the model of teacher training with regard to financing as well as infrastructure improvement;

● Inadequate teacher educators as well as inadequate capacity on pedagogical skills: Teacher educators deployed in TTCs lack adequate knowledge in teacher education, especially skills in coaching and mentoring the teacher trainees;

● Inadequate policy framework on identification and deployment of teacher educators: Presently, deployment of tutors/lecturers to TTCs uses staffing norms similar to those applied to secondary schools;

● Quality of teacher trainees: Currently, admission to primary TTCs requires one to have a mean grade of C (plain), while those entering universities or diploma TTCs are required to have a minimum of C+ (plus). In addition, trainees handle subjects they may not have performed well in at the KCSE level, thus raising quality issues. Table 11 shows that between 2014 and 2016, there was a declining trend on the pass rates for teachers graduating from both public and private TTCs..

● Lack of teacher internship programmes: Presently, there is no provision for teachers graduating from the teacher training institutions to undergo a pre-service induction programme. Instead, newly recruited teachers are taken straight to class and learn most of the pedagogical applications and teaching codes and standards while on the job.

Table 10: Graduates from Teacher Training Colleges

	Year	Colleges	Candidates	Pass	Pass Rate
PUBLIC	2014	21	10,641	9,623	90 %
	2015	21	10,679	8,762	82 %
	2016	24	11,388	7,776	68 %
PRIVATE	2014	83	6,868	5,585	81 %
	2015	84	8,230	5,517	67 %
	2016	79	8,102	5,084	63 %

Source: Ministry of Education; PTTC Department

2.5.2 Teacher Professional development

The rationale for Teacher Professional Development is to support serving teachers to leverage educational opportunities. It is meant to help them improve their skills, professional

knowledge, and pedagogy. Professional development is an essential element of teacher career progression and contributes significantly to staff motivation. Key issues under continuous Teacher Professional Development include:

● Inadequate institutionalized school-based teacher development and classroom-based teacher support and research: Teacher professional development has taken various forms, ranging from self-sponsored upgrading of qualifications to those supported by the government through its specialized institutions such as KEMI and CEMASTEA.

● Some teachers having limited content knowledge and pedagogy skills: Several assessments (EGMA, SAQMEC and NASMLA) have been done to measure Kenyan teachers' subject matter knowledge, as well their ability to translate subject knowledge into teaching (pedagogy). In all these studies, some teachers have been found to have inadequate mastery of content in the subject they handled. The redesigned in-service teacher development programme should ensure that such teachers are well equipped in the content knowledge for the specialized subject areas.

2.5.3 Teacher Management

The government has mandated the Teachers Service Commission to manage the teaching service at the basic education level. This mandate entails registration, recruitment, maintenance and supporting teachers in the implementation of the curriculum.

Teacher Demand: Presently, TSC estimates an overall teacher shortage of 96,345. This includes 38,054 at the primary school level and 58,291 at the post primary school level. The projected shortages are expected to rise to 84,478 for secondary schools and 34,941 for primary schools by the year 2023, as shown in Table 11.

Table 11: Net Projections on Teacher Shortages -2019-2023

YEAR	NUMBER		
	POST PRIMARY	PRIMARY	TOTAL
2019	61,671	37,410	99,081
2020	66,718	36,777	103,495
2021	72,179	36,155	108,334
2022	78,086	35,543	113,629
2023	84,478	34,941	119,419

Source: TSC data: 2018, **Notes: 1. The base year is 2018 (February)**

The teacher shortage is as a result of the rapid growth in school enrolment, attributable to the implementation of the Free Primary Education (FPE) and Affordable Day Secondary School Education programmes, as well as the establishment of new schools. The increase in enrolment in secondary schools, occasioned by the objective of 100% transition from primary to secondary education, has already led to the increased demand for teachers at the secondary school level. In addition, expectations on the Competency Based Curriculum rolled out has compounded the teacher shortage problem.

As indicated in Table 11, an average of 18.600 teachers have graduated from the PTTCs over the last 3 years. Available data shows that the government has been able to absorb about

29,000 teachers over the last 5 years. To deal with teacher shortages, schools have been employing teachers locally, known as Board of Management (BOM) teachers. This is, however, an additional cost borne by parents as indicated in Table 12.

Table 12: Teachers Employed by Boards of Management

Status	Sector	BOM_M	BOM_F	TOT_BOM
Public	ECDE	12,673	56,150	68,823
	Primary	19,789	16,062	35,851
	Secondary	29,075	15,005	44,080

Source: Ministry of Education, EMIS

Table 13 shows that parents, through the Boards of Management, support employment of about 80,000 teachers in public primary and secondary schools. This is mainly as a result of the government's inability to hire all the teachers required to effectively implement the school curricula in public learning institutions. This reinforces the need for the government to device a sustainable model of hiring teachers, especially if the expectations of the 100% transition from primary to secondary school and the new CBC are to be effectively met. The shortfall in the supply of teachers at the secondary school level calls for innovative approaches, such as recruitment of teachers on contract basis, institutionalization of the internship programme for teachers and in certain cases, the sharing of teachers across schools for elective subjects.

2.5.4 Teacher Distribution and Utilisation

The main objective of teacher deployment is to ensure equity in teacher distribution across schools, based on reported shortages and replacement of exits through natural attrition. However, a confluence of factors limits the equal distribution of teachers in Kenya. These include insecurity in some counties, such as those in the northern part of Kenya and the Rift Valley, which causes an outflow of teachers; political and stakeholder interference in the distribution of teachers; preference of teachers for urban and high potential areas; unwillingness of teachers to be separated from their families; and need for medical attention, among others. In general, counties in ASAL areas have fewer teachers relative to other counties of the same school size. This calls for a comprehensive review of the existing teacher staffing norms and development of a policy framework on deployment of teachers at all levels.

In addition, the rapid establishment of new schools, some of which are not viable, has constrained the distribution and utilisation of the teaching resource, thus affecting curriculum implementation. The country is also facing a shortage of teachers in specific subject combinations in the Humanities, Kiswahili, Physics and Computer Studies. Further to this, the movement of these teachers to the private sector has occasioned the shortage of teachers for Physics and Computer Studies.

2.5.5 Teacher School and Class Attendance

Teachers are occasionally absent from school for various reasons. Several school surveys in Kenya reveal cases of teacher absenteeism from school and class. According to SDI survey of 2012, 4 out of 10 are unlikely to report to class due to school and class absence.[6] In most cases, teacher absenteeism leaves children without adequate instructional time since no

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[6] Martin, G. H. and Pimhidzai, O. (2013). Education and health services in Kenya: Data for results and accountability.

substitute teachers are provided. As one of the measures to address this issue, TSC has put in place performance management strategies through the Teacher Performance Appraisal and Development (TPAD) and Performance Contracting for heads of institutions. This strategy is expected to enhance accountability and professionalism for teachers employed in public schools.

2.6 Education Financing

The government spends 5 percent of its GDP on education. Table 13 shows trends in government spending in the Sector, at current prices. Government spending in education almost doubled over the period 2010/11 to 2015/16 with over 90 percent going to recurrent spending. It, however, dropped as a proportion of the GDP, from 5.3 percent to 5.1 percent over the period 2010/11 to 2015/16. This was due to a shift in government spending in favour of the energy and infrastructure sectors.

Table 13: Government Expenditure on Education, 2010/11-2015/16 (Current Prices)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16*
Government expenditure on education (KES millions)	169,093	205,262	230,599	250,551	284,792	319,425
Recurrent Expenditure	159,540	193,811	219,868	235,677	263,537	297,851
Development Expenditure	9,553	11,452	10,731	14,874	21,255	21,574
Percent recurrent expenditure	94.4%	94.4%	95.3%	94.1%	92.5%	93.2%
Education expenditure as a share of total government expenditure	17.7%	20.2%	18.6%	16.3%	14.6%	14.4%
Education expenditure as share of GDP	5.3%	5.5%	5.4%	5.3%	5.3%	5.1%

Source: The National Treasury, Ministry of Education, Kenya National Bureau of Statistics, author's calculations.
*Provisional – this is the approved budget for 2015/16.

The following are the key emerging issues related to trends in education spending:
● Despite the increase in the size of education expenditure, real average (public/government) spending (per capita spending) on education per child in the population has remained the same since 2011.
● Spending by functional classification shows that the primary sub-sector remains the highest consumer of education budget, followed by the secondary sub-sector.
● Recurrent spending takes the lion's share of spending even within the sub-sectors. In almost all sub-sectors, over 80 percent of spending goes to recurrent expenditure - two thirds of education recurrent resources go to salaries.
● Teacher salaries account for more than 90 percent of all salaries in the sector.
● Public expenditure on primary and pre-primary as well as secondary education mostly benefits the bottom 40 percent and can therefore be classified as being pro-poor. However, more than half of the recurrent expenditure on tertiary education is captured by individuals in the top quintile of the expenditure distribution and only three percent is captured by the poorest 20 percent. Furthermore, as shown in a longitudinal survey by the African Population and Health Research Centre among poor urban households, more than 60 percent of children from urban informal settlements (slums), especially in large cities, are currently not benefiting from the public spending in primary education on non-examination related expenditure.

- Significant proportion of spending in education is off-budget, mainly from households and development partners.

2.7 Pertinent and Contemporary Issues and Values

There are a number of pertinent and contemporary issues that affect education access, retention, completion and ultimate advancement in the world of work. This section highlights a few that need policy and special attention:

School Violence and Extremism: In the recent past, the country has experienced several forms of violence in schools. One form of such violence is setting of schools on fire. Student unrests and strikes have been perennial occurrences in Kenya, resulting in wanton destruction of school property and loss of life in some cases. In 2016 alone, close to 120 cases of school arson were reported. Bullying is another form of violence reported in Kenyan schools. 2017 Centres for Disease Control (CDC)[7] led collaborative surveillance survey ranks Kenya among countries with the highest level of bullying. At the national level, bullying in schools in Kenya stands at 57 per cent for students who are bullied on one or more days in a month. Perhaps most worrying is student radicalization and extremism. School children in Kenya are being increasingly targeted by elements bent on radicalizing the country's youth. The country has been experiencing increasing cases of disappearances as well as arrests of school going children linked to extremist organizations.

A recent government assessment highlighted a number of factors fuelling school violence and extremism: heavy school work, peer pressure, lack of skills on the part of teachers and school administrators on early warning signs and detection, as well as ineffective guiding and counselling support services.

Drug and Substance Abuse: Closely related is the issue of drug and substance abuse among school going children. A 2016 report by the National Authority for the Campaign Against Alcohol and Drug Abuse (NACADA)[8] shows that the median age of children who admitted to using bhang was 15, mostly Form Two students and undergoing puberty. The report notes that students are likely to start taking alcohol, khat/miraa, tobacco and heroin at the age of 14 years. For cocaine, the age of onset is 14.5 years, while bhang is 15 years. Still, according to the report, more than seven in 10 (71.3 per cent) of the students agreed that they were likely to start taking alcohol and drug of abuse in school. An almost similar number, 69.1 per cent, reported that students played a role in the supply of alcohol and drugs of abuse in school. Despite the popular belief that most children could be succumbing to the practice due to peer pressure in school, the report also found out that the home environment was another major risk for initiation into drug use.

Challenges of the Girl Child: Teenage pregnancy, which affects the girl child, is another pertinent issue affecting learning in Kenya. According to a 2016 survey by the United Nations

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[7] Month, P., Day, U., Toolkit, A.I.Y.L.T., Do, W.S.Y., Action, S.T., Ambassadors, P., Laws, R. and Child, P.H.Y., Bullying statistics.
[8] NACADA, 2016, *National Survey on Alcohol and Drug Abuse Among Secondary School Students in Kenya*, Nairobi: Kenya [found at http://nacada.go.ke/?page_id=387]

Population Fund (UNFPA),[9] close to a quarter a million adolescent girls in Kenya aged between 10 and 19 years became pregnant between July 2016 and June 2017. The Kenya Demographic Health Survey (KDHS) 2014 found that one in every five girls between 15-19 years has begun childbearing while close to 13,000 teenage girls drop out of school every year due to pregnancy (KDHS 2014). The situation is alarming in some counties. KDHS 2014 report further indicated that 4 out of 10 girls in Narok County got pregnant at a tender age. Other counties that have been put on the spotlight over teenage pregnancies include Homa Bay (33%), Kitui (36%), West Pokot (29%) Tana River (28%), Nyamira (28%), Samburu (26%), Migori (24%), Kwale (24%) and Nairobi (21%).

Apart from teenage pregnancy, the Kenyan girl child is adversely affected by gender issues ranging from female genital mutilation (especially in regions like Kajiado, Samburu, and Narok), early marriages, traditional practices such as preference for the boy's than the girl's education, and gender based labour division, which affects the girl child school performance since girls fail to competitively do their school given homework. It is for this reason that girls still remain behind in terms of education outcomes.

HIV and AIDS: HIV and AIDS has had widespread effects on children's learning experiences in Kenya. As parents, guardians and members of communities increasingly become infected by HIV and AIDS and eventually succumb to the disease, children are increasingly lacking basic needs such as food, clothing, shelter, health and even education. Within schools, the knowledge of HIV and AIDs among learners is quite low. Learners still engage in unprotected sexual activities exposing them to the risk of HIV infection. Those who are infected by HIV and AIDS face stigma and discrimination and lack adequate family support. Other challenges faced by infected and affected learners include; inadequate psycho-social support, inadequate capacity to deal with HIV and AIDS-related issues, and lack of coordination for response activities.

Child Labour: According to surveys, child labour is still rife and rampant in Kenya today. This could be attributed to many factors not limited to poverty, ignorance, cultural practices and exploitation. Estimates show that there are 1.9 million child labourers in Kenya representing 17 percent of minors in the country with a majority being aged between 5-17 years. The agricultural sector is the leading employer of minors in Kenya followed by the domestic sector. Close to 82 percent of the domestic workers are girls from rural areas working in urban centres. Key regions with high child labour prevalence are the coast, fishing areas and areas where khat (miraa) is grown such as Embu and Meru. Nevertheless, Kenya has made some commendable moves towards eliminating child labour, primarily through the National Policy on the Elimination of Child Labour. It is worth mentioning that the Children's Act, 2001 domesticated most international and continental conventions to enhance child rights and protection.

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[9] UNFPA, 2016, *Kenya Annual Report*, Nairobi: Kenya [found at
https://kenya.unfpa.org/sites/default/files/pub-pdf/UNFPA%20Kenya%20Annual%20Report%202016.pdf]

Education in Emergencies: In addition, a large proportion of children face challenges in accessing quality education due to natural or man-made disasters, as well as insecurity. Issues such as floods, drought, fires, cattle rustling, inter-ethnic clashes, inter-clan clashes, terrorism and political instability, among others, do affect them. On average, drought affects an estimated 250,000 school age children and 8000 teachers annually, to varying severity levels.

3. STRATEGIC DIRECTION AND PROGRAMME DESIGN

3.1 NESSP Programme Design Causal Linkages

This chapter presents the programmes that the sector will pursue during the 2018-2022 period. The *Vision, Mission* and *Strategic Objectives* guiding the Kenya NESSP 2018-2022 are outlined as follows:

Vision: '*Quality and inclusive education, training and research for sustainable development'*

Mission: '*To provide, promote and coordinate competency based equitable learner centered education, training and research for sustainable development'*
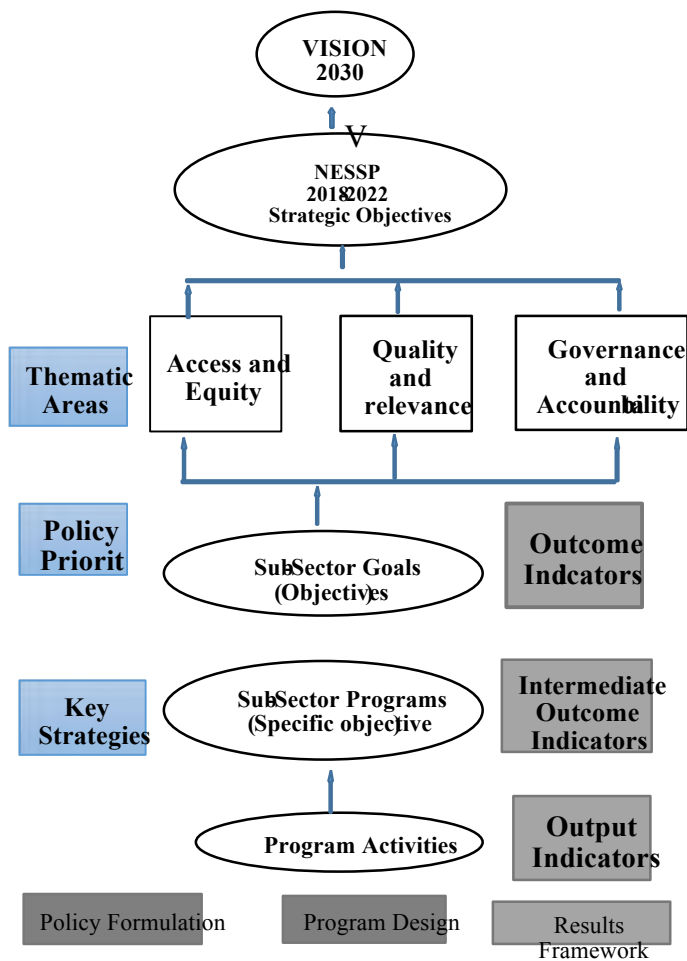
Figure 8 shows that the NESSP 2018-2022 programme design reflects a causal chain, with explicit linkages from programme activities (*output* indicators) to the NESSP 2018-2022 strategic objectives and ultimately the Vision 2030. NESSP 2018-2022 proposes to adopt a thematic level planning by sub-sectors. The sub-sectors include: Preprimary Education, Primary Education, and Secondary Education, Adult Education, Technical Vocational Education and Training, University Education, Post-Training and Skills Development, and Science, Technology and Innovation.

Figure 8: The Causal Chain of NESSP 2018-2022
Source: Authors' conceptualization based on the ESP guidelines

Each sub-sector planning level is guided by the following four themes: (i) Access and participation; (ii) equity and inclusiveness; (iii) Quality and relevance; and (iv) Governance and accountability. Each theme constitutes a strategic objective. The achievement of these strategic objectives will lead, partly, to the achievement of the aspirations of Kenya's blueprint, the Vision 2030 (as well as the MTP III which provides direction on planning and investments of the Vision 2030 during the period 2018-2022). As it is the case in chapters 1 and 2, the programmes and associated activities proposed in this chapter are based on issues and challenges identified in the Education Sector Analysis (ESA) and the Medium Term Plan III priorities.

For each sub-sector, the outline of the plan comprises three levels, and has several elements. At the top (policy priority level) is the *goal* or *general objective* that addresses a given challenge (see the next subsection) and within the results *framework*, is linked to a *target* as an expected *outcome*. Within each *goal* or *general objective,* there are a number of *programmes (or specific objectives).* Programmes address the underlying causes of the challenge, and within the results framework, can also be linked to targets as *expected intermediate outcomes*. In this NESSP, we provide a short description for each programme, which includes key issues (as identified in the ESA report, the Medium Term Plan III priorities, consultation with different education stakeholders, as well as ongoing reforms in the sector). Finally, within each programme, there is a *set of activities* outlined to address the underlying challenges identified. The activities, within the results framework, are like *output* indicators.

This sector plan is as a result of a highly participatory and consultative process led by the Ministry of Education. The ministry held internal meetings with senior staff in 2016 but the main consultations, organised by the Ministry, began in earnest in the first half of 2017. The Ministry established a leadership and technical structure to steer the development of the plan. At the top was the steering committee, consisting of the Cabinet Secretary and the Principal Secretaries from the different State Departments, to oversee and guide the process. Below the steering committee was the Technical Working Group (TWG), led by the Chief Economist with representatives from all the State Departments, the Teachers Service Commission, SAGAs, development partners (through the Education Development Partners Coordination Group (EDPCG), Civil Society Organisations, and research institutions. The TWG was a strategic planning team, responsible for preparing the education sector plan. The involvement of these actors was through consultations during the plan preparation process and through structured discussions on drafts of the plan document. The National Treasury provided inputs on macro-economic data and information on budget assumptions and sector projections.

To enhance effectiveness and efficiency in the process, there was need to build the capacity of the personnel engaged in the education sector strategic plan. In this regard, before beginning the process, an initial training for the TWG was held in

mid-2017, facilitated by the International Institute for Education and Planning (IIEP). This training focused on preparatory process, how to conduct the sector analysis and how to prepare the plan. Other stakeholders have continued to provide the required inputs through the Ministry. The policy priorities and associated programmes in this plan have come out as a result of this interaction between the stakeholders and the staff in the Ministry.

3.2 Sub-Sector Programmes and Activities
Next, we present the NESSP programmes and their associated activities, by sub-sectors. For each programme, we provide the programme title, a short description of the programme and finally, an outline of the activities to be undertaken to achieve the programme objective.

3.2.1 Governance and Accountability
Strengthening governance and enhancing institutional integrity in Kenya's education sector is a vital step towards achieving our national educational goals and objectives. One of the key findings from the ESA analysis was that Kenya's education sector is complex, comprising of various stakeholders, institutions and many players. In such a complex system, it is common to find divergent goals that are out rightly harmful to learning. The key challenge for this sector plan is to ensure that all actors are aligned towards the goal of learning by ensuring that various parts of the education system are working in coherence with one another.

It is for this reason that this sector plan begins by proposing a *Governance and Accountability Sub-Sector* with a set of programmes to deal with foreseen governance and accountability challenges. Of course each of the sub-sectors will have programmes that address sub-sector level governance and accountability challenges. The programme in this Governance and Accountability Sub-Sector seeks to strengthen governance and accountability at the sector level. The government has put in place various reforms to strengthen governance and accountability in the public service. These include:
● The Basic Education Act 2013;
● TVET Act 2013;
● University Act 2012;
● The Public Officer Ethics Act 2003 (POEA), introducing Code of Conduct and Ethics and requiring Public Officers to file annual declarations of income, assets and liabilities;
● The Anti-Corruption and Economic Crimes Act 2003, which set up the Kenya Anticorruption Commission;
● Public Finance Management Act (2012);
● The Public Audit Act (2015) and the Public Procurement and Assets Disposal Act 2015 was established as an autonomous Public Procurement Oversight Authority responsible for the regulation of procurement in the public sector, including procurement of security related contracts. Public Procurement Oversight Authority has since changed to Public Procurement and Regulatory Authority;
● Leadership and Integrity Act 2012;

- Education Sector Governance and Accountability Action Plan 2007, which facilitates greater stakeholders' participation in ensuring transparency and accountability in public resource utilisation;
- The Privatization Act 2005, which provides for a Commission to ensure transparency in the privatization of state owned enterprises, thereby strengthening accountability. The new Privatization Act sets the stage for the scaling down of the public sector, which should enhance governance and reduce rent-seeking behavior, as well as improve the efficiency of resource use and increase competitiveness;
- Code of Conduct for teachers and civil servants, which spells out the manner in which officers are expected to conduct themselves within and without the office so as to maintain the esteem of the institutions they work for and to promote integrity ; and
- Service charters of the Education sector – these reflect the institutions' commitment to the provision of quality service to their clientele.

A number of initiatives have been implemented to strengthen governance and accountability in the education sector. For instance, the sector has enhanced accountability on the utilization of resources in schools by anchoring oversight, risk management and controls in the Education Act through the introduction of school based audit. The Sector has also decentralised financial and procurement management to institutional level in order to allow for more community participation, efficiency and adherence to institutional priorities. Relevant training manuals, circulars and handbooks have been developed and distributed to the learning institutions. Furthermore, the Ministry Departments have set up structures at the County and Sub-County level, with clearly defined governance and accountability roles. To support the structures, capacity building has been scaled up recognising that non-teaching staff also play a key role in the governance of education institutions. To leverage on these initiatives, the following programmes are proposed.

Policy Priority 1: Efficiency and effectiveness in the delivery of education services
Goal: Enhance Efficiency and effectiveness in the delivery of education services at all levels **Policy Target (s):** Align all the sub sectors towards delivery of quality education promise to learners and students

Programme 1.1: Improve Institutional Linkages and Efficiency in the Sector
The education sector in Kenya is currently managed under too many institutions. At the top, there are four State Departments and TSC. Then there are close to 30 SAGAs. Besides, the sector is also organised in a number of directorates. Devolution and decentralization in the sector has also created more institutions at the subnational levels. Such multiplicity of institutions has the potential of leading to unnecessary overlaps, confusion in mandates and suboptimal deployment of limited resources. This programme will undertake the following activities to improve institutional linkages in the whole sector.

- Review of the structure of the education sector and its Agencies, from the headquarters to the learning Institutions;
- Undertake functional analysis of implementing Agencies, directorates and departments, identifying areas of duplication and make proposals for reforms; and
- Review the existing policy and legal framework with a view to identifying overlaps and duplication and thereafter make possible recommendations.

Programme 1.2: Human Resource Management in the Education Sector

The multiplicity of institutions in the Education Sector is likely to lead to suboptimal deployment of human resources. This calls for a review of the sector human resource in terms of recruitment, preparation, hiring, staffing and professional development of the sector's core workforce. Second, the sector is undergoing key reforms including the shift to the Competency Based Curriculum and Competence Based Assessment (formative assessments) at the basic education level and a shift to Competency Based Education and Training (CBET) at the TVET level. This underscores the need to build and align the capacity of the sector's workforce, not just teachers. Other areas for capacity development include: private public partnership, Quality Management Systems (ISO 9001 Standard), education planning and management, as well as social and environmental safeguards in institutions, among others.

This programme will be operationalised through implementation of the following activities:
- Undertake a sector-wide human resource survey/audit;
- Develop a policy on qualifications and staffing norms for technical and non-teaching staff;
- Develop a framework for human resource professional development;
- Build the capacity of staff, at the central and county level, in core aspects of education planning and management;
- Provide basic training in CBC to officers at Ministry headquarters (including QASOs); County and Sub-County[10], and learning institutions (heads of institutions);
- Build the capacity of staff in Quality Management Systems (ISO 9001 Standard) and information security management systems; and
- Establish and operationalise the Kenya School of Education and Training.

Programme 1.3: Data Management in the Education Sector

The existing data management practices in the sector do not support evidence-based, timely, reliable and correct data. Institutions within the education sector operate in silos and use different data systems that do not talk to each other, occasioning mismatch of information and data sets. Currently, there are overlapping school level data maintained by TSC, KNEC and MOE. Each of these institutions maintain separate data sets with separate school codes for the same school, causing challenges in harmonization of the data sets. Recently, the sector launched the National Education Management Information System (NEMIS) to facilitate the collection of data for policy formulation and planning at all levels of education and training. The NEMIS platform is currently being operationalised to support digital registration of

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[10] These include CQASOs, SCQASOs, CDEs, SCDEs and CSOs

learners/students. So far, primary and secondary school learners have been registered on

NEMIS. NEMIS has the potential to deal with inconsistencies of Kenya's large and complex education sector that serves millions of students in about 84,000 learning institutions including reducing possible financial impropriety as the per capita free primary education and free day secondary funds will be sent to schools based on registered learners.

Going forward, the system needs to be expanded to include learners from other sub-sectors, namely pre-primary, TVET, and university. A number of challenges are, however, foreseen. They include system maintenance, system security (against risks such as hacking), operational legal and institutional framework, and technical and managerial capacity constraints, among other challenges. This programme seeks to respond to these issues, among others, through the following activities:

- Finalise the legal and policy framework governing the management of NEMIS;
- Develop a criterion for including refugees and foreign learners in the NEMIS system;
- Carry out a system assessment at the HQ, County and institutional (schools and college) levels to establish infrastructural, technical and human capacity gaps affecting effective NEMIS implementation;
- Provide basic training in NEMIS system management to education officials at national and decentralized offices;
- Provide basic training in NEMIS system management to heads of learning institutions;
- Provide basic training in NEMIS system management to other stakeholders in the education sector;
- Provide advanced training to the NEMIS technical team on development, security and data analysis;
- Provide adequate infrastructure at the Ministry headquarters, counties and learning institutions to support NEMIS;
- Establish county NEMIS centres with the role of building the capacity for usage of NEMIS data to facilitate planning at the county level;
- Link the TVET Management Information System (TMIS) and University Education Management Information System (UEMIS) to NEMIS; and
- Collaborate with KNQA to develop an Integrated National Learner Records Database and integrate it to NEMIS.

Programme 1.4: Strengthening Devolved and Decentralised Education Structures
Devolution of some functions from the ministry headquarters to the counties , in particular roles and mandates related to pre-primary and TVET (village polytechnics), has been characterised by a number of challenges. In the context of devolution, issues regarding separation of roles, legislation, funding, and quality standards, between counties and the national government, have not been fully unbundled and clarified. In addition, the roles and responsibilities of the education offices at the county and sub-county offices, such as CQASOs, SCQASOs, CDEs, SCDEs and CSOs, are not well defined. The reporting lines are also not well clarified. In addition, there is need to strengthen the county based education

personnel to enhance service delivery at the sub-county and school levels. This programme seeks to address these challenges through the following activities:

- Undertake a feasibility study on the status of decentralization and devolution in the sector;
- Review and streamline the overall structure and mandates of the county education personnel;
- Develop performance contracts for county education personnel aimed at improving service delivery at the sub-county and school levels;
- Establish a capacity building framework and costed operational plan for the county education teams;
- Build the capacity of county and sub-county education officers in Competency Based Curriculum;
- Hold one national education conference that brings together all counties to discuss the status of education in Kenya after every two years;
- Hold annual county level education dialogues, in each county, aimed at discussing the status of education and quality of learning in the respective counties;
- Organise and showcase county achievements and innovations in education that can facilitate cross-county peer learning; and
- Organise quarterly intergovernmental (national and county level) education meetings to strengthen national and county collaborations.

Policy Priority 2: Enhance policy formulation and implementation for effective education service delivery
Goal: To develop implementable policies for education and training
Policy Target (s): Develop and review policies and legislations by 2022

Programme 2.1: Enhance the Development and Implementation of Education Policies A number of policies will have to be developed and/or reviewed to provide the legal basis for implementation of a number of programmes proposed here. Legal and policy frameworks will also need to be developed/reviewed to ensure a seamless provision of educational services among the national, devolved and decentralized entities. The sector also faces the challenge of disseminating its policies. As a result, the sector will develop a communication strategy to deal with this problem. This programme seeks to respond to these issues, among others, through the following activities:

- Develop the following policies and regulations:
- A comprehensive teacher education and development policy;
- Education Policy for the Inclusion of Refugees and Asylum Seekers;
- Review and implement Governance and Accountability Action Plan (GAAP);
- Scheme of Service for school bursars/accounts clerk;
- Framework for placement and establishment of Junior Secondary Education;
- A framework for pre-primary education funding;
- Guidance and Counseling Policy;
- Physical Education and Sports Policy;
- A national quality assurance framework;

- STEM policy in education and training;
- Education Sector Policy on disaster management;
- Policy on expatriate teachers seeking employment in schools in Kenya;
- Mentorship and nurturing of national values policy;
- Risk management and safeguards policy for education and training;
- A comprehensive education and training policy;
- Post training skills development policy; and
- Trainer Development Policy.

Review the following policies, legislations and regulations:
- Career guides for schools;
- The National Adult and Continuing Education Policy of 2010;
- The Policy for Alternative Provision of Basic Education and Training (APBET);
- National ICT Strategy for Education and Training 2006;
- Mentorship, guidance and counselling policy and guidelines;
- Guidelines and materials for learners on life skills and values education;
- Head teachers' and Principals' manual;
- Capitation guidelines for primary and secondary education;
- National School Health, Security and Safety Policies;
- Basic Education Act 2013 and its regulations;
- University Act 2012;
- KNEC Act 2012 and examinations regulations;
- TVET Act 2013;
- TSC Act 2012 and its regulations;
- KICD Act 2013; and
- Internships, attachment and apprenticeship policy.

Programme 2. 2: Enhance Collaborations and Linkages in Education and Training
In relation to lifelong education, the government recognises the role of partnerships in enhancing access, equity, quality and relevance. Education is a public good and hence there is need to promote collaborations, linkages and networking with development partners and other interested parties to ease the current heavy household financial and technical burden in education. Public-Private Partnership (PPP) has been adopted widely, internationally, over the last two decades to enable governments to obtain greater value for their investment in education. The challenge faced by Government is that of establishing an environment conducive for facilitating partnerships between both levels of Government, household and local communities, industry and commerce, private sector providers of educational services, development partners, NGOs, and foundations. Strengthened partnerships are likely to improve efficiency of public spending to meet the demand for education at all levels. The overall objective of this programme is to enhance collaborations and linkages in delivery of education services. This programme will entail implementation of the following activities:
- Map partners in education and training annually;

- Develop a coordination framework to create linkages with county governments, private sector and development partners;
- Develop Partnership Principles Agreement for education and training;
- Build capacity of education staff and stakeholders on Partnership Principles; and
- Develop a joint resource mobilisation strategy.

Policy Priority 3: Establish a Framework for Implementation of the NESSP 2018-2022
Goal: To establish a framework for implementation of the NESSP 2018-2022
Policy Target (s): A fully functioning multi-agency secretariat to implement NESSP 2018/2022

Programme 3.1: Establish a Framework for the Implementation of NESSP 2018-2022
This NESSP 2018-2022 presents Kenya's education policies, priorities and strategies for national education reform, and will remain a powerful tool for coordinating and mobilising resources for the education sector in the medium term. Its success will, therefore, depend on a well-established effective implementation framework. Besides, there is need to establish a monitoring and evaluation system to focus on the implementation of NESSP 2018-2022. Past sector plans have been characterised by weak monitoring and evaluation systems. To address the challenges of a weak monitoring framework, this plan will adopt a harmonised sector wide approach. For an effective framework of implementation of NESSP 2018-2022, the following activities are proposed:
● Develop and implement a framework to guide the implementation of NESSP;
● Establish a multi-agency secretariat to spearhead the implementation of NESSP; and
● Develop a monitoring and evaluation framework for NESSP.

Next, programmes related to other sub-sectors, beginning with the Pre-Primary Sub-Sector, are outlined.

3.2.2 Pre-Primary Education
The Government recognises pre-primary education as a crucial foundation stage for primary education, character formation, and lifelong learning. In collaboration with other stakeholders, the government has provided considerable investment to enhance access and improve the quality of pre-primary education services across the country. Notwithstanding the investment, the sub-sector still faces many challenges in access, equity and quality of pre-primary education. These challenges include: inadequate and inappropriate school infrastructure; inadequate and inappropriate learning resources, teaching, as well as playing materials; inadequate teachers; poor remuneration levels; weak supervision and quality assurance structures; and inadequate nutrition and health services. In line with the constitutional provisions, delivery of pre-primary education is the responsibility of County Governments while the National Government remains in charge of policies, standards, curricular and assessment. The following sub sections provide the range of policy priorities, programmes and activities that will be implemented to address the challenges. With

these challenges, majority of learners are not acquiring the expected competencies and may transit to primary without the requisite school readiness competencies.

Policy Priority 1: Access and participation in inclusive and quality pre-primary education Goal: Improve access and participation rate in competence based learning for children aged between 4 to 5 years.
Policy Target(s): Increase Pre-primary Gross Enrolment Rate (GER) from 76.6% to 83% by 2022;
Ensure 100% transition from pre-primary to primary education across the country

Programme 1.1: Universal Pre-Primary Education
ESA analysis shows that over the last five years, the pre-primary sub-sector witnessed considerable increase in both the number of ECDE centres and enrolments. This increase is partly due to accelerated investment in new ECDE centres by County Governments following the devolution of pre-primary education functions. Despite this**,** over 25 percent of pre-school going children are not enrolled in schools yet. Given 34% of families live under the poverty line and with families taking the bulk of financing pre-primary, cost remains one of the barriers to accessing pre-primary education, especially for children from poor households. Since public education is free, enhancing access and equity at the pre-primary level requires mainstreaming pre-primary education into the primary school system. Furthermore, long distances to existing pre-primary schools in some parts of the country hinder access. In addition, most of the public pre-primary schools do not have adequate and age appropriate facilities and instructional materials that support stimulation and learning for children. This programme seeks to improve access and participation rate at pre-primary through the following activities.
- Develop a framework for pre-primary education funding;
- Establish a targeted fund for children from poor and vulnerable households;
- Undertake a mapping exercise of existing pre-primary schools;
- Construct additional pre-primary schools in areas where they are inadequate, especially in vulnerable and disadvantaged areas;
- Improve existing public pre-primary schools in line with universal design principles by 2022;
- Equip public pre-primary schools to ensure they meet standards;
- Develop a framework for integrating madrasa and duksi into formal education in targeted counties;
- Sensitise stakeholders on importance of pre-primary in areas with low enrolment across all counties.

Programme 1.2: Improve Health, Nutrition and Protection of Pre-primary Education Learners
Health and nutrition status is a significant determinant of a child's holistic development and learning ability. Pre-primary Education programmes provide opportunities for the provision of specific health and nutrition interventions such as

growth monitoring, vaccinations, deworming, vitamin supplementation, referrals for treatment, as well as screening and better health seeking behaviour, among others. Furthermore, availability of clean water, promotion of hand washing and proper sanitation at the pre-primary schools positively impact on the health of a child, deterring waterborne diseases and infections. Pre-primary education also provides a good opportunity for instilling important life skills at the formative age. This programme, therefore, aims at mainstreaming health, nutrition and child protection interventions in pre-primary education through the following activities:

- Establish feeding programmes in pre-primary schools;
- Build capacity of teachers to facilitate de-worming and administration of vitamin supplements;
- Build water, sanitation and hygiene facilities in pre-primary schools;
- Promote low cost hygiene promotion activities to reduce illness related absenteeism;
- Collect child health related data and use in decision making;
- Establish programmes to enhance critical life skills and executive functioning skills;
- Strengthen collaboration with other sectors and ministries, including the Ministry of Health.

Policy Priority 2: Enhance quality and relevance of pre-primary education
Goal: Enhance quality and relevance of pre-primary education
Policy Target (s): Ensure 100% of pre-primary schools deliver Competency Based Curriculum by 2020

Programme 2.1: Implement the Competency Based Curriculum for Pre-Primary education
As noted in ESA, the nature of care and learning in pre-primary schools is not well developed to respond even to the needs of the children aged 3-5 who attend those schools. Teaching is focused on literacy and numeracy skills meant for early primary education – partly due to pressure from parents, who view ECD as early schooling. Unfortunately, parents' understanding of ECD is also largely focused on children's early acquisition of learning skills. Child-centred pedagogical methods, which would provide a better basis for learning, exist in only a few private centres in urban areas. This programme seeks to improve the quality of teaching and care in pre-primary schools to respond to the needs of the 3-5 aged children through the following activities:

- Finalise the development of the Competency Based Curriculum for pre-primary education, and implementation framework;
- Train pre-primary school teachers, county ECD officers and other curriculum implementers on Competency Based Curriculum;
- Develop Competency Based Curriculum support materials for pre-primary education;
- Adapt the Competency Based Curriculum instructional materials for inclusivity;
- Develop and implement a capacity building programme for pre-primary and quality assurance officers; and
- Counties to recruit adequate and qualified pre-primary instructional support officers.

Programme 2.2: Improve assessment of learning in pre- primary education

Pre-primary assessment is intended to provide feedback to ensure that learners at that level are ready for primary school instructions. At pre-primary level, assessment results will inform planning experiences to enhance the development of skills and the acquisition of concepts by individual learners. The programme will be operationalised through the following activities:

● Develop a competency-based assessment tool for pre-primary education;

● Build the capacity of pre-primary school teachers on assessment of CBC; and

● Implement assessment and supervision programmes through integration of ICT.

Programme 2.3: Strengthen the Capacity of the ECDE Workforce

Adequate and qualified human resource is key in the implementation of quality curriculum as well as provision of child care services. Kenya continues to face a challenge of provision of skilled personnel to provide adequate care and stimulation to pre-primary learners. Though there has been tremendous improvement in teacher training levels over the years manifested in increased teacher training levels of 9.8 per cent from 83,814 (13,854 male and 69,960 female) in 2013 to 97,717 (15,366 male and 82,351 female) in 2016, lack of a scheme of service for pre-primary teachers and other personnel in the sub sector has resulted in poor remuneration, low staff morale and high attrition of trained teachers. In addition, there exists weak supervision and quality assurance structures to support provision of quality services to children and families. To address the above challenges, the following activities will be implemented:

● Finalise a scheme of service for pre-primary teachers and caregivers;

● Recruit additional pre-primary teachers and caregivers;

● Mainstream a pre-primary teacher training programme in teacher training colleges;

● Ensure there is a Code of Conduct for all pre-primary teachers; and

● Develop an in-Service professional development programme for pre-primary teachers.

Programme 2.4: Improve pre-primary education standards and quality assurance

The objective of this programme is to ensure quality pre-primary services that are relevant in equipping children with age appropriate competencies for optimal developmental outcomes. Currently, there is inadequate monitoring of standards and quality of pre-primary institutions.

This program is aimed at strengthening quality assurance at the pre-primary education level and will be operationalised through the following activities:

● Establish institutional based quality assurance in pre-primary schools;

● Build capacity of Quality Assurance and Standards Officers and county pre-primary staff; and

● Develop pre-primary education guidelines for quality standards.

● Review the National Pre-Primary Education Policy

Policy Priority 3:
Enhance governance and accountability in pre-primary education
Goal: Improve governance and accountability in management of pre-primary education services
Policy Target (s): Established multi-sectoral approach in governance, coordination, linkages and collaboration with pre-primary service providers by 2022

Programme 3.1: Develop multi-sectoral collaborations and linkages in the management of pre-primary education
There are various stakeholders participating in the provision of pre-primary education services including parents, communities, the national government as well as county governments, the private sector, and Faith Based Organisations (FBOs). Given the multidisciplinary players in the provision of pre-primary education services, there is need to provide a clear collaborative framework that identifies each stakeholder's roles. The programme will be operationalised through the following activities:
● Develop a multi-sectoral coordination framework for pre-primary education service providers that will among others create synergies between the national government, counties and service providers for inclusive and holistic provision of pre-primary education;
● Finalise the integrated pre-primary education policy and guidelines;
● Establish a harmonized governance structure for pre-primary and primary schools;
● Build capacity of pre-primary education centre managers on governance issues; and
● Develop a framework for parental engagement and participation.

3.2.3 Primary Education
Policy Priority 1: Access and Participation in Primary Education.
Goal: To improve access and participation in primary education.
Policy Target (s): To increase the Net Enrolment Rate (NER) from current 91.2% to 93.1% in primary education by the year 2022.

Programme 1.1: Universal Primary Education
Primary Net Enrolment Rate (NER) rose from less than 60% during the pre-2003 period to about 91.2% percent in 2017. Despite this, a good proportion of children are not enrolled or have dropped out of school due to factors such as forced repetition; costs, such as school uniform; poverty; cultural practices that are gender biased; and poor and unsafe learning environments, among others. The programme seeks to initiate and improve interventions to increase NER through the following activities:

- Develop a funding framework for financing capital and recurrent costs in public primary education;
- Undertake a National Infrastructure Survey for primary schools;
- Enhance primary school infrastructure with additional facilities based on the infrastructure survey; and
- Sensitise stakeholders and communities on the role and value of education in development.

Policy Priority 2: Equity and inclusivity in primary education

Goal: To enhance equity, inclusivity and safety in primary education across the country

Policy Target(s):
  i. Increase the share of SNE enrolment in primary education from 1% to 5% by 2022;
  ii. Increase primary enrolment rates for children from rural, poor, as well as conflict prone and vulnerable contexts; and
  iii. Reduce gender disparities in access and completion of primary education.

Programme 2.1: Reduce disparities in access and retention to primary education. ESA shows that children with special needs; those from rural areas; from urban informal settlements; from ASAL areas; from conflict-prone regions, including those in refugee camps; and those from poor households, are less likely to enroll and stay in primary schools. This is associated with factors such as direct costs (school fees and school feeding); indirect costs of schooling; long distances covered to schools; lack of child friendly and gender sensitive facilities in schools; lack of food and water at home; bad cultural practices; and insecurity, among others. Gender disparity exists, with low enrolment in some regions, especially marginalized regions. Girls do not have same opportunities in accessing education and training as their male counterparts due to cultural and religious practices in some counties, especially those in ASAL areas. This programme seeks to reduce disparities in access to primary education through the following activities:
- Develop a standard design for disability friendly infrastructure in primary schools;
- Rehabilitate and upgrade existing infrastructure facilities in all public primary schools for assistive/adaptive technology for PLWD, to enhance their integration;
- Undertake a survey to identify children with disabilities;
- Provide school meals to children from marginalized and vulnerable communities;
- Establish more low-cost boarding schools in all regions, including ASAL and marginalized communities;
- Provide Mobile Learning Kits to mobile schools in nomadic communities;
- Undertake a mapping exercise for "informal" learning centres in urban slums;
- Develop a framework to integrate Madrassas and Duksi classes into public primary schools in targeted counties.

Policy Priority 3: Quality and Relevance in Primary Education

Goal: To enhance quality and relevance in primary education

Policy Target (s): Improve learning outcomes in primary education

Programme 3.1: Curriculum Reforms in Primary Education

The current curriculum, offered under the 8-4-4- system, has been widely criticised for being heavily loaded in terms of content and being too exam oriented, putting undue pressure on learners. The Competency Based Approach aims at nurturing every learner's potential by ensuring all learners acquire the core competencies. It places emphasis on formative rather than summative assessments. Reform of the curriculum will ensure that the skills taught in educational institutions match the requirements of the industry. This will be done through the following activities:

● Develop CBC and support materials for primary;

● Build the capacity of primary school teachers in CBC; and

● Adapt CBC and curriculum support materials for SNE.

Programme 3.2: Assessment Reforms in Primary Education

The current system at primary school level is based on summative evaluation, which does not adequately measure skills and competencies acquired by learners. The CBC has put more emphasis on formative assessment, where learners will be continuously assessed but sit for end of cycle examination at Grade 6 and Form 3. There is, therefore, need to establish a framework for Competency Based Assessment (CBA) to ensure a balance of formative and summative assessment coupled with building the capacity of teachers and education officers on CBA. The current mode of assessment will, however, be administered alongside these reforms within the plan period, with various reforms being implemented to safeguard examinations. This shall be accomplished through the following activities:

● Enhance the management of national examinations in primary education;
● Develop a Competency Based Assessment (CBA) Framework for basic education;
● Build the capacity of technical officers on conceptualization, design and implementation of CBA for Primary Education;
● Pilot the CBA at Grade 3 and Grade 6;[11]
● Build the capacity of teachers and Education Officers on CBA in primary education;
● Establish a web-based portal to facilitate access to formative assessment at school level;
● Establish and maintain a secure item bank system for formative and summative assessment; and
● Conduct annual Kenya Early Years Assessment (KEYA) at Grade 3 and Primary School Education Assessment (PSEA) at Grade 6.

Programme 3.3: Integrate ICT in teaching, learning and assessment in primary education The government has continually invested in ICT integration in education to enhance access, quality and equity in education. There are various initiatives in ICT integration in education by both the government and other stakeholders. Key among these is the Digital Literacy Programme (DLP), which targets all public primary schools. In this programme, each school is provided with digital resources for effective curriculum delivery. It is currently facing a number of challenges. For instance, the use of tablets has been hampered by unreliable electricity supply, unreliable and/or lack of internet connection, lack of ICT skills among teachers,

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[11] Grade 6 pilot will be determined by availability of curriculum designs and the implementation plans

unwillingness of teachers to integrate ICT in teaching and learning, and sustainability of the programme. Going forward, there is need to deal with these challenges and scale up the DLP to include upper classes. This leverages on the current Digital Learning to enhance the use of ICT in teaching and learning in primary schools. To integrate ICT in teaching, learning and assessment in primary education, the following activities will be undertaken:

- Undertake a digital literacy evaluation survey in all public primary schools;
- Construct computer laboratory in public primary schools;
- Equip all public primary schools with hardware and software infrastructure for ICT education;
- Build capacity of ICT champion teachers in integration of ICT in teaching, learning, assessment and management;
- Develop digital content for all subjects of the CBC for primary schools;
- Build capacity of head teachers for skills in ICT integration in teaching, learning and management; and
- Establish an ICT integration in education support system at the national, county, sub-county and institutional level.

Programme 3.4: Enhance early talent identification under competency based primary education

The objective of this programme is to enhance efficiency in learning of science subjects in primary education in the country. It is also to ensure and sustain high quality production and distribution of specialised science equipment, learning materials and teaching aids for all learners. The need for hands on activities cannot be gainsaid, with the roll out of the competency based curriculum (CBC) in the country and promotion of Science, Technology, Engineering and Mathematics (STEM) pathway in both old and new curricula. The activities to accomplish these include:

- Develop science kits for primary schools;
- Build capacity of primary school teachers in Mathematics, Science, English and Kiswahili subjects on innovative and learner centred approaches;
- Establish workshops and general laboratories in primary schools to encourage hands on learning;
- Enhance the TUSOME/EGMA Model to promote literacy and numeracy in primary education; and
- Promote early identification of talents along arts and sports, social sciences and STEM.

Policy Priority 4: Governance and Accountability.
Goal: Improve school level governance and accountability in primary schools
Policy Target(s):
  i.   Enhance capacity of school management in leadership

Programme 4.1: Improve School Level Governance and Accountability
Over the last five years, the ministry undertook a number of initiatives aimed at improving Public Financial Management in the Sector. Financial Management trainings have been conducted for the head teachers and FM manuals supplied to

some schools. Regular school audits have been carried out in some schools. There is scope to increase coverage for both PFM training for heads of institution and school audits. However, in most schools, BOM committees, which are critical in providing oversight, are not constituted as per the Basic Education Act of 2013. Furthermore, there have been cases of Board of Management implementing ambitious development projects without adequate planning and financing, which leads to incomplete and stalled projects. Therefore, the programme aims at ensuring that resources deployed in the sector are aligned to learning outcomes and are prudently managed. This programme seeks to improve the primary sub-sector school level governance and accountability through the following activities:

● Build capacity of head teachers and BOMs in public finance management;
● Review and disseminate Management and Procurement Handbooks to primary schools;
● Undertake Public Expenditure Tracking Survey (PETS) and Public Expenditure Reviews (PER);
● Develop and implement a scheme of service for non-teaching staff in public primary schools;
● Undertake a social mobilisation and advocacy for parental involvement in primary education; and
● Develop and implement an operational manual for minimal essential package for utilisation of the learner capitation grants.
● Undertake a study to assess the effectiveness of learner capitation grants and develop a finance model for primary education.
● Build school Managers' capacity on financial management, risk management and controls

Policy Priority 5: Social Competence and National Values Systems in Education and Training
Goal: To inculcate value-based education system in basic education
Policy Target(s): To enhance national cohesion and national values through literacy by 2022

Programme 5.1: Enhance National Volunteer Assistance Programme
Greatness United (G-United) is a National Volunteer Assistance Programme that recruits and trains volunteer graduates on basic literacy skills before posting them to primary schools in counties other than their home county, with the aim of promoting national cohesion, enhancing learning outcomes and providing personal professional growth to the youths as they interact with the community they are living in during the one-year engagement. The volunteers provide remedial support to identified learners lagging behind in literacy skills in Grade 2 and Grade 3. The programme seeks to expand this initiative from the current coverage of 20 counties to all the 47 counties. This will be in 50 schools for each county, selected on the basis of the latest KCPE results analysis of each county. This programme involves the following activities:

● Train TOT and review workshops of cohorts at the end of volunteerism;
● Train volunteers on basic literacy skills;
● Deploy VGAs to all counties for volunteer programme; and
● Carry out process monitoring to ensure implementation of VGA activities.

3.2.4 Secondary Education
Policy Priority 1: Increase Access and participation to Secondary Education
Goal: Improve participation in secondary education
Policy Target (s): Increase Secondary Gross Enrolment Rate (GER) from 70.3% to 83% by 2022; Ensure 100% transition from primary to secondary education.

Programme 1.1: Universal Secondary Education.
The Government of Kenya implements the Free Day Secondary Education (FDSE) initiative, where subsidies are provided to all secondary school students in such schools. This has partly contributed to increased enrolment from 1.9 million in 2012 to 2.8 million in 2017. Despite these efforts, Gross Enrolment Rate (GER) and Net Enrolment Rate (NER) are low even though the GER gained by 16% while the NER gained by 14% between 2013 and 2018. The GER was estimated at 70.3% and NER was estimated at 53.2%, respectively, in 2018. Hence, about 53% of eligible children attend secondary school against the world's average of 65%[12] and close to 47% of the eligible children do not attend secondary schools. This is attributed to costs; long distances covered to schools; and inadequate facilities, which hinder access to secondary schooling, among other causes. To ensure that all eligible learners are enrolled and retained in public secondary schools, the top priority is meeting the full direct cost of day secondary education. Besides undertaking a differentiated unit cost for secondary education that accounts for among others, inflation, regional disparities and heterogeneities across schools, this requires schools to have adequate child friendly facilities. This programme seeks to increase the number of eligible boys and girls transiting into and completing free secondary education. The programme will be operationalised through the following activities:
● Undertake a national survey on secondary schools' infrastructure needs;
● Expand single streamed secondary schools in high potential areas to a minimum of three streams, on needs basis;
● Establish additional secondary schools in existing urban primary school sites with dense catchment;
● Construct additional classrooms, libraries, WASH facilities and science laboratories in existing schools;
● Construct tuition blocks in extra county boarding secondary schools to accommodate day scholars;
● Provide infrastructure and equipment to cater for different pathways under the restructured education system;
● Provide instructional materials and operational subsidy for all students in secondary schools;
● Review the differentiated unit cost for secondary education, including guidelines on school uniforms and meals;
● Sensitise stakeholders and communities on the benefits of secondary education; and

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[12] Data for "World" and "Africa" are from the UNESCO Institute of Statistics (UIS), http://data.uis.unesco.org/;

- Review and implement guidelines for form one selection, to ensure inclusivity.

Policy Priority 2: Equity and Inclusivity in Secondary Education
Goal: Reduce disparities in access to secondary education
Policy Target(s): Reduce disparities based on gender, disability, location (rural/urban) and region in access to secondary education by 2022

Programme 2.1: Reducing disparities in secondary education
Generally, access is low among children with special needs and those from rural areas; urban informal settlements; ASAL and less endowed areas; conflict-prone regions, including refugee camps, as well as those from poor households. Secondary education completion in North Eastern and Coast regions is about 3 times less than that in Central and Nairobi. In the North Eastern and Coast regions, more than 7 out of 10 do not go up to the end of secondary education. Factors contributing to low access among these children and thus increasing disparities are: poverty, direct costs (uniforms, transport among others), poor health, negative cultural practices, insecurity, long distances covered to schools, and inadequate gender and child friendly facilities that mainly disadvantage girls and children with special needs, among others. As it is the case for primary level, enrolments among girls is higher than boys (at the macro level and in some regions). However, girls remain disadvantaged in some regions such as ASAL areas. This programme seeks to enhance secondary retention by addressing the disparity issues through the following activities:
- Develop a framework to guide education interventions in vulnerable areas;
- Establish a fund to support learners from vulnerable backgrounds;
- Provide medical insurance cover to students in all public secondary schools;
- Sensitise communities on cultural attitudes hindering access to secondary education, particularly for girls;
- Undertake community sensitisation on prevention of child marriage and;
- Adapt existing infrastructure in secondary schools to facilitate inclusive education.

Policy Priority 3: Improve the quality and relevance of secondary education
Goal: Improve learning outcomes in secondary schools
Policy Target(s): Improve learning outcomes through competency based education

Programme 3.1: Reform Secondary Education Curriculum
Kenya is in the process of reforming the education curriculum to structure it within skills and competencies based framework. To increase quality and relevance to the labour market and national developmental needs, this curriculum will place emphasis on competencies achieved and put a greater focus on Science, Technology, Engineering and Mathematics. The CBC marks a shift from the current curriculum that places emphasis on grade or marks obtained rather than skills acquired. The CBC aims at nurturing every student's potential by ensuring that they acquire core competencies. At secondary education level, this curriculum will be in two stages,

that of junior and senior secondary. Junior secondary will offer an opportunity for learners to identify areas of interest and growth for them to join one of the four streams of general education, talent, technical and vocational provided at senior secondary. The first cohort of students under the reformed curriculum is expected to be in secondary school in the year 2023 hence the need to develop the required curricula for this cohort of learners. The programme will be operationalised through the following activities:

- Develop Competency Based curriculum (CBC) and curriculum support materials for lower secondary education;
- Develop and adapt CBC and curriculum support materials for SNE;
- Develop a framework for rolling out the CBC and providing transition for the proposed structure; and
- Build the capacity of secondary school teachers on CBC.

Programme 3.2: Reform learning assessment practices in secondary education

The largely summative evaluation in secondary education does not adequately measure skills and competencies acquired by learners. A system of assessment that balances the formative and summative assessment will be developed and implemented, in which learners are to be assessed at Grade 9 and Grade 12. There is need to establish a framework for Competency Based Assessment (CBA) and build the capacity of teachers in CBA. Kenya will also need to participate in international assessments to gauge skills acquisition of Kenyan children, with those from other countries. Development of the new modes of assessment will, however, be conducted alongside reforms in the current mode of assessment to ensure integrity of examinations. This plan proposes to reform learning assessment practices in Secondary Education through the following activities:

- Enhance the management of national examinations in secondary education;
- Improve the system for evaluating school-based projects in secondary education;
- Review the Competency Based Assessment (CBA) Framework for basic education;
- Build capacity of technical officers at KNEC on conceptualization, design and implementation of CBA for secondary education;
- Build capacity of teachers and education officers on CBA in secondary education;
- Establish a web-based portal to facilitate access to formative assessment at secondary school level;
- Establish and maintain a secure item bank system for summative assessment in secondary education;
- Develop and implement the framework for participation in the Programme for International Students Assessment for Development (PISA-D); and
- Develop and implement the framework for participation in the Trends in International Mathematics and Science Study (TIMSS).

Programme 3.3: Provision of Teaching and learning resources in secondary schools Currently, public schools have varying resources for instruction and learning. Laboratory equipment especially in ASAL, including refugee camps, and

poverty-stricken rural and urban slum areas are inadequate. Consequently, some schools only offer theory lessons, due to inadequate equipment and other teaching and learning resources. This programme seeks to improve the quality of teaching and learning by focusing on adequacy of equipment, materials and other resources. The activities to be implemented under this programme include:

- Review and disseminate science kits manuals to secondary schools;
- Provide laboratory equipment to secondary schools; and
- Provide textbooks and instructional materials to secondary schools.

Programme 3.4: ICT Integration in Secondary Schools
Information and Communication Technology is one of the main drivers of a knowledge-based economy. The government has invested in ICT integration in education to enhance access, quality and equity in education. There are various initiatives in ICT integration in education by both the government and other stakeholders. Key among these is the Computer for Schools Programme, which has equipped over 3,000 public secondary schools. In this programme, each school is provided with ICT learning resources for effective curriculum delivery. However, most secondary schools lack adequate ICT learning resources and guidelines for ICT Integration.

Whereas some schools have personal computers (PC), laptops, tablets, smart boards and projector(s), the use of ICT in teaching and learning remains poor across schools. Internet connectivity is an important component in ICT integration in teaching and learning since it facilitates access to content, communication and collaboration among educators and learners. However, connectivity remains a challenge across a majority of secondary schools. Another thing is that effective ICT integration requires key stakeholders to have the requisite knowledge, skills and attitude. However, a majority of teachers have negative attitude and low skills level in ICT integration. There is need to build the capacity of all stakeholders for effective and sustainable ICT integration in teaching and learning. Also, to ensure evidence based decision making on ICT integration, a formal and standardised mechanism for monitoring, evaluating and reporting is necessary. This programme seeks to enhance the use of ICT in teaching and learning in secondary schools through the following activities:

- Provide ICT infrastructure in secondary schools (electricity, internet and ICT equipment);
- Build capacity of secondary school teachers and management on effective use of ICT in teaching, learning, assessment and management;
- Facilitate the development and dissemination of e-content for secondary education;
- Develop a monitoring and evaluation framework for assessing the impact of ICT integration in teaching and learning; and
- Establish an ICT integration in education support system for secondary schools at the national, county, sub-county and institutional level.

Programme 3.5: Enhance STEM, Sports and Talent in Secondary Education

The programme seeks to develop the capacity of secondary schools to enhance provision of STEM, sports and other talent oriented education, which are the key pathways to senior secondary. Students will experience more hands-on, active learning in order to acquire more practical skills that can form a good foundation for developing interest and skills for technical and vocational fields, as well as liberal arts, sports and other talents. The programme will emphasise on creativity and construction in doing and making things. This will enhance the quality of STEM, and talents education and make attractive to many students especially relevant technical, vocational, sports, liberal arts and other talents. This will be done through the following:

- Establish a model STEM, as well as a sports and talent secondary school in every county;
- Develop guidelines on identification, placement and development of gifted and talented students; and
- Build capacity of teachers to implement STEM, as well as sports and talents in secondary schools.

Policy Priority 4: Governance and Accountability in Secondary Education

Goal: Improve school level governance and accountability in secondary schools

Policy Target(s): Enhance capacity of school management in leadership

Programme 4.1: Improve School Level Management

An efficient and effective secondary education means that all actors are aligned towards the goal of students learning. However, some stakeholders have divergent goals that are out rightly harmful to student learning. For example, ineffective school leadership hampers the performance and responsiveness of secondary education. This is because secondary school managers must effectively manage their budgets despite their inadequacies in applying the principles of Public Finance Management (PFM). Hence, secondary schools continue to have accountability related challenges such as staff absence and inability of funds to reach the intended recipients. There is need for a mechanism that will help focus direction, cultivate collaborative cultures, deepen learning, and secure accountability in secondary education. The programme seeks to strengthen governance and accountability in secondary schools through effective management of school resources to achieve higher outcomes. The following activities will be implemented towards improving school governance and accountability:

- Review guidelines and regulations on procurement and financial management for secondary schools;
- Build capacity of school heads and Boards of Management (BOMs) on Public Finance Management (PFM) and in emerging issues like environmental management;
- Undertake public expenditure tracking in secondary schools;
- Develop a policy on qualifications and staffing norms for non-teaching staff in secondary schools;

- Develop a non-teaching staff establishment and structure in secondary schools (security, financial management, human resource management, clerks and technicians).
- Build school Managers' capacity on financial management, risk management and controls; and
- Conduct audits for all Primary Schools

3.2.5 Adult and Continuing Education

The Government recognises the important role played by Adult and Continuing Education in catering for the needs of out-of-school children, youth and adults by providing them with functional knowledge and work-oriented skills to empower them as individuals and communities for transformation and effective participation in national development. Adult and Continuing Education therefore forms an alternative pathway with tailored programmes that meet educational needs of out-of-school children, youth and adults who for whatever reasons missed out on formal education.

Despite the Government's commitment to the programme evidenced through various education policy documents, the programme is constrained by: low attendance; low awareness of literacy programmes; understaffing inadequate teaching/learning materials; lack of regular in-service trainings for instructors; poor reading culture coupled with idleness; lack of coordination among providers of ACE; lack of political goodwill; lack of personnel to handle non-formal education for out of school youth and adults; out dated curriculum which does not conform to the changing needs of the learners; lack of qualified personnel to manage ACE programmes; lack of access to ACE among persons with special needs and; lack of reliable data necessary for planning purposes and development of ACE. The following programmes will endeavour to address these challenges:

Policy Priority 1: Access and Participation in ACE
Goal: Increase access and retention in ACE programmes
Target(s): Increase enrolment in ACE programmes by 10 percent

Programme 1.1: Expand Learning Opportunities in ACE
The objective of this programme is to increase learning opportunities for adult learners at all levels in ACE. The learning levels entail basic literacy, continuing education and community empowerment. The programme will improve the learning environment and address the inadequacy of the learning centres. The programme will be operationalised through the following activities:
- Establish 300 additional learning centres;
- Rehabilitate 300 Community Learning Resource Centres (CLRCs);
- Equip 2,642 (50%) of the ACE institutions with facilities for supporting adult learners with disabilities;
- Upgrade the 5 MDTIs to adult education teachers training institutes;
- Establish 8 model ACE secondary boarding schools;

- Establish linkages between ACE programmes and TVET; and
- Develop a framework for capitation for ACE programmes.

Policy Priority 2: Quality and Relevance of ACE Programme
Goal: Improve quality and relevance of ACE programmes
Target(s): Provide quality assurance and standards of learning and relevance in ACE

Programme 2.1: Sustainable Functional Literacy
While adult literacy rates are high in Kenya, there is low functional literacy among adults who pursue basic literacy programmes. This is attributed to the nature of the curriculum that is implemented in the ACE programmes and lack of training for adult education instructors. The objectives of this programme are to rebrand ACE programmes, address the gaps in the existing curriculum and support instructors to deliver quality education services. The following activities will be implemented in operationalization of this programme:
- Review ACE curriculum and support materials to integrate community education empowerment and development programmes;
- Build capacity of ACE instructors through in-service training;
- Recruit and deploy additional adult education instructors;
- Develop a quality assurance framework for ACE programmes; and
- Review curriculum and training materials for ACE instructors (teacher education).

Programme 2.2: Accelerated Curricula for ACE Learners
Adult and Continuing Education applies a different approach from the regular formal curriculum. The needs of adult learners are unique and different from those of children. It is therefore important to recognise that adult learners require an accelerated and tailor made curricula specific to their learning needs. The curricula will provide equivalences and linkages in terms of complexity and values but not in content with the formal curriculum for accreditation purposes. This provides the ACE learners with the needed opportunity to link with the formal system and vice versa if need be. The following activities are considered important to achieve this goal:
- Development of ACE primary accelerated curriculum;
- Development of ACE primary accelerated curriculum support materials;
- Build capacity for the ACE primary instructors;
- Develop the qualification framework for ACE;
- Develop framework for rolling out the ACE accelerated curriculum;
- Development of ACE secondary accelerated curriculum;
- Development of ACE secondary accelerated curriculum support materials; and
- Build capacity for the ACE secondary instructors.

Programme 2.3: Integrate ICT in Teaching, Learning and Assessment in ACE

Adult and continuing education is considered important for national development. The prime objective of integrating ICT in ACE is to provide quality education that prepares learners and trainees to competitively thrive within a highly integrated, technologically-oriented and information-based economy. It is the government's aspiration that through the integration of ICT in education and training; the culture and practice of traditional memory-based learning will be transformed to education that stimulates thinking and creativity necessary to meet the challenges of the 21st Century across all levels. Currently, little information is available on utilization of ICTs in ACE. To Integrate ICT in teaching, learning and assessment in ACE, the following activities will be undertaken:

- Conduct a baseline survey on the current status of infrastructure across all levels of learning in ACE;
- Conduct needs assessment to identify the gaps in integration of ICT in ACE curricula;
- Continually train ACE curriculum instructors and trainers on ICT integration;
- Integrate ICT in ACE curriculum design and delivery;
- Facilitate the acquisition of ICT resources across all levels in ACE;
- Promote the use of e-learning as a mode of delivery of ACE programmes; and
- Develop a monitoring and evaluation framework for assessing the impact of ICT integration in teaching and learning in ACE.

Policy Priority 3: Governance and Accountability in ACE Institutions

Goal: Improve governance and accountability in ACE programmes

Target(s): Enhance capacity of ACE institutions management and BoMs

Programme 3.1: Strengthen ACE Management Structures

Although ACE institutions have some degree of established management and leadership structures, a lot still needs to be done to enhance the capacity of those entrusted with the advisory and oversight duty of the programme. The programme seeks to strengthen governance and accountability in ACE institutions in order to improve effectiveness and efficiency of the programme. The following activities will be implemented towards improving governance and accountability in the ACE institutions:

- Build capacity of managers of ACE institutions in public finance management, resource mobilisation, institutional leadership and performance management
- Undertake a Kenya Adult Literacy Survey by 2022;
- Establish multi-sectoral County Adult Education Advisory Committees; and
- Revive and train the Special Board of Adult and Continuing Education (SBACE).

Programme 3.2: Advocacy and Publicity of ACE Programmes

Adult education in Kenya is associated with stigma as well as a general lack of information about what ACE entails. The programme seeks to engage and motivate a wide range of partners, stakeholders and the community to empower them and to raise awareness on the importance of participating in advancement of ACE. To support the advocacy, the programmes will carry out

systematic collection, processing, maintenance and dissemination of data to support decision making, planning, monitoring and management in the ACE sub-sector. The following activities will be critical in achieving the goal of this programme:

- Review and harmonize ACE and Alternative Provision of Basic Education and Training (APBET) policies;
- Conduct community sensitization on adult and functional literacy, with particular attention to adolescent girls;
- Link community outreach efforts to prevent and reduce child marriage; and

- Develop a resource mobilisation strategy for ACE.

3.2.6 Inclusive Education for Learners and Trainees with Disabilities at Basic Education
Policy Priority 1: Access and Participation of Learners and Trainees with Special Needs and Disabilities at Basic Education
Goal: Enhance the provision of inclusive education and training for learners and trainees with disabilities
Target(s): Increase access and participation rate of learners and trainees with special needs and disabilities in primary and secondary by 2022

Programme 1.1: Progressive Transition to Inclusive Basic Education
The Education sector policy for learners and trainees with disabilities recognises the need for Kenya to move towards inclusive education, instead of segregated education. In this programme, measures will be put in place to transition towards progressive full realization of inclusive education expeditiously as we also recognise the vital role of other approaches such as special schools, special units and home-based education in providing education and training specifically for learners and trainees with severe disabilities. Inclusion will be the overarching principle in advocating for the right of every learner with a disability to be enrolled in a regular classroom on an equal basis with others.

To achieve the above, special and integrated schools will be progressively transformed to Inclusive Education Resource Centres (IERC) supporting inclusive education in regular schools while providing inclusive education themselves. Moreover, teacher education programmes will be reformed to reflect inclusive education approaches and strategies. Although the government has intensified investment to provide IE, most learning facilities are yet to fully adapt and meet the needs of learners with special needs and disabilities.

This programme will therefore support and strengthen infrastructure, curriculum and personnel among others in existing schools to accommodate learners with special needs and disabilities. The activities to be implemented under this programme include:

- Upgrade infrastructure, equip and staff regular schools, special schools, special units and integrated programmes (334 regular schools, 290 special primary schools, 470 special units, 47 integrated programmes, 35 special secondary schools, 78 integrated secondary schools) to offer inclusive education and serve as IERCs;
- Upgrade and equip a workshop at KISE for production of assistive devices, technologies and materials;

- Conduct needs assessment to establish specialised learning resources, assistive devices and technologies required to support inclusive education;
- Provide specialised learning resources, assistive devices and technology to learners with special needs and disability;
- Provide instructional materials to 334 inclusive regular schools;
- Establish, equip and staff a National Academy for gifted and talented children;
- Adapt and transcribe print materials for learners with special needs;
- Develop a differentiated unit cost for learners and trainees with special needs and disabilities to inform planning and financing of inclusive education; and
- Develop guidelines and curriculum for provision of home based education and support its implementation.

Programme 1.2: Functional Assessment and Early Intervention Services in Education and Training

According to a recent MOE – KISE survey report (2017), the challenges facing assessment of learners with special needs including understaffing, inadequate skills, poor infrastructure and equipment are a result of the poor capacity and ineffectiveness of EARCs. In NASMLA class 3 study, 29.9 percent of the teachers reported that Education Assessment and Resource Centres (EARCs) were more than 10 Kilometres from their schools while 14.1 percent of the teachers reported that such Centres did not exist in their zones. This programme will enhance capacities of EARCs to carry out their essential support services in order to promote early identification, assessment and appropriate intervention to access education and other essential services. This will be achieved through the following activities:

- Conduct needs assessment to determine the status and recommend optimal numbers and capacities for EARCs;
- Develop standard procedures and guidelines for functional assessment;
- Review the functional assessment tool used by EARCs;
- Build capacity of 2000 pre-primary teachers, 9400 primary teachers, 100 trainers and 380 assessment officers on screening and early interventions for learners with disabilities;
- Establish a national referral psycho education and placement centre at Kenya Institute of Special Education (KISE);
- Establish an educational rehabilitation and habilitation centre at the Kenya Institute for the Blind (KIB);
- Recruit and deploy personnel for EARCs;
- In-service 380 personnel on functional assessment skills;
  Upgrade infrastructure and equip 50 EARCs;
  Rehabilitation of 5000 learners with disabilities; and
- Upgrade, equip and staff 10 EARCs into centres of excellence to demonstrate best practices in educational assessment.

Policy Priority 2: Quality and Relevance in Education and Training for Inclusive education
Goal: Enhance learning for children with special needs and disabilities
Target(s): Adapt curriculum and learning materials for children with special needs and disabilities

Programme 2.1: Curriculum Adaptation for Inclusive Education

Inclusive education teacher training curriculum has been developed and implemented alongside specialised SNE curricula thus enabling teachers to implement inclusive education, adapted and specialised curricula. Despite this effort, there is need to adapt the curriculum to meet the diverse needs of all learners and trainees with disabilities. Curriculum support materials to guide the implementation of a differentiated curriculum are either unavailable or inadequate. This is a major impediment to the implementation of a differentiated curriculum. Additionally, the regular teacher training curriculum does not adequately address the needs of learners and trainees with disabilities, which is a major gap in the implementation of inclusive education. Assessment of learners in education remains rigid and mainly focuses on learners and trainees without disabilities thus disadvantaging those who may require differentiated modes of assessment. Activities will include:

● Adapt Inclusive Education Curriculum for pre-primary, basic and vocational training levels of education;
● Digitize content materials for learners and trainees with special needs and disabilities;
● Conduct orientation of teachers and field officers on the implementation of the adapted curriculum for learners and trainees with disabilities;
● Develop a subject module on IE to be incorporated into pre-service teacher training;
● Build capacity of teachers and examiners on appropriate learning outcome assessments for learners with SN&D; and
● Develop curriculum support materials in accessible formats for the implementation of the adapted curriculum.

Programme 2.2: Friendly Learning Environment for Inclusive Education

The Sustainable Development Goal number 4(a) underscores the need to build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environment for all. Most institutions do not have fully barrierfree physical environment appropriate for learners and trainees with disabilities thereby limiting mobility, independence and compromises safety and quality of learning for the learners. Morbidity and common ill health conditions are prevalent among learners and trainees including those with disabilities, especially in rural areas and urban informal settlements. The high rates of morbidity are associated with multiple infections, vitamin deficiencies, metabolic disorders and chronic health impairments. This programme will support the provision of appropriate facilities and materials to support safety of the learners and promote quality learning in schools. This will be realised through the following activities:

● Review the school/institution safety standards policy to integrate IE;
● Enforce the safety standards manual for schools/institutions of learning for learners and trainees with disabilities;
● Train teachers and school administrators in protection of learners and trainees with disabilities from violence within the school/institution, community and home; and
● Construct facilities for safe and clean drinking water, and sanitation facilities.

Programme 2.3: Human Resource Development for Effective Inclusive Education
Inadequacy of teachers, trainers, caregivers, parents, educational managers and learning support assistants (LSAs) (such as teacher aides, sign language interpreters, sighted guides, refractionists, braille transcribers, readers, physiotherapists, occupational therapists, counsellors, orientation and mobility trainers and ICT experts) with requisite skills to support education and training for learners and trainees with disabilities is a major challenge. Deployment of staff has not always matched the individual's skills and competences. Ineffective staff management, unmet staff development needs, unsystematic staff deployment among other challenges has led to low motivation, which has eventually affected service delivery. In addition, multiple actors have undertaken the capacity development activities in a fragmented manner that has undermined quality outcomes. This programme will enhance the capacity of staff to deliver better services to children and youth with special needs and disabilities through the following activities:
● Develop guidelines for recruitment, training and deployment of LSAs in inclusive schools;
● Develop curriculum for training learning support assistants;
● Recruit, train and deploy of LSAs in inclusive schools;
● Train 3,500 primary school teachers on SNE at diploma level;
● Train 9,000 teachers on adapted digital content and assistive technology;
● Train 171 teachers in model inclusive schools in Kenya Sign Language; and
● Train 500 special needs trainers and 140 special needs lecturers in TVET and universities respectively

Policy Priority 3: Governance and Accountability in Inclusive Education
Goal: Enhancing participation and stakeholder accountability in the management of Inclusive Education.
Target(s): Increase awareness and promote collaboration on inclusive education.
Programme 3.1: Advocacy, Partnership, Collaboration and Coordination
Marginalization is founded on misconceptions and mistaken beliefs, cultural practices and attitudes, which have led to prejudice, bias, stigmatization and even discrimination against individuals with disabilities. With considerable number of actors providing interventions in this area, an integrated approach is necessary to build synergies for efficient results. This programme will support the generation of critical information and knowledge on Special Needs and Disabilities to facilitate advocacy and awareness creation. This will also inform partnerships and coordination of interventions to SN&D. The following activities will be implemented to operationalise the programme:
● Develop operational structure at the national, county and sub-county levels for EARCs;
● Develop an Inclusive Education module in the National Education Management Information System;
● Develop and distribute IEC materials on inclusive education and training;
● Undertake advocacy, awareness campaigns on education and training for learners with SN&D;
● Develop a framework for partnerships in the provision of support services to learners with SN&D;
● Sensitise county education boards (BoMs) and QAS officers on inclusive education; and
● Sensitise parents of learners with disabilities, communities and other stakeholders on IE for learners with special needs and disabilities.

Programme 3.2: Competency Assessment Reforms for Learners with Special Needs and Disabilities

Part of the process of inclusive education is inclusive assessment. To achieve this, considerations should be made in order to make assessment accommodation based on learner needs. The competency based curriculum proposes changes in academic assessment that are expected to address existing challenges like examination oriented teaching and negative competition instead of collaboration among learners. However, adaptation of academic assessment for learners with special needs and disabilities in Kenya remain a challenge. There is need to ensure that all learners are assessed using strategies that accommodate their abilities and challenges. Activities towards adaptation of assessment strategies for these learners include the following:

- Review the competency based assessment (CBA) framework for learners with special needs and disabilities;
- Build capacity of teachers and examiners on CBA for learners with special needs; and
- Adopt the web based portal to facilitate access to formative assessment to suit the needs of learners with special needs and disabilities.

3.2.7 Teacher Education, Professional Development and Management

The Government of Kenya is committed to creating an education and training environment that equips learners with desired values, attitudes, knowledge, skills and competencies, particularly in technology, innovation and entrepreneurship. Recent reforms in the education sector are aimed at realizing the aspirations of the Constitution of Kenya. Such reforms include a shift towards a competency based education system. The education sector plan therefore aims at rebranding pre-service teacher training; ensuring equitable and optimal utilization of the teacher resource and enhancing professional development of teachers. The introduction of performance contracting (PC) and teacher performance appraisal and development (TPAD) and the roll out of teacher professional development (TPD) policy framework are key reforms with implications on teacher training, development and management. The NESSP proposes to deepen these reforms during the next plan period. In addition, more attention shall also be given to strengthening governance and accountability in teacher education, professional development and management at all levels.

Policy Priority 1: To Rebrand the Pre-service Teacher Training

Goal: Align teacher training to the requirements of the Competency Based Education. **Target(s):** To produce teachers with requisite skills to implement the CBC. Align pre-service teacher education to Competency Based Education

Programme 1.1: Pre-Service Teacher Training Reforms

Teacher training programmes in Kenya face a number of design and pedagogical challenges. In addition, there are inadequate guidelines on identification and deployment of teacher educators in pre-service training institutions. The infrastructure in the pre-service training institutions is also inadequate or dilapidated. The shift towards competency based education presents an opportunity for reforms in the way teachers are prepared for curriculum delivery. This programme will reform the pre-service teacher training and align it to the CBC. It is therefore necessary to shift focus to aligning the pre-service teacher development programmes with the projected demand for teachers in areas of specialisation and the country's long term manpower needs. This is expected to be achieved through the following activities:

- Undertake a study to evaluate the status and relevance of existing pre-service teacher training programmes;
- Review the curricula and assessment framework for pre-primary, primary and secondary school pre-service teacher training;
- Rehabilitate the existing colleges for pre-service training of the reformed curriculum;
- Develop guidelines of identification and deployment of teacher educators in teacher training institutions;
- Induct educators in all teacher training institutions on the reviewed curricula;
- Develop framework to institutionalise internship programmes for all persons entering the teaching service; and
- Review policy framework to establish minimum entry requirements for trainees at all levels.

Policy Priority 2: Effective Recruitment and Deployment of Teachers
Goal: To enhance universal basic education
Target (s):
i. Reduce the teachers hired by the BOMs in public primary and secondary schools from the current 80,000 teachers to 23,000
ii. Provide all the requisite teacher requirements to realise the 100% transition from primary to secondary schools
iii. Recruit additional teachers to progressively improve the teacher-pupil ratio to 1:40

Programme 2.1: Recruitment of teachers for public primary and secondary schools The aim of this programme is to improve quality and reduce the burden borne by parents in provision of teachers in public educational institutions at all levels. Teacher shortage at the primary school level is expected to grow marginally for the next five years. However, this is expected to change due to implementation of the CBE curriculum, establishment of new school and implementation of the SNE staffing norms. Similarly, there is a steep increase in enrolment in secondary schools occasioned by the 100% transition from primary schools which has potential impact on quality of education. This programme will be operationalised through the following activities:
- Recruit additional 13,300 teachers annually to reduce teacher shortage in primary and secondary schools; and
- Recruit additional 12,700 teachers annually to address increased enrolment in public secondary schools and unequal distribution.

Policy Priority 3: Effective Distribution and Utilization of Teachers
Goal : Improve equity and inclusivity in the utilization of the teacher resource.
Target (s):
i. Reduce regional disparities in teacher distribution to attain parity in TPR of 1:50 across counties
ii. Establish differentiated staffing norms in marginalized regions and areas of extreme low enrolment

Programme 3.1: Equitable and Optimal Utilization of the Teaching Resource

The main objective of teacher deployment is to ensure equity in teacher distribution across schools based on reported shortages and replacement of exits through natural attrition. There are disparities in the number of teachers, across the counties, even within schools with similar enrolment. In general, counties in ASAL areas have fewer teachers relative to other counties of the same school size. This programme will be operationalised through the following activities:
- Review teacher staffing norms at the basic education; and
- Develop a policy framework on distribution of teachers at all levels.

Policy Priority 4: Teachers' Professional and Pedagogical Content Knowledge

Goal: To improve teachers' competencies and professional development

Target(s): Institutionalise a Teacher Professional Development Framework by 2020

The Sector, through TSC is expected to design a framework that explores global perspectives in teacher professional development with a view to establishing a coordinated and structured professional development for teachers in Kenya. Teachers acquire requisite skills, competences, attitudes and encouraging lifelong learning and expectations of the 21st Century learning outcomes, the NESSP shall support the roll out of a policy framework for Teacher Professional Development. Priority shall also be given to establishment and equipping of resource centres for on the job teacher support at the zonal levels.

Programme 4.1: Enhance Teacher Professional Development at Cluster and School levels In the past, Teacher Professional Development has taken various forms, ranging from self-sponsored upgrading of qualifications, to those supported by government such as TUSOME , PRIEDE and Secondary Education Quality Improvement Project. In order to enhance the impact of such teacher development programmes on learning outcomes, there is a shift towards having smart-cascade and institutionalizing school-based teacher professional development. Training needs and professional development gaps for teachers shall be identified from the Teacher Performance Appraisal and Development (TPAD), through the individual teachers and their supervisors.

This plan will enhance operationalization of the Teacher Professional Development programme launched by TSC and mainstream School-based Teacher Support System (SbTSS) under the SEQIP Project and facilitate provision of TPD modules to all teachers. The plan will also establish and equip TPD resource centres in every zone and identify service providers at various levels. The programme will be actualised through the following activities:
- Establish and implement School and Cluster Level Professional Learning Communities (Teacher Research Groups/ Lesson Study Groups); School based teacher support
- Establish and equip a National Teacher Support and Professional Development Resource Centre;
- Establish and equip TPD Resource Centres in all zones; formers Teacher Advisory Centres
- Build capacity for TSC field officers on ICT integration in TPAD process;
- Train all teachers on TPD modules aligned to Kenya Teaching Professional Standards (KePTS);

- Train CSOs and QASOs for on-site coaching and guidance to teachers in their schools including those in refugee and host communities;
- Develop and align TPD modules with the Competency Based Education at various levels;
- Establish and update a database on service providers for TPD at all levels;
- Implement the school-based teacher support for improved TUSOME/EGM teaching methodologies, aligned to the early years CBC activities by TSC and KICD; and
- Introduce ICT enabled teaching and learning support materials for EGM.

Policy Priority 5: Governance and Accountability in Teacher Education, Professional Development and Management
Goal: To improve coordination, accountability and management of the teaching resource.
Target(s):
i. To develop and implement a governance and accountability framework in sourcing, development and management of the teaching resource by 2020; and
ii. To develop and implement a Performance Management Framework for teachers at the school level.

Programme 5.1: Coordination in Teacher Education and Professional Development The aim of the programme is to improve coordination, accountability and development of the teaching resource. Teacher education and professional development have multiple stakeholders at national and devolved levels, including the Ministry of Education, Teachers Service Commission, Agencies under the Ministry of Education and County Governments. There is, therefore, the need to network and liaise with relevant stakeholders in the management of the teaching resource. In addition, The MoE in collaboration with TSC and other stakeholders need to develop a National Teacher Education and development Policy (NT&DP) for efficient and effective coordination of teacher education and professional development. This programme will be operationalised through developing national policy and guidelines for teacher education and development.

Programme 5.2: Teacher Management, Performance and Accountability
Teacher management, performance and accountability are critical for quality education through a teaching service with high morale and effectiveness. The Teacher Performance Appraisal and Development (TPAD) and other policy guidelines have been instituted to hold teachers accountable. Nevertheless, there is need for a clear guideline that links Teacher Professional Development to predictable pathways for training and career progression. During the plan, the TPAD KePTS and TPD assessment will be reviewed to address emerging issues and achieve predictability and integrity of data in teacher performance rating. In addition, skills, attitudes and competencies developed through various teacher professional development programmes will be aligned to the National Qualifications Framework and linked to professional progression pathways. These will be achieved through the following activities:
- Review and implement policy guidelines to entrench the TPAD management system in all public educational institutions;
- Ensure TPAD addresses Code of Conduct and other requirements for teacher implementation of inclusive Education;

- Review and implement policy framework to align the TPD and TPAD subsystems in all learning institutions;
- Establish a web based portal to facilitate access and analysis of Teacher Performance Appraisal data at various levels;
- Build capacity for 50 staff on analysis and report writing on TPAD process; and

- Evaluate the impact of TPAD on learning outcomes.

3.2.8 Technical and Vocational Education and Training (TVET)

Technical and Vocational Education and Training is offered at two levels namely Technical and Vocational Colleges (TVCs) and Vocational Training Centres (VTCs). The TVCs constitute of Technical Training Institutions, Institutes of Technology, National Polytechnics and Technical Trainers Colleges whereas VTCs comprise the Youth Polytechnics.

Policy priority 1: Access and Participation in TVET
Goal: Promote acquisition of market - ready skills at TVET level
Target(s): Improve enrolment per 100,000 from 446 to 780 by 2022

Programme 1.1: Infrastructure Development and Equipment in TVET
The shift to CBET approach is likely to be slowed down by dilapidated physical infrastructure and obsolete equipment as well as inadequate facilities that characterise most TVET institutions across the country. The programme objective is to expand rehabilitate and equip TVET infrastructure in order to increase access, promote equity and improve quality and relevance of TVET training through the following activities:
- Conduct an assessment on capacity of physical facilities in TVCs and VTCs;
- Complete construction of at least one TVC in every constituency;
- Expand 220 TVCs from a one department to a minimum of five department institution;
- Rehabilitate existing TTIs and equip them with state of Art equipment;
- Provide modern training equipment to 298 departments in 298 TVCs;
- Provide modern training equipment to 47 model VTCs;
- Provide a wellness facility in all TVET institutions; and
- Establish a printing and publishing unit for TVET.

Programme 1.2: Rebranding and Repositioning TVET
The TVET sector is faced by challenges of negative perception and is often seen as last choice and not a preferred option in tertiary education and training. The negative perception of TVET is attributed to lack of awareness of what is offered in TVET institutions, unclear admission and progression procedures and weak career guidance on TVET in basic education. In addition, the cost of TVET has also been a significant hindrance to accessing training services. The programme seeks to support trainees coming into TVET while also rebranding and repositioning TVET to make it a premier education pathway to train workers for the labour market through the following activities:
- Develop and implement a Differentiated Unit Cost for TVET;
- Recruit adequate human resources for TVET Funding Board;
- Provide capitation grants to VTCs and TVCs trainees;

- Conduct public TVET fairs, technology contests and outreach programmes;
- Develop guidelines on TVET career guidance and counselling;
- Develop a framework for engaging TVET graduates in national projects;
- Provide start up kitty for needy TVET graduates under HELB loan;
- Develop and implement a framework on TVET exchange programmes; and
- Undertake TVET advocacy campaigns.

Policy Priority 2: Enhance Equity and Inclusivity in TVET
Goal: Improve parities in TVET training
Target(s): Improve GPI in TVET from 0.78 in 2016 to 1 by 2022; and increase enrolment for SNE trainees by 20%

Programme 2.1: Inclusive Training in TVET
There are disparities in enrolment at TVET level based on gender with more male than female students enrolled in TVET institutions, particularly in national polytechnics. Despite efforts put in place to ensure gender parity, the inequalities still persist due to a number of reasons: lack of basic pre-entry qualifications, low participation of female in STEM courses; costs of undertaking the courses and limited knowledge about the training benefits among others. Additionally, disparities exist for trainees with special needs. Kenya has only four special needs TVET institutions with the capacity in these institutions being low relative to the number of students with special needs and disability in the country. This programme aims to promote inclusive training in TVET by increasing the enrolment of trainees from disadvantaged regions, trainees with special needs and disability as well as increasing their participation in STEM subjects. To achieve this programme, the following activities will be implemented:
- Conduct a gender, regional and special needs survey targeting potential TVET trainees;
- Conduct a survey of TVET institutions to establish status of infrastructure friendly to Special Needs;
- Equip TVET institutions with adapted assistive devices;
- Build capacity of TVET Special Needs Education Stakeholders on emerging SN&D issues;
- Adapt TVET infrastructure to make it disability friendly and safe for trainees; and
- Provide sanitary towels to vulnerable trainees in Special Needs institutions.

Programme 2.2: Talent Development and Mentorship
Despite the obvious importance of training learners to their fullest potential, gifted learners remain underserved and unchallenged in many training settings. Gifted students spend much, if not all, of their time in the regular training, yet trainers have usually received little or no preservice or in-service training in gifted training. The trainers who serve gifted learners must receive appropriate training in techniques to meet the needs of these learners, particularly in strategies and resources for differentiating the regular curriculum and instruction. In addition to mentoring talents, the sector will also promote co-curricular activities to facilitate development of various domains of mind and personality such as intellectual emotional, social, moral and aesthetic development. This programme will be operationalized by the following activities:
- Develop and implement a policy and guidelines for co-curricular activities in TVET;

- Develop a policy and guidelines for identification of gifted and talented trainees;
- Establish a National TVET Academy for gifted and talented; and
- Map mentor to mentee in respect to talented and gifted in TVET and develop a database.

Policy Priority 3: Improve Quality and Relevance of TVET Training in Kenya
Goal: Promote skills development for employability and self-sustainability
Target(s): Equip TVET trainees with relevant skills that are relevant to the world of work

Programme 3.1: Competency Based Education and Training (CBET) Curriculum Development
One of the challenges facing TVET in Kenya is the mismatch between the skills graduate acquire and demands from the industry. Most TVET institutions offer programmes that are not fully aligned to the CBET curriculum. Certification is often based on completion of courses and passing examinations rather than demonstration of competency. This programme seeks to ensure that TVET courses are competency based and aligned to the labour market demands thus reducing the mismatch between skills training and industry demands. This will be achieved through the following activities:
- Recruit adequate human resource for effective implementation of CBET;
- Establish a public and private sector forum to spearhead the review of CBET;
- Establish Sector Skills Advisory Councils (SSACs);
- Develop occupational standards through the SSACs;
- Develop Competency Based Education and Training curricula;
- Develop CBET framework and guidelines to guide trainers in its implementation;
- Develop the capacity of trainers both at pre-service and in-service on CBET;
- Develop a framework and guidelines for CBET assessment and certification;
- Improve the system of evaluating institutional based projects and practical in TVET; and
- Align National Vocational Certificate in Education and Training (NVCET) curriculum to CBET.

Programme 3.2: Trainer Management Services
The calibre of trainers is critical for delivery of CBET approach. This calls for interventions at Pre-service, In-service training as well as management of Trainers. Key focus will be on sourcing, deployment, development and retaining competent Trainers in TVET institutions under the purview of Ministry of Education. TVET trainers previously under TSC management will be managed by the Public Service Commission under the Ministry of Education whereas instructors at VTCs are managed by the County Public Service Boards. This programme aims at improving the management of TVET trainers and instructors through the following activities:
- Conduct needs assessment for TVET trainers and instructors;
- Undertake outreach to enhance participation of females as TVET trainers and instructors;
- Enhance capacity and equip TVET Trainer Management Unit;
- Enhance coordination of TVET at the County level;
- Recruit 7,260 trainers for the newly constructed TVCs;
- Recruit additional 2,961 trainers for TVCs;
- Recruit 4,935 VTC instructors;

- Build capacity of 7,260 trainers for career progression;
- Build capacity of 4,935 VTC instructors for career progression;
- Carry out a capacity assessment of KTTC's ability as a trainer for TVET trainers;
- Construct and equip five additional Technical Trainer Institutions (TTI);
- Review the pre-service training programme aligned to the CBET;
- Develop a framework for TVET trainer management; and
- Develop industrial attachment framework for trainers/instructors and trainees.

Programme 3.3: TVET Accreditation and Quality Assurance

The sub-sector has a multiplicity of institutions offering different courses. Some of the institutions are not registered and accredited by the TVET Authority, underscoring the need for a robust quality assurance standards framework. To ensure that trainees have access to quality training, all TVET institutions should comply with the set standards and regulations. The NESSP envisages an increase in both the number of TVET institutions and enrolments therein. Such expansion translates to an expansion in the scope for quality and standards assurance, calling for innovative approaches of assuring quality. One such approach is a shift to quality assurance from the current centralized institutional visits to decentralized internal quality assurance at the institution level, known as the Institutional based Quality Assurance (IbQA). This programme seeks to strengthen TVET Accreditation and Quality Assurance in the subsector through the following activities:

- Recruit adequate human resources for effective accreditation and quality assurance;
- Develop a framework for quality assurance and maintenance of standards in TVET system;
- Develop and implement guidelines for Institutional Based Quality Assurance (IBQA);
- Build capacity of key TVET stakeholders on IBQA for effective implementation;
- Develop a TVET Management Information System; and
- Undertake a mapping of all TVCs and VTCs.

Programme 3.4: TVET Research, Innovations, Technology Transfers, Entrepreneurship and Commercialisation

This programme seeks to support creativity and innovation, research and development in TVET. It also aims at equipping trainees with skills for self-sustainability, employability and job creation. This will be achieved through establishment of a TVET centre of excellence in each of the 47 counties in Kenya. The centres of excellence will be incubation centres for: entrepreneurship; technology and innovation development; commercialisation and publicity and awareness. The activities include:

- Support research and protection of Intellectual Property Rights (IPR) in TVET innovations;
- Develop and implement a standard and guidelines for identification and recognition of centres of excellence; and
- Establish 47 TVET centres of excellence in the 47 counties.

Programme 3.5: ICT Integration in Curriculum Delivery and Assessment

Information and Communication Technology (ICT) is fast changing and comes with a wide range of possibilities. The government has various ICT initiatives in TVET institutions where it has provided some TVET institutions with computers, laptops, projectors, smart boards and internet connectivity. However, the provided infrastructure is inadequate. This Programme aims at enhancing usage of ICT for delivery of curriculum, assessment and management in TVET. ICT integration in TVET translates into increased efficiency and quality of training as well as increase in access to training. For effective integration in training, the capacity of TVET managers and trainers in integration of ICT needs to be enhanced. The following activities will be implemented under this programme:

- Develop and implement an ICT integration policy in TVET;
- Provide ICT equipment to 220 TVCs and 470 VTCs;
- Connect 229 TVET institutions to the internet and establish LANs therein;
- Develop digital content for science and engineering programmes in TVET as well as dissemination mechanisms;
- Building capacity of TVET managers and trainers for skills in ICT integration in training;
- Provide smart classroom package to 290 TVCs;
- Establish a national e-learning Centre for dissemination of the theoretical component in TVET programmes;
- Sensitise TVET trainers on the use of open educational resources; and
- Digitize curriculum, management and assessment processes in TVET.

Programme 3.6: Greening Technology in TVET

Greening TVET (GTVET) is a programme aimed at creating awareness on conservation and sustainability of the environment. This has been necessitated by concerns about climate change, environmental degradation and scarcity of resources. Environmental degradation and effects of global warming require that deliberate efforts be put in place to enhance the total vegetation cover. Greening involves protection of environment through exploitation of opportunities available in green economy by employing environment friendly aspects. Therefore, this requires TVET to develop skills and competencies that pave way to a green economy and society as indicated in the following activities:

- Implement greening and waste management technology curricula in TVET;
- Build capacity of managers and trainers on implementation of TVET greening technology;
- Provide equipment for implementation of TVET greening technology;
- Incorporate climate change and use of renewable energy technologies (solar, wind, biofuels) in TVET; and
- Conduct Research on greening technology to inform policy.

Policy priority 5: Enhance Governance and Accountability in TVET
Goal: Strengthen governance and accountability in management of TVET
Target(s): Enhance management and governance capacity across TVET managers and leadership

Programme 5.1: Improve TVET Industry Linkage
Currently, it is mandatory for all trainees to undergo industrial attachment lasting not less than three months before completing their course of choice. There have been deliberate efforts to set up production units in most of the TVET institutions in order to expose the trainees to real work experience. Despite this, TVET programmes in Kenya are characterised by poor industry linkages. There is potential to strengthen private sector involvement in areas such as curriculum development, financing and industrial attachment. The sector also lacks tracer studies and labour market information to provide data on skill demands. The objective of this programme is to enhance coordination of education and training among industries, government and academia through the following activities:
- Develop and operationalise Kenya National Skills Development Framework;
- Develop and implement system standards and guidelines for TVET –Industry linkages;
- Conduct tracer studies in TVET; and
- Establish a national skills inventory of TVET programmes.

Programme 5.2: Strengthen Institutional and Inter-Governmental Linkages in TVET
TVET institutions are spread across different ministries and there is no uniformity in the categorisation of the institutions across the ministries. The TVET institutions themselves have different governance structures. Fragmentation has also led to uncoordinated curriculum delivery and varying competence assessment mechanisms leaving learners unequally prepared. With devolution, management of vocational training centres was assigned to county governments while issues related to policy, quality assurance, capacity building and curriculum remain functions of the national government. Under this arrangement, prioritization of vocational training varies from county to county. In addition, some counties have come up with legislations without consideration of national legislation especially the TVET Act, 2013. This programme seeks to improve collaboration between the two levels of governance through the following activities:
- Develop a TVET inter-governmental relations framework;
- Review the structure of the TVET sub-sector and its agencies;
- Undertake a functional analysis of TVET and its implementing agencies; and
- Review the existing policy and legal instruments to identify and resolve overlaps.

Programme 5.3: Public Institutional Management in TVET
TVET system is currently going through reforms. The number of TVET institutions is on the rise, with new principals, Councils and BOGs being put in place in conformity with TVET Act, 2013. This programme aims at strengthening the managerial leadership of Principals of TVET institutions, Councils, Board of Management and other leaders at the institutional level in leadership and management. This will be achieved through the following activities:
- Build capacity of managers in TVET institutions on governance, financial management and accountability;
- Induct the Board of Governors and Council members in public TVET institutions;
- Conduct one Public Expenditure Tracking Survey (PETS)/Service Delivery Surveys in TVCs and VTCs; and
- Develop and implement a scheme of service for non-training staff in TVET institutions.

3.2.9 University Sub-Sector
Policy Priority 1: Access to University Education by All Eligible Students
Goal: Expand access and participation in higher education
Target(s): Increase gross enrolment in University education from 15 to 25%

Programme 1.1: Expand Infrastructure in All Public Universities
This Programme is aimed at expanding the capacity of public universities to accommodate the recent increase in the number of students enrolled in the universities to provide conducive learning environment. This Programme will seek to provide library, lecture halls, laboratory, tutorial rooms and ICT facilities with priority given to new universities. This will ensure that all universities meet the minimum infrastructural requirements provided in the universities standards and guidelines are met through the following activities:
- Conduct an assessment of the status of infrastructure in public universities;
- Rationalize expansion of university education;
- Upgrade infrastructure in all the new public universities; and
- Upgrade infrastructure in existing universities to achieve the required minimum standards.
- Develop an incentive framework for private sector investment in University Education

Programme 1.2: Improve Retention, Safety, Well-being and Productivity of University Students
The objective of this Programme is to enhance retention and completion rate in all courses in the Universities. It involves putting up measures to address factors that keep students out of university education or delay their completion. The provision of adequate and gender-sensitive accommodation, catering and recreation facilities for students will also be of priority to ensure 100% completion of courses. This will be achieved through the following activities:
- Construct multi-purpose student accommodation and welfare facilities in all public universities;
- Develop and implement a guidance and counselling programme for universities; and
- Provide HELB loans to all students in all universities

Programme 1.3: Increase Access to SET Course Programmes
The objective of this Programme is to increase enrolment in SET courses as one of the measures to ensure that students have access to course programmes that are relevant to industry demand. In addition, this will also ensure that universities have adequate capacity to admit the many students who apply to join SET Programmes. The programme targets to increase enrolment in SET related courses from 20% of total student enrolment to 60% through the following activities.
- Review the University placement criteria to ensure that 60% of eligible students are placed in SET Programmes;
- Develop criteria for placing students from alternative pathways to government sponsored Programmes in Universities; and
- Build the capacity of academic staff in public universities in SET Programmes.

Programme 1.4: Open, Distance and E-learning in University Education
ICT has the capability of bridging the geographical and space gaps that inhibit access to education. Open, Distance and E-learning (ODeL) has provided an opportunity for learners to access education through technology irrespective of their physical location. The objective of the programme is to strengthen and expand e-learning programmes in all universities. This will support ICT-based distance and open learning programmes offered by different universities with a target to have 30% of degree programmes available on e-learning mode. This will be facilitated through the following activities:
- Establish the Open University of Kenya;
- Review the standards and guidelines for ODEL;
- Develop digital content for university Programmes;
- Build capacity for university academic staff in ODEL; and
- Review funding policy to accommodate ODEL students including student loans and bursaries.

Policy Priority 2: Enhance Equity, Inclusion University Education
Goal: Equal opportunity to university education for all eligible students
Target(s): Increase gender parity in University Education to from 0.71 to 0.9

Programme 2.1: University Scholarship, Loans and Bursaries
This Programme involves provision of Government scholarships and bursaries to deserving and needy students who meet the admission criteria. It targets students from disadvantaged socio-economic backgrounds, students with special needs and female students in SET programmes. This will be achieved through the following activities:
- Review the Differentiated Unit Cost (DUC) criteria to cater for students admitted under affirmative action and females in SET courses;
- Provide HELB loans to all students in all universities;
- Increase capitation to Government sponsored students;
- Provide bursaries to students from disadvantaged socio-economic backgrounds;
- Provide scholarships to students undertaking in studies in programmes related to the government's key priority areas; and
- Provide scholarships to students with special needs placed in public universities.

Programme 2.2: Affirmative Action for Disadvantaged Groups
This programme aims at increasing the enrolment of students from disadvantaged groups in Universities through the following activities:
- Apply affirmative action in placement of students with disabilities and minority groups in University in Programmes where there is under representation;
- Develop a policy for SNE in public universities;
- Upgrade university facilities to accommodate students with special needs; and
- Build capacity of university staff in delivery of services to students with SN&D.

Policy Priority 3: Enhance the Quality and Relevance of Training and Research in University Education
Goal: Provide adequate and competent academic staff in Universities
Target(s): Increase the gross staff student ratio in public universities from the current 1:36 to 1:29

Programme 3.1: Human Resource Capacity Development for Public Universities

Adequate number of academic staff is a critical indicator of quality of teaching and learning in the universities. This Programme is aimed at ensuring that Universities have adequate and qualified academic staff to move towards the desired gross staff teaching ratio of 1:12. This programme seeks to attain the Gross SSR of at least 1:29 whilst taking account of the required SSR within the different programmes. In addition, opportunities for training will be provided to ensure academic more academic staff acquire PhDs and pedagogical skills. This will be realised through the following activities:

- Conduct a human resource audit in public universities
- Provide 4000 Masters and PhD scholarships annually targeting university academic staff;
- Recruit 1000 postgraduate students into the teaching assistants programme annually;
- Provide adequate office space and facilities for academic staff to accommodate the growing number in public Universities;
- Build capacity of academic staff in pedagogy and modern delivery modes for international competitiveness;
- Allocate 2% of recurrent allocation of government funding to public universities for research by academic staff;
- Develop national human resource management guidelines for university staff; and
- Develop exchange Programmes for academic staff.

Programme 3.2: Review of Curriculum and Programme Delivery in Universities

This Programme is designed to deliver curriculum that is aligned to national priority areas and industry demands. It involves review of programmes currently offered in universities and development of new programmes that address emerging issues. The implementation of this Programme will be hinged on strong collaboration with industry and evidence based research on skills demand. This will be realised through the following activities:

- Review all academic programmes;
- Conduct quality inspection audits;
- Develop digital content for all academic programmes offered on ODEL;
- Develop and accredit new Programmes aligned to national priorities;
- Establish industry liaison committees in each university to conduct regular review of Programmes offered in public universities;
- Establish niches within existing universities;
- Establish compulsory and funded attachment programme for all university students; and
- Conduct skills inventory survey and tracer studies.

Programme 3.3: Develop Infrastructure and Provide Training Equipment

The objective of the programme is to provide modern and adequate infrastructure and equipment that will support the provision of quality teaching and research. This will be guided by the minimum threshold for infrastructure as provided in the Universities Standards and Regulations. The following activities will be implemented in the plan period:

- Identify and establish 5 centres of excellence in critical areas of the economy;
- Procure and supply equipment to Universities offering SET Programmes;

- Establish Science and Technology Parks;
- Establish the Kenya Advance Institute for Science and Technology; and
- Establish a university of applied science.

Programme 3.4: University Research and Community Service in Universities

The programme seeks to improve quality of research and extension services in universities by promoting more participation by staff and students in carrying out research studies, training of academic staff to develop award winning research grant proposals and recognising universities and individual researchers. The following activities will be implemented:
- Build the capacity of university academic staff to competitively mobilize resources for research;
- Provide competitive research grants in all public universities based on each institution's recurrent budget; and
- Develop an incentive scheme to recognise universities and individual researchers who excel in research, publications, innovations and patents, and community service.

Policy Priority 4: Strengthen Governance and Accountability in University Education

Goal: Improve governance, management and accountability in universities. **Target(s)**: i. Enhance management and governance across universities

The achievement of organisational and by extensive national goals are predicated on the establishment of strong governance structures that will participate in the development and ensure implementation of the stated strategies to achieve the desired objectives, while at all times safe-guarding the public interest.

Programme 4.1: Capacity Building of University Councils and Management

Universities must endeavour to be more efficient, flexible and effective in improving outcomes. For this to be achieved there is a need to reform their governance and management. This Programmes aims to build capacity of university management on through the following activities:
- Develop and implement a training programme on corporate governance targeting council members;
- Review the human resource management policies in public universities, including Codes of Conduct for personnel; and
- Establish a project implementation Unit at the state department for university education.

Programme 4.2: Governance and Accountability in Universities

Automation of processes in the university sector is aimed at enhancing efficiency and effectiveness of service delivery. In addition, it can enhance accountability and information management in public universities. The following activities will be implemented:
- Establish Integrated Financial Management systems in all universities;
- Establish Higher education information management system; and
- Establish integrated Payroll Personnel Database (IPPD) for all universities.

3.2.10 Science Technology and Innovation Sub-Sector

Science, Technology and Innovation is identified as a key foundation upon which the economic, social and political pillars of the Kenya Vision 2030 are anchored. The Vision further proposes intensified application of ST&I to raise productivity and efficiency levels across the three pillars. The Vision also recognises the critical role played by research and development (R&D) in accelerating economic development in the country.

This strategy aligns ST&I programmes to the national goals with a view to streamline the system to make it more effective and integrate it into the mainstream of national planning and development system. The main strategic pillars cover the institutional and regulatory framework to promote, coordinate, mobilise resources and manage ST&I; allocate resources, mobilise and motivate stakeholders to participate in the R&D sub-sector funding to at least 2% of GDP annually; develop human resource capital in ST&I to meet the demands of the economy; develop education, training and research to implement and develop ST&I infrastructure to support ST&I Programmes.

Policy Priority 1: Quality and Relevance of Science, Technology and Innovation
Goal: Build and develop human resource capital in for science technology and innovation
Target(s): To increase the number of research personnel by 5%

Programme 1.1: Develop ST&I Human Resource Capacities
In the midst of transforming into a knowledge-based middle income economy, building a knowledge-based workforce is imperative. To enhance quality and relevance in ST&I, investment is required in provision of qualified human resources, the level of technically qualified personnel in the S&T sector is low by international standards. The supply of human resource for the S&T sector in new and emerging technologies is inadequate. Further, there is an age-gap between the senior and junior scientists, engineers and technologists. The programme will also undertake a skills coding for ST&I and strengthen linkages between industry and institutions of higher learning in areas of curriculum review, industry labour requirements, including incentives for attracting and retention of Science Engineering and Technology (SET) skills in industry. To address this issue, the following activities will be implemented:
● Develop set of responsive indicators and conduct human resource requirement needs audit to address ST&I skill development;
● Train and support research personnel;
● Conduct National Skills Inventory and Audit for ST&I; and
● Recruit 300 technical staff to strengthen the state agencies supporting ST&I.

Programme 1.2: Strengthen Science, Technology, Engineering and Mathematics (STEM) in Education and Training
The fundamental issues regarding human resources lack of capabilities and intellectual abilities are basically grounded on local capacity to effectively leverage global stock of knowledge to support ST&I sub-sector. The generalization of the standard of education is unclear and requires further empirical data to build relevant skill sets and essential 'intellectual human capital' for the industry. Universities in Kenya have shifted focus away from Science, Technology, Engineering, and Mathematics (STEM)-based courses. The performance in STEM related subjects is relatively poor. The ST&I sub-sector is faced by inadequate qualified staff to teach STEM related

programmes coupled with high cost of delivering STEM related courses. This is compounded by low funding for R&D and weak linkage to industry. There is also shortage of laboratories and equipment which are critical ingredients for R&D. This has resulted in low research outputs from universities and research institutions. To address these issues, the following activities will be implemented:

- Provide modern infrastructure and equipment in education and research institutions;
- Establish centres of excellence that promote innovation and creativity in select learning institutions;
- Develop and implement ST&I mentorship programme in all levels of education and training;
- Build the capacity of academic staff in institutions of higher learning in SET Programme;
- Provide scholarships and bursaries for female learners and trainees pursuing SET programmes; and
- Conduct scientific fairs at all levels of education and training to encourage learners pursue ST&I.

Policy Priority 2: Access to Science, Technologies and Innovation
Goal: Enhance access to Science, technology and innovation towards a knowledge-based economy.
Target(s): Develop ST&I infrastructure to support programmes in priority areas

Programme 2.1: Develop Infrastructure and Provide State of Art Equipment to Support ST&I
The right to enjoy the benefits of scientific progress and its applications is enshrined in various international and regional instruments. Rapid scientific and technological developments result in drastic changes in the daily life of both individuals and the societies they live in. Access to the benefits of scientific progress not only allows improving one's socio-economic situation, but also gives the opportunity to take a meaningful part in the life of communities whether they are local, national or international. Restriction of access to scientific progress may lead to stagnation, regression and exclusion. At the same time, the norm requires that individuals should be protected from possible negative effects of scientific and technological progress. Scientific advancements in medicine and food production should be tested to avoid possible damage to individuals and the environment.

Currently, the country is faced with inadequate ST&I facilities, slow modernisation, poor country wide distribution networks and accessibility. According to the African Outlook Survey of 2014, funding for R&D in the S&T sector was approximately 0.98% against the Government target of at least 2% of GDP thus constraining S&T infrastructure development. There are limited public private partnerships (PPPs) to support ST&I infrastructure. Further, use of ICT is limited especially in rural areas due to inadequate network connectivity. To address the challenges of infrastructure for ST&I, the following activities will be implemented:

- Conduct a survey to establish the status of ST&I infrastructure in the identified priority areas;
- Develop and implement a framework for sharing R&D infrastructure amongst institutions;
- Develop the National Physical Science Research Laboratory;
- Develop of Science Parks;

- Facilitate Integrated Technology Transfer Centres (ITTC) at county level;
- Establish the Square kilometre array

Programme 2.2: Improve Intellectual Property Rights Regimes of Science Technology and Innovation

There is limited awareness and appreciation of Intellectual Property Rights among practitioners, stakeholders and policy makers and the existing Policy is not flexible to accommodate ever emerging issues in ST&I. The level of uptake and commercialisation of intellectually protected products and services is also low. Technological learning within the business system is not formally structured and appropriately managed to ensure technological capability building and appropriate technology transfer. The objective of this programme is to secure research innovations through intellectual property rights and maximizing their delivery, uptake, sustainability and impact towards a knowledge-based economy. The following activities will be implemented:

- Establish a reward scheme for authors of scientific publications and innovators;
- Sensitise stakeholders on the importance of Intellectual Property Rights;
- Develop and implement a Sector Intellectual Property Rights Policy; and
- Establish technology transfer offices.

Programme 2.3: Innovation, Technology Transfer and Commercialisation

This programme aims at consolidating the innovation capabilities and incorporate the ST&I actors to be able to acquire and exploit technologies available locally. This will create an environment for demand-driven technology development and transfer through rapid commercialisation of activities. The following strategies will be considered in pursuit of the achievement of this programme:

● Provide equipment support to existing incubators in universities and other STI Institutions; Identify innovation and create modality for commercialisation; and
● Acquire, adopt, adapt and diffuse technology.

Policy Priority 3: Equity and Inclusivity in ST&I
Goal: Enhance equity and inclusion in Science Technology &Innovation
Target: Increase the proportion of special interest groups and researchers to the national population

Science technology and innovation is acknowledged as critical in raising productivity and efficiency for the different economic players. ST&I has the potential to improve livelihoods for disadvantaged populations. Therefore, ST&I policies and strategies have to take cognisance of the need to provide universal access to participation and utilization of ST&Is. This would include not only investing in technologies that provide solutions to problems facing disadvantaged groups but also ensuring their participation in ST&I activities. A critical area for inclusion is gender equality in ST&I. Three areas are identified as entry points for applying a gender lens, these are: Science for women, developing science and technology which support women's development and livelihood activities; Women in science, promoting gender equality in science, technology and

engineering education, careers and leadership to encourage and support the role of women in innovation systems at national and grassroots levels.

Programme 3.1: Promoting Equitable and Inclusive Participation in Science Technology and Innovation

This programme aims at promoting participation of women and young scientists in research and taking up research as a career. Institutions are not well distributed regionally, making it hard to reach all special groups. Gender disparity in ST&I is one of the major challenges in the ST&I sub-sector capacity building. The trend starts from reduced access to education and training, low enrolment and retention of women into Science, Mathematics and Technology courses all through to low research opportunities, positions of responsibilities, recruitment and promotion in comparison to male. The few women involved in research lack experience and knowledge as innovators and entrepreneurial education. To harness and utilise research capacity and expand opportunities, the government will take steps to mobilise active participation of under-represented groups such as women, youth in SET workforce, persons with special needs, disadvantaged groups including those from marginalized areas. The following activities will be implemented:
- Develop a framework for identifying and recognising outstanding women and girl scientists;
- Special incentives scheme to attract researchers and innovators from marginalised areas;
- Carry out regular gender-disaggregated monitoring and evaluation in ST&I sub-sectors;
- Conduct gender assessment of policy actions, financial resource and gender-responsive budgeting;
- Map and engage outstanding women scientists to mentees; and
- Implement STEM mentorship programme for girls at all levels of education and training.

Policy priority Area 4: Governance and Accountability for Science Technology and Innovation

Goal: A coherent legal, institutional and regulatory framework to support the growth, development, utilization and coordination of ST&I

Target: Enhance governance and management of the ST&I sub-sector

Governance and accountability issues constitute major inputs into the effectiveness of the realization of all the programmes outlined in this section. The programme objective here is to provide for a coherent and focused legal, institutional and regulatory framework to support the growth, development and utilization and coordination of science, technology and innovation. Governance is also a means of determining the linkage between progress and results through the programmes' management to the policy-level. The main goal of this priority area is thus to create an enabling environment for effective integration and management of ST&I into all sectors of the economy and allows for the restructuring of the innovation system to promote the advancement and application of ST&I.

Programme 4.1: Strengthen Governance and Accountability for ST&I

The Science, Technology and Innovation sub-sector has multiplicity of legislations with overlapping provisions. This has resulted in a weak coordination and regulation which negatively affects performance of the institutions within the sub-sector. Successful generation and application of science and technology require a robust and efficient data and information sharing, management and retrieval systems. The programme objective is thus to establish an integrated

Knowledge Management Information System to inform the country on the ST&I profile. To address these issues, the following activities will be implemented:
● Review and harmonize the existing legal and regulatory framework;
● Establish a National Science, Technology and Innovation Observatory;
● Update and maintain the ST&I Observatory;
● Establish an integrated Knowledge Management Information System to inform the country on the ST&I profile;
● Conduct regular and scheduled R&D and Innovation surveys;
● Publish biennial ST&I indices reports;
● Develop a framework for resource mobilisation for ST&I; and
● Develop an incentive framework for private sector investment in R&D.

3.2.11 Post Training and Skills Development
Policy Priority 1: Improve quality and relevance of post training and skills Development
Goal: To establish a formal linkage among Government, Industry and Academia.
Target: To develop and institutionalise effective labour market placement systems that links training to industry.

Programme 1.1: Work Place Readiness Services
Youth unemployment and underemployment is a key challenge in Kenya. The high level of unemployment is compounded by rapidly changing labour markets, technological advancements and globalization. The rate of youth unemployment is 26% (Kenya National
Bureau of Statistics, 2015). There is a weak linkage between the training process and the labour market requirements in Kenya. This leads to slow or low absorption of the graduates into the job market. Consequently, there is higher rate of youth unemployment. To strengthen linkage between training and industry, the sector will establish Sector-specific Skills Councils to ensure effective dissemination of industry's requirements and consumption of the same by the training agents. The establishment of Sector-specific Skills Councils requires a well-articulated policy that can promote sector standards in skills development. This will promote effective training for market, conform to international standards and leverage on best practices. This calls for development of sector skills operation manual, policies and institutional framework to link skills development to industry; and facilitate the establishment of Sector-specific Skills Councils. To address these issues the following activities will be implemented:
● Develop an Industry-Academia Linkage Policy;
● Establish a National Skills Advisory Council;
● Develop skills management and post training policy;
● Develop regulatory framework to oversee skills development;
● Establish Sector-specific skills councils;
● Develop framework to establish office of career services in learning institutions;
● Develop regulatory and guidelines for registration and approval of skills-professional bodies;
● Establish skills development fund; and
● Develop institutional framework to link industry, academia and graduates/trainees.

Programme 1.2: Work-Based Learning Services

Work based learning programmes are strategic pathways for creating skilled and employable youth, including disadvantaged youth. There is need to integrate work based learning programmes in actual work environments as an integral part of skills development efforts. The International Labour Organisation has emphasized on the importance of skill development especially through apprenticeship and Recognition of Prior Learning (RPL) at the workplace. This Programme will assist the youth to acquire appropriate skills to make them employable or engage in self-employment after training. The purpose of the national apprenticeship, internship, industrial attachment and up-skilling is to improve skills, reduce unemployment or under-employment, increase self-employment and productivity and improve on income generation. This programme aims at reducing the challenges that the youths go through in their aspirations to secure employment caused by lack of adequate skills and experience. To address these issues the following activities will be implemented:

● Review apprenticeship, internship and industrial attachment Policies and develop an integrated national policy;
● Mapping of existing and potential industries and other mentors in the informal sector;
● Conduct National youth apprenticeships, internships and industrial attachment placements; and
● Implement up-skilling programmes.

Programme 1.3: Post-Training Information Management

The creation of linkages and making skills to be an integral part of productivity will not be complete without automating the process. Currently, data on skills is generated by various government agencies in a fragmented way and in small pockets with weak inter-linkages. The programme is expected to provide evidence of skills and employment in the country. A skills inventory will be generated and automated for online accessibility. A National Tracer Study will be conducted to identify graduates and their professions and track them to their current occupation in the market. To address these issues, the following activities will be implemented:

● Develop skills inventory implementation framework;
● Conduct National workforce skills baseline survey;
● Develop National skills inventory;
● Undertake National Tracer studies; and
● Map industry national skills demand.

Policy Priority 2: Governance in the Post Training and Skills Development Function Goal:
To enhance governance in the post training and skills development function.
Target (s): To establish and operationalise a governance structure for the post training and Skills development function.

Programme 2.1: Enhance Governance and Accountability

The post training and skills development sub-sector is committed to creating linkages between training, skills and industry to enhance employability and productivity. Towards this endeavour, the sub-sector will coordinate, promote and regulate post training and skills development initiatives. This is with the aim of reducing youth unemployment or underemployment through accelerated industrial absorption and promoted self-employment. This will therefore guarantee a

seamless transition from learning to earning. For the sub-sector to deliver on the mandate as stipulated in the Executive Order, it requires an approved institutional structure with a clearly defined technical mandate, scheme of service, recruitment and deployment of staff in a requisite working environment. The sub-sector is faced with challenges that include office space and equipment, not well defined institutional structure, inadequate capacity and limited mobility. To address these issues the following activities will be implemented:

- Develop institutional structure and implementation strategy for the sub-sector;
- Develop schemes of service for the jobs in the structure;
- Recruit, deploy and capacity build the staff;
- Develop a framework for resource mobilisation to facilitate operations and programmes in the sub-sector;
- Acquire and equip office space; and
- Procure motor vehicles.

Programme 2.2: Skills and Employment Database Management
Data on skills and human resource in the country is generated by various government agencies in a fragmented way and in small pockets for administrative use. The data systems have weak inter-linkages and do not build into each other. This has led to a disintegrated approach in skills development resulting into weak harmonization of available skills. PTSD will create a strong inter-linkage through establishment of an Integrated Skills and Employment Information System (ISEMIS). To strengthen the management of skills and employment data, the following activities will be implemented:

● Develop integrated skills and employment management information system; and

● Manage Integrated Skills and Employment Information System.

3.2.12 Quality Assurance and Standards
Quality Assurance and Standards issues cut across all sub sectors in the education and training sector. The Directorate of Quality Assurance and Standards assures quality and standards through setting of standards, monitoring of compliance with the standards and enforcing compliance where there is none. It plays an important role in terms of aligning the sector institutions to quality learning.

Policy Priority 1: Align Education Quality Assurance and Standards to Competency Based Curriculum (CBC) and Competency Based Assessment (CBA)
Goal: Align education quality assurance and standards to CBC and CBA
Target (s): Education quality assurance and standards aligned to CBC and CBA by 2021

Programme 1.1: Review and align Quality Assurance and Standards to Competency Based Education
Kenya's shift to the Competency Based Curriculum (CBC) and Competency Based Assessment (CBA) has huge implications on the way quality and standards assurance will be set, monitored and enforced at the school level. In order to effectively carry out this mandate, there is need to review the existing standards with a view to aligning them to the competency Based Curriculum. Besides, there is need to build the capacity of quality standards officers in CBC and CBA for on-

site school support to teachers. This programme aims at establishing a framework that aligns Quality Assurance and Standards services to support effective implementation of CBC and CBA. The programme will be operationalised through the following activities:

- Undertake a Needs Assessment in DQAS to guide alignment of quality assurance to CBC and CBA;
- Develop a Quality Assurance and Standards Framework for Basic Education;
- Build capacity of Quality Assurance and Standards officers for on-site school support to teachers; and
- Build the capacity of QASOs on ICT integration.

Policy Priority 2: Assure Quality and Maintain Standards in Basic Education Learning Institutions

Goal: Enhance quality and maintenance of standards in institutions of basic education **Target:** Increase coverage of institutions of learning in quality assurance and maintenance of standards from 30% to 70%

Programme 2.1: Mainstream Quality Assurance at School/Institutional Level

Enrolment and participation in Basic education in Kenya has increased since the implementation of the Free Primary Initiative and Free Day Secondary Education. The upsurge in enrolments has come with an increase in the number of secondary and primary schools. For instance, from 2012 to 2017, over 10,000 primary and secondary schools were established. Such expansion in enrolments and numbers of education institutions directly translates to an expansion in the scope for quality and standards assurance. Despite this, coverage in terms of quality and standards assurance of schools is quite low. On average, the directorate only covers 30 percent of the schools. To increase coverage, this programme seeks to shift the approach to quality assurance from the current centralized school visits by quality assurance officers to decentralized internal quality assurance at the institution/school level, known as the Institutional Based Quality Assurance (IbQA). IbQA will empower heads of institutions, BOM and Parents Associations to carry out internal quality and standards assurance. This will be achieved through the following activities:

- Develop and automate Institutional Based Quality Assurance (IbQA) process;
- Disseminate the Institutional based Quality Assurance;
- Train stakeholders from national, county and school levels on IbQA; and
- Carry out quality and standards audits and assess compliance using the IbQA.

3.2.13 Kenya National Qualifications Framework (KNQF)
Policy Priority 1: Access to Education and Training Qualifications
Policy Goal: Enhance access to education and training qualifications by all
Target(s): Access to education and training qualifications enhanced

Programme 1.1: Articulation of KNQF
Kenya has a multiplicity of qualifications and awarding bodies, which make it difficult for employers to understand the competencies possessed by the holder of a particular qualification.

The KNQF develops a common regulatory system for the development, assessment and award of qualifications. KNQF also facilitates the articulation of quality-assured national qualifications. Articulation refers to the process whereby the credits achieved in a course offered by an institution are interchangeable with a different course, either offered by another institution or within the same institution. Through this process, participants ensure that they do not repeat a programme/module they have already completed and can move through the curriculum at a faster pace. This programme seeks to mainstream articulation in Kenya through the following activities:

● Develop a policy on credit accumulations and transfer of national qualifications;
● Develop and implement Prior Learning Assessment and Recognition (PLAR) policy;
● Establish and maintain Career Advice Service Centre; and
● Sensitise the public and key education stakeholders on KNQF.

Policy Priority 2: National Regulatory Assurance System for National Qualifications Goal:
To assure quality and credibility of national qualifications.
Target(s): To improve quality and credibility of national qualifications.

Programme 2.1: Quality assurance of national qualifications in education and training
KNQF is linked to the quality assurance processes as it sets the standard against which accreditation of qualifications can take place and also provides the standard measures against which assessment systems are designed and tested. Together, they help to achieve greater coherence and trust within the national qualification system. A KNQF without an accompanying quality assurance system is unlikely to be effective in building the quality of and trust in national qualifications. Zones of trust for qualifications are built upon common interests, accepted modus operandi for the award of qualifications, the participation of key stakeholders in the design of qualifications, and the clarity of the added value that qualifications deliver. The programme will be achieved through the following activities:

● Develop and implement accreditation processes by which a qualification or partqualification gain national recognition;
● Develop and implement registration processes by which education and training providers are approved to deliver national qualifications or part-qualifications;
● Develop and implement processes of supervision of assessment systems that lead to the award of a national qualification;
● Develop and implement regulation of the issuance of certificates by awarding bodies or agencies; and
● Develop and implement guidelines for regulatory and curricula development institutions to set and implement appropriate curricular designs and curriculum delivery systems for meeting national qualification standards.

3.2.14 Cross Cutting and Contemporary Issues
Policy priority 1: Mainstreaming Cross Cutting and Contemporary Issues and Value Systems in Education and Training
Goal: To integrate contemporary issues and values in the education and training sector.
Target(s): To promote knowledge and appreciation of contemporary issues and values in the education and training sector.

Programme 1.1: Reduce Violence, Radicalization, Extremism, Drug and Substance Abuse
Kenya Vision 2030 envisions the building of a just and cohesive society that enjoys equitable social development in a clean and secure environment. Different forms of violence, extremism and drug abuse have been witnessed in Kenyan schools. School children in Kenya are increasingly being targeted by efforts to radicalize the country's youth which disrupt learning and pose threat to the country's security. In addition, school learners are faced with myriad challenges and issues owing to the legal, technological, social cultural and economic dynamics in society. Some of the challenges include: environmental and climatic change; social media influence; human sexuality, peer pressure, drug and substance abuse; conflict and crises; extreme violence and radicalization; terrorism and health issues. As a result, there is need to empower teachers in early disaster detection, surveillance and reporting mechanisms. The objective of this programme is to reduce school violence, radicalization, extremism, drug and substance abuse through the following activities:

- Develop framework on awareness creation and redress mechanisms on learner violence radicalisation, extremism, drug and substance abuse;
- Build capacity of learners, teachers and trainers, Institution administrators, education officers, BOMs and parents on on-site early detection and surveillance of learner behaviour, conflict prevention and management;
- Integrate themes related to peace education, integrity, global education, radicalization, drug and substance abuse, violence and extremisms in the curriculum;
- Develop a multi-sector framework to guide interventions related to school violence, radicalism, extremism and drug abuse prevention and implementation of peace and global citizenship initiatives;
- Undertake research on emerging forms of school violence, radicalism, extremism, drug abuse and associated redress mechanisms;
- Develop protection systems including counselling and supportive referrals that respond to the mental health and psychosocial needs of learners;
- Review pre-service and in-service teacher training programmes to incorporate peace and global citizenship education; and
- Develop a manual on child safety and security against radicalization and violent extremism for institutions of basic education and training.

Programme 1.2: Mainstream Gender Issues in Education and Training at All Levels
Teenage pregnancy amongst school going girls is on a worrying trend with statistics showing that one in every five girls between 15-19 years of age has begun childbearing. Apart from teenage pregnancy, the Kenyan girl child is adversely affected by gender issues ranging from female genital mutilation, early marriages, traditional practices that have preference for the boy's than the girl's education, gender based labour division which affect the girl child school performance since girls fail to competitively do their school given homework. The objective of this programme is to address the challenges facing the girl child through the following activities:

- Develop a strategy to prevent teenage pregnancy;
- Establish clubs to promote life skills programmes among girls especially in day schools;
- Undertake community awareness and sensitization on the importance of girl child education;
- Establish a multi-sectoral coordination Unit to respond to the challenges of the girl child;

- Provide bursaries to girls from most vulnerable communities;
- Provide sanitary towels for girls in targeted counties;
- Build the capacity of teachers in life skills, guiding and counselling to effectively respond to changes in social behaviour of leaners;
- Establish low cost boarding primary schools and rescue centres for girls; and
- Develop guidelines on gender based violence.

Programme 1.3: Promote Education in Emergencies

Some vulnerable children face challenges in accessing quality education due to natural or manmade disasters such as floods, drought, fires, insecurity, cattle rustling, inter-ethnic clashes, inter-clan clashes, terrorism and political instability, among others. For instance, on average, drought events affect an estimated 250,000 school age children and 8,000 teachers annually to varying severity levels. The objective of this programme is to enhance the emergency preparedness in the sector and provide interventions aimed at ensuring continuity of education during disasters and emergencies. This will be achieved through the following activities:
- Undertake a risk and disaster mapping of education institutions across the country;
- Develop guidelines to operationalise the disaster management policy;
- Build capacity of teachers, learners and school administrators in emergency preparedness and response;
- Develop a strategy on safety preparedness and response; and
- Develop a strategy to mobilise resources for post school disaster reconstruction.

Programme 1.4: Prevent HIV and AIDS Infections

The achievement of Kenya Vision 2030 and Sustainable Development Goals is threatened by the HIV and AIDS pandemic which has devastating and far reaching effects on education and training. Studies show that knowledge of HIV and AIDs among learners is quite low. Learners still engage in unprotected sexual activities exposing them to the risk of HIV infection. Those who are infected by HIV and AIDS face stigma and discrimination and lack adequate family support. Other challenges faced by infected and affected learners include; inadequate psychosocial support, inadequate capacity to deal with HIV and AIDS-related issues, and lack of coordination for response activities. The objective of this programme is to prevent new HIV infections in learning institutions through the following activities:
- Disseminate the Revised Education Sector Policy on HIV and AIDS (2014) to education managers and stakeholders within the education sector;
- Develop a module in NEMIS to collect data related to HIV and AIDS;
- Sensitise learners, teachers and school communities on HIV and AIDS prevention, treatment, care and management;
- Develop a framework for Health and Wellness programme; and
- Build the capacity of education personnel against stigmatization and discrimination of learners living with HIV and AIDS.

Programme 1.5: Promote Education for Sustainable Development (ESD)

The National Goals of Education emphasize the development of individual capacity to enable Kenyan citizens to meet the social, economic and environmental needs of the country. Article

10(2d), of the Constitution of Kenya recognises sustainable development as one of the national values and principles of governance that bind Kenya as a nation. This programme aims at enhancing sustainable development through education and training to ensure that all learners acquire knowledge and skills on human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and cultures. Challenges of climatic change continue to exist such as droughts, floods, frost and heat waves. There is a need for increased awareness on environmental issues for sustainable development. The overall objective of this programme is to operationalise the ESD policy and equip learners with knowledge and skills needed to promote sustainable development. The following activities will be implemented:

- Develop ESD Action plan;
- Build capacity of education managers and stakeholders on integration of ESD and climate change in all learning institutions;
- Conduct awareness campaigns on ESD for learners and school communities; and
- Monitor and evaluate ESD policy implementation in learning institutions.

Programme 1.6: Enhancing Mentorship, Moulding and Nurturing of National Values.
Learners in institutions of education and training have varied personal mentorship needs. Increasingly, young people have to handle issues dealing with career choices, peer pressure, harmful traditional practices and negative media influence. In addition, the challenge of corruption in Kenya is enormous and is increasingly inhibiting the realization of the country's economic blueprints, its aspirations and the future of the citizenry. The objective of this programme is to empower learners to deal with day to day challenges and inculcate integrity and other values such as patriotism, hard work, respect, good stewardship, protection of public property, among others. These values are catalytic in the promotion of ethics and the building of a corruption-intolerant society. To achieve this, the following activities will be implemented:

- Develop positive discipline manual and teachers training handbook;
- Establish guidance and mentorship departments in all learning institutions;
- Build capacity of teachers in mentorship, life skills, guidance and counselling, and values;
- Build capacity of learners on peer to peer support programmes;
- Establish pastoral programmes and chaplaincy in all institutions of education and training;
- Establish integrity clubs in all institutions of learning; and
- Develop modules to guide integration of life skills, integrity, guidance and counselling in pre-serve and in-service teacher training programmes.

4. COST AND FINANCING OF NESSP

This chapter covers the cost of implementing the programmes and corresponding activities identified in the plan. In addition to the costs, the chapter presents the financing of the programmes given the prospective resources that are likely to be available in the sector.

The economic outlook of the plan implementation period has been projected based on expected growth of the Gross Domestic product, the tax pressure, the resources committed to education from domestically generated revenue and the intra-sector sharing of resources. With the projected annual average growth of 6%, the country's GDP is expected to increase from KES 8.14 trillion in 2017 to KES 10.9 trillion, a 34% increase during the plan period. The tax pressure – domestic revenue generated as a share of the GDP – is projected to increase by 0.7% from 19.1% in 2017 to 19.5% in 2022. The effect of this is a projected collection of KES 2.13 trillion in 2022 compared to KES 1.55 trillion in 2017. Assuming the recurrent resources to education as a share of domestic resources remains conservative at 25%, the total recurrent resources likely to be available to education sector will grow from KES 382 billion in 2017/18 to KES 524 billion in 2022 representing a 37% increase over the period. As shown in the financial review section of the diagnostic, the share of recurrent resources spent on basic education averages 70%. Assuming the share remains the same over the plan implementation period, the recurrent resources that are likely to be available will grow from KES 267.2 billion to KES 366.2 billion.

Table 14: Macroeconomic Forecast

	2017	2018	2019	2020	2021	2022
GDP (million KES)	8,144,373	8,633,035	9,151,017	9,700,078	10,282,083	10,899,008
Domestically-generated revenues as % of GDP	19.1%	19.2%	19.3%	19.4%	19.4%	19.5%
Domestic revenues excluding grants (million KES)	1,553,613	1,654,807	1,762,552	1,877,269	1,999,407	2,129,443
Share of Domestic Revenue spent in recurrent Education	25%	25%	25%	25%	25%	25%
Total recurrent resources expected in Education Sector (millions KES)	382,261	407,159	433,669	461,895	491,947	523,942
Total recurrent resources expected in Basic Education (millions KES)	267,188	284,591	303,121	322,849	343,855	366,218

Source: Computation based on the MOE simulation model (2018)

1.1 Simulation Parameters and Targets

The country has covered tremendous grounds in the internationally agreed conventions on education notably closing in on universal primary education under the Millennium Development Goals. Kenya's commitment to making the globe a better place is further seen in the ratification of the Sustainable Development Goals – Goal 4 of which has been adequately considered in this plan. The plan envisages increased access to quality education at all levels of education.

Increasing the Pre-primary Gross Enrolment Rate from 76.6% to 88% total enrolment to increase by 22%, from 3.2 million learners in 2017 (the baseline) to about 4 million learners in 2022, two thirds of whom are expected to be enrolled in public schools. The additional enrolment in public

schools will require additional teachers to be employed based on prescribed staffing norms. In 2017, the TPR in public schools was established to be 31. The plan targets to achieve a TPR of 1:30 by 2020 and be marinated at this level through 2022. This will see the total staff compliment in Pre-primary grow from 68,800 to 87,500.

Table 15: Simulation Parameters and Results

	2017	2018	2019	2020	2021	2022
Pre-primary						
Gross Enrolment Rate	76.60%	78.90%	81.10%	83.40%	85.70%	88.00%
Pupil Teacher Ratio	31	31	31	30	30	30
Average Class Size	47	45	43	42	40	38
Total Enrolment	3,199,841	3,334,386	3,473,303	3,616,718	3,764,762	3,917,569
Public Enrolment	2,144,563	2,234,736	2,327,840	2,423,958	2,523,178	2,625,591
Number of teachers	68,823	72,255	75,834	79,567	83,460	87,520
Primary Education						
Retention Between Standard 7 and 8	80.60%	84.50%	88.40%	92.20%	96.10%	100.00%
Gross Enrolment Rate	106.70%	105.50%	104.30%	102.90%	102.00%	101.30%
Pupil Teacher Ratio	41	41	41	41	41	40
% of BOM Teachers	14%	13%	13%	12%	11%	10%
Average Class Size	35	36	37	38	39	40
Total Enrolment	10,544,485	10,656,753	10,774,684	10,910,527	11,065,111	11,222,185
Public Enrolment	8,595,111	8,683,547	8,776,180	8,883,358	9,005,264	9,128,824
Total number of Government Teachers	213,772	215,367	219,724	221,481	223,238	224,995
Secondary Education						
Transition from Primary to Secondary	81%	83%	84%	85%	87%	88%
Gross Enrolment Rate	68%	64%	64%	67%	74%	83%
% of BOM Teachers	34.00%	31.20%	28.40%	25.60%	22.80%	20.00%
Average Students Per Stream	45	45	44	42	41	40
Total Enrolment	2,830,838	2,718,788	2,779,170	2,997,012	3,375,816	3,826,755
Public Enrolment	2,512,743	2,416,647	2,473,756	2,671,365	3,013,184	3,420,415
Total number of Government Teachers	93,018	98,175	98,918	122,160	145,402	168,644
Enrolment in Adult Education						
Enrolment in Youth Polytechnic	80,856	172,944	171,243	166,134	160,351	153,556
Tertiary Education						
Number of students per 100,000 population in TVET	435	609	782	956	1,130	1,304
Enrolment in TVET	121,700	291,271	384,437	482,079	584,212	690,841
Number of students per 100,000 population in HE	1,211	1,269	1,298	1,327	1,356	1,385
Enrolment in University	564,507	607,449	637,763	668,887	700,808	733,513
Enrolment in Public University	479,312	509,811	528,991	548,241	567,526	586,810
Number of lecturers in public Universities	13,654	15,572	17,390	19,478	21,896	23,654

In primary, one of the challenges identified in the ESA is the retention of students in the last two grades. Close to 20% of learners are lost to the system. The plan projects to improve retention in

these grades to 100% by addressing supply side issues in the sector and working with other Government agencies to address the demand side issues that contribute to the loss of learners at this prime stage. One of the supply side issues being addressed is reforming the curriculum to make it relevant to the Kenyan context and also make it interesting for the learner. Coupled with high Gross Intake Rate in Standard 1, the Gross Enrolment Rate in Primary is targeted to remain above the 100% mark as the overage and underage learners in primary slowly ease off. The enrolment Rates will see the enrolment potentially grow from 10.5 million in 2017 to 11.2 million in 2022.

The TPR in public primary has been established to be 1:41 – nationally the teachers available are not sufficient to offer quality education to learners in primary schools. The distribution of teachers remains one of the greatest challenges in the sector. In addition to addressing the distribution of teachers, the sector is committed to making better use of teachers by improving the current staffing towards the recommended norms of 1:40. In the plan implementation period, this commitment is projected to realise an improvement from 1:41 in 2017 to 1:40 in 2022. Noting the potential increase in the enrolments in public schools and roll out of the competency based curriculum (CBC), the sector will require an addition of 9,000 teachers recruited in the plan period.
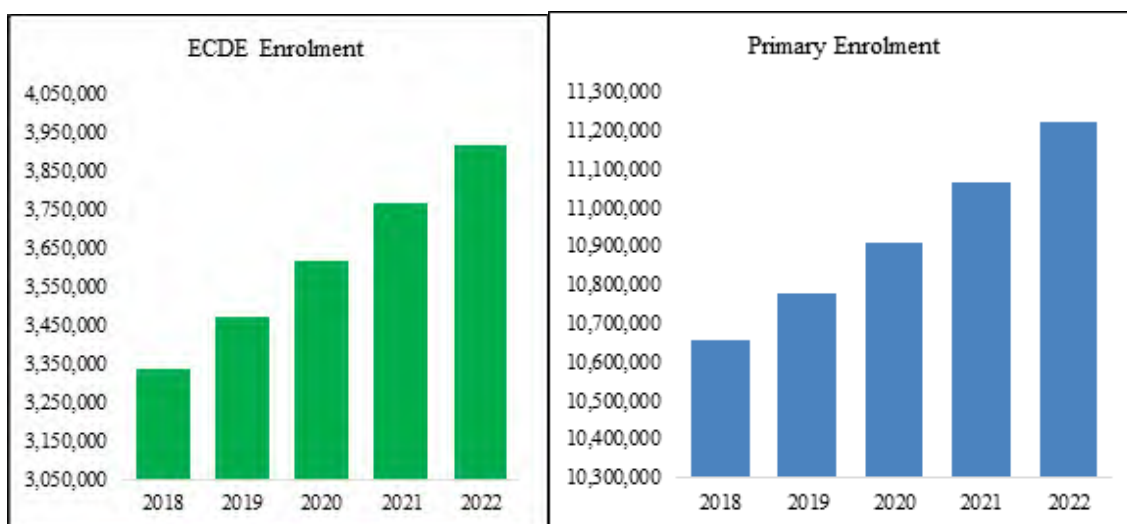
Figure 9: Evolution of Enrolments in Pre-primary and Primary
Source: Computation based on the MOE simulation model (2018).

In secondary, transition is projected to reach 100% with the gross enrolment rate increasing from 70.3% in 2018 to 100% in 2022. This will see the enrolment in secondary grow by almost 1 million from 2.8 million in 2017 to 3.8 million in 2022. The enrolment in public schools is likely to increase from 2.5 million in 2017 to 3.4 million in 2022 – a net increase of 900,000 students over the plan period. A third of the teachers in secondary are employed by the school BOM, transferring the cost of retaining such teachers to households. The sector is committed in this plan to address this by reducing the share of BOM teachers from 34% in 2017 to a maximum of 20% by 2022. To do this, the total number of teachers employed by the government will almost double from 93,018 in 2017 to 168,644 in 2022. This significant increase is intended to address the

growing teacher shortage at the secondary school subsector while at the same time implementing the policy of 100% transition of learners from primary to secondary school.

In tertiary education, tripling TVET coverage from 435 students per 100,000 populations will increase the enrolment in TVET from 121,700 students in 2017 to 691,000 in 2022. At university level, the coverage is targeted to increase from 1,211 students per 100,000 populations resulting in the increase of enrolment from 564,700 in 2017 to 733,500 in 2022. Correspondingly, the enrolment in public universities is projected to increase from 479,300 in 2017 to 586,800 in 2022. The plan envisages considerable infrastructural improvements in TVCs and universities to accommodate the surge in enrolments.
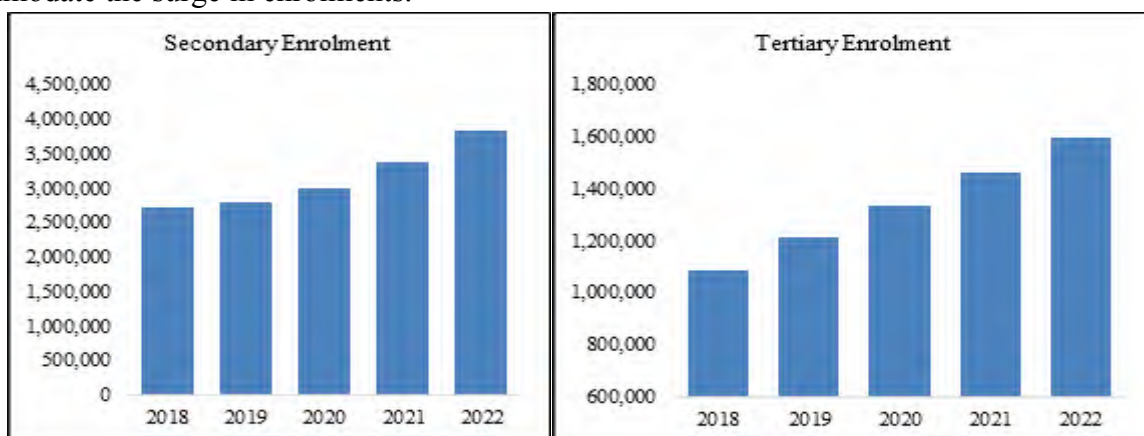
Figure 10: Evolution of Enrolment in Secondary and Tertiary Levels of Education
Source: Computation based on the MOE simulation model (year)

1.2 Cost of Implementing the Plan

The projected cost of the programmes and their associated activities as presented in the plan is KES 3.554 trillion over the 5-year period – KES 3.025 trillion in recurrent costs and KES 517.45 billion in capital. The projected cost is based on the ambitious increment in enrolment at all levels coupled with the activities identified to strengthen the system for quality service delivery. The summary of the cost of implementing the sector plan is shown in Table 16 that follows:

Table 16: Total Resource Requirements

Cost Type	2018	2019	2020	2021	2022	TOTAL
Total Recurrent Costs	456,528	604,451	663,444	641,954	659,579	**3,025,956**
Total Development Costs	22,720	113,350	128,461	142,470	110,449	517,450
Grand Total for NESSP	**481,266**	**719,820**	**793,925**	**786,445**	**772,050**	**3,553,506**

Table 17 presents a summary of the recurrent costs projected for implementation of the sector plan disaggregated by the various sub-sectors. The total recurrent requirements total KES 2.68 trillion over the 5-year period. Personnel emoluments constitute the highest share and is projected to cost KES 1.47 trillion accounting for 49% of the total projected recurrent costs. Primary

education will require KES 104.6 Billion in of recurrent costs amounting, secondary education while secondary education will cost KES 426.3 Billion University Education and TVET will cost KES 378 Billion and KES 29.8 Billion respectively.

Table 17: Summary of Recurrent Costs

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
Cross-Cutting & Contemporary Issues	13	42	46	73	22	196
Pre-Primary Education	2,320	9,102	9,302	8,227	5,502	34,453
Primary Education	4,311	22,490	25,426	28,250	24,090	104,567
Secondary Education	77,418	79,600	83,180	89,419	96,723	426,341
Inclusive Education	205	1,544	1,553	1,566	1,495	6,364
Teacher Education, Development & Management	18,656	18,656	18,656	18,656	18,656	93,278
Adult & Continuing Education		41	49	36	20	145
Vocational & Technical Training	7,048	5,138	7,656	5,332	4,654	29,828
University Education	63,686	70,614	75,750	81,162	86,860	378,071
Science, Technology & Innovation	129	307	325	327	327	1,416
Post-Training & Skills Development	92	587	1,381	2,189	3,215	7,464
Personel Emoluments	**231,493**	**285,797**	**303,592**	**319,986**	**329,586**	**1,470,454**
System Strengthening	**51,159**	**110,534**	**136,528**	**86,731**	**88,429**	**473,381**
Grand Total	**456,528**	**604,451**	**663,444**	**641,954**	**659,579**	**3,025,957**

In order to support delivery of quality and relevant education, the plan envisages development of policies, frameworks and strategies as well as their implementation. These have been consolidated into a single item coded as system strengthening totalling to KES 154.2 billion over the next 5 years and will constitute 30% of the total recurrent cost. Table 18 presents details of the system strengthening requirements by delivery units.

Table 18: System Strengthening Costs by Delivery Unit

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
All State Departments	**95**	**1,758**	**1,919**	**1,839**	**1,424**	**7,036**
Sector Governance & Accountability	75	1,168	1,189	1,191	1,085	4,708
Kenya National Qualifications Framework	0	45	95	30	0	170
Cross-Cutting & Contemporary Issues	20	545	635	618	339	2,158
State Department of Early Learning & Basic Education	**48,294**	**101,677**	**129,453**	**80,771**	**83,495**	**443,690**
Pre-Primary Education	11	365	393	538	558	1,866
Primary Education	287	1,304	1,018	938	818	4,365
Secondary Education	22,319	23,388	25,315	28,595	31,498	131,115
Inclusive Education	21	177	241	125	116	680
Teacher Education, Development & Management	20,184	70,716	100,056	50,066	50,056	291,078
Adult & Continuing Education	4,968	5,252	1,955	37	7	12,218
Quality Assurance & Standards	504	475	475	472	442	2,368
State Department of Vocational and Technical Training	**1,740**	**3,816**	**1,642**	**943**	**853**	**8,994**
Vocational & Technical Training	1,740	3,816	1,642	943	853	8,994
State Department of University Education	**872**	**1,836**	**2,154**	**1,572**	**1,512**	**7,945**
University Education	187	566	730	295	261	2,038
Science, Technology & Innovation	685	1,270	1,424	1,277	1,251	5,907
State Department of Post Training & Skills Development	**158**	**1,447**	**1,360**	**1,606**	**1,146**	**5,717**
Post-Training & Skills Development	158	1,447	1,360	1,606	1,146	5,717

The total cost of development for all the priorities and programmes identified in the plan is estimated at KES 517.4 billion over the five-year period. Table 19 presents the summary of capital costs by delivery units.

Table 19: Summary of Capital Costs

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
All State Departments		**19**	**34**	**4**	**8**	**65**
Sector Governance & Accountability		19	34	4	8	65
State Department of Early Learning & Basic Education	**3,875**	**62,825**	**71,092**	**75,711**	**41,270**	**254,774**
Pre-Primary Education		10,705	15,705	10,705	5,705	42,820
Primary Education	300	36,275	40,175	50,175	22,575	149,500
Secondary Education	3,405	10,794	10,852	10,851	10,799	46,702
Inclusive Education		3,800	2,510	2,460	1,121	9,891
Teacher Education, Development & Management	170	170	170	170	170	850
Adult & Continuing Education		1,080	1,680	1,350	900	5,011
State Department of Vocational and Technical Training	**2,445**	**31,481**	**38,560**	**48,980**	**51,646**	**173,112**
Vocational & Technical Training	2,445	31,481	38,560	48,980	51,646	173,112
State Department of University Education	**16,400**	**19,025**	**18,775**	**17,775**	**17,525**	**89,500**
University Education	15,600	18,225	18,475	17,475	17,225	87,000
Science, Technology & Innovation	800	800	300	300	300	2,500
Grand Total	**22,720**	**113,350**	**128,461**	**142,470**	**110,449**	**517,450**

1.3 Resourcing the Sector Plan

The economic forecasting and the resource projection at the beginning of this chapter are used in this section to finance the costs established in the previous section. Table 20 presents resource requirements and financing gap for the education sector. The sector is likely to receive cumulative of KES 2.32 trillion in budget over the 5-year plan implementation period against the plan cost of KES 3.55 trillion. Without commitments from development partners, the immediate resource gap is KES 1.2 trillion

Table 20: Resource Requirements and Financing Gap for the Education Sector

	2018	2019	2020	2021	2022	TOTAL
NESSP expenditure requirements (Million KES)	481,266	719,820	793,925	786,445	772,050	3,553,506
Total projected public resources for education sector (million KES)	407,159	433,669	461,895	491,947	523,942	2,318,612
Total projected donor financing (million KES)						0
Total expected resources (million KES)	407,159	433,669	461,895	491,947	523,942	2,318,612
Financing gap (Million KES)	74,107	286,151	332,030	294,498	248,108	1,234,894
Gap in million USD	741	2,862	3,320	2,945	2,481	12,349

Considering the fact that resource forecasting only includes recurrent resources, Table 21 compares the plan's recurrent costs and the recurrent resources. With a total cost of KES 3.026 trillion spread over the five-year period, the total resource gap in recurrent financing is likely to be KES 707 trillion – noting that this excludes potential commitment from development partners.

Table 21: Recurrent Resource Requirements and Financing Gap for Education Sector

	2018	2019	2020	2021	2022	TOTAL
NESSP recurrent expenditure requirements (Million KES)	456,528	604,451	663,444	641,954	659,579	3,025,956
Total projected recurrent public resources for education (million KES)	407,159	433,669	461,895	491,947	523,942	2,318,612
Total projected recurrent donor financing (million KES)						
Total expected recurrent resources (million KES)	407,159	433,669	461,895	491,947	523,942	2,318,612
Financing gap (Million KES)	49,369	170,782	201,549	150,007	135,637	707,344
Financing Gap (Million USD)	494	1,708	2,015	1,500	1,356	7,073

5. IMPLEMENTATION ARRANGEMENTS, MONITORING, EVALUATION AND RISKS

This chapter sets out how the NESSP 2018-2022 will be implemented. In addition, it presents the monitoring and reporting arrangements put in place, a monitoring framework and identifies the key likely risks with their mitigating measures.

5.1 Implementation Arrangements

The NESSP will be implemented through the existing structures of Ministry of Education. As identified in the sector diagnosis, the non-alignment of systems and institutions in the sector stands out as a threat to the implementation of this plan. The programmes outlined in the governance and accountability section are expected to deal with these challenges. For effective alignment and delivery, this plan has proposed the creation of the NESSP Co-ordination Unit, which will take the form of a multi-agency secretariat, to spearhead the implementation of this plan. The NESSP Co-ordination unit will be accountable to the Principal Secretaries of the four State Departments, who will report regularly to the Cabinet Secretary on progress according to the NESSP Results Framework and the Monitoring and Evaluation Framework. The NESSP Co-ordination Unit shall: i Draw up a detailed overview plan to carry out the changes over an agreed time period based on the multi-year action Plan;

 ii Monitor the establishment of new systems and processes against the set of agreed performance targets as the basis for measuring and reporting progress;

 iii Develop a communication strategy and well prepared written materials to inform all people in the education sector and the wider community of the changes and their timing; iv Ensure capacity and capability building, including training programmes for people taking on new roles within the structure; and

 v Regularly report to the Cabinet Secretary through the Principal Secretaries on progress and risk mitigation strategies as required.

5.2 Institutional Framework and Responsibilities of Monitoring and Evaluation

In this plan, Monitoring and Evaluation is to produce information that is used to take corrective actions in the implementation of activities and programmes (formative evaluation) and to inform on the relevance, efficiency, impact and sustainability of the different activities/programmes to inform actual and future policies (summative evaluation). The process is organised at different levels from the field/school (day to day monitoring), to the county, national government and development partners/international community.

The Central Planning and Project Management Units (CPPMU) headed by the Chief Economists (from Basic Education, TVET, University and Post Training and Skills Development) will be part of the NESSP Co-ordination Unit specifically responsible for the overall coordination of the monitoring and evaluation of this plan. CPPMU also houses statisticians from the Kenya Bureau of Statistics (KNBS) with expertise in statistical analysis. Apart from the NESSP Co-ordination Unit (Central Planning and Project Management Units), the Kenya NESSP 2018 – 2022 will be monitored by multi-level M&E system, from the school level to the Ministry headquarters as follows:

- Decentralised M&E: from ground level institutions (e.g. schools through their SMCs and BOMs) to sub-counties, and counties to feed into regional and national annual reviews. This allows for district level reviews and institutional reviews especially at tertiary level during the ESP period;
- Centralised M&E: with the PBME, NIB and other subverted agencies as the key players – all contributing to the National Annual Review;
- The existence of semi-autonomous body such as KNEC and TSC provide opportunities to collect reliable information from specialised staff and institutions but poses challenges in term of M&E coordination; and
- External M&E: from the wider Government and other stakeholders (private sector, FBOs, CBOs) as well as international development partners through a Joint Annual Review.

5.3 Key Principles

The M&E Framework proposed here is based on four key principles:
- *Feasibility:* The process, objectives and output of the M&E framework must be reliable, readable and simple. Proposed indicators should be SMART (Specific, Measurable, Achievable, Realistic Time bound) and the process out to build on existing capacities that would be enforced in certain areas;
- *Stability:* The process, list of indicators and sources of information must be set once, for all, following a participatory approach. They must remain stable in time to properly assess trends in education;
- *Transparency:* Information on the education progress must be shared among stakeholders, donors, NGOs, communities and with the public according to agreed procedures. Statistical information should be released in a timely manner and communicated broadly; and
- *Accountability:* The responsibilities in implementation and reporting of activities and programme must be clearly established. The expected level of information must be defined precisely through the use of standardized way of reporting.

5.4 Monitoring Indicators

The NESSP plan progress and performance will be evaluated against a comprehensive set of indicators. The annex contains the multiyear action plan which outlines the sequence of activities, expected output and Output Indicators (OVI) per activity, resourcing per activity as well as responsible entities. Besides the multiyear action plan, the annex also contains the Logical Framework which will help to evaluate the plan from the input level to the outcome (impact level). The indicators are nested in three levels: (i) Priority (or keys indicators) outcomes; (ii) Programme-outcomes; and (iii) Activities -process and outputs/inputs.

For all indicators in the Plan, the source of monitoring data has been identified including indicators for which no data is reported. NEMIS will be a key source for monitoring data for each sub-sector during implementation. The NEMIS is currently in operation and has been supporting digital registration of all learners/students and its source of data is the school. In this plan, a number of programmes and activities have been outlined to deal with foreseen challenges. During the implementation phase, NEMIS will be expanded to collect more data related to NESSP indicators and also include learners from other sub-sectors: pre-primary, TVET and University. Further development and decentralization of EMIS will require building the human and infrastructural capacity at the at Ministry headquarters, County, Sub-County, agencies and

learning institutions on NEMIS system management. On the overall, NEMIS will be reviewed and strengthened to establish orderly, timely, localized electronic data collection and publication in all counties.

Apart from NEMIS, the Plan will rely on a number of other key sources of information for monitoring including but not limited to institutions such as the Kenya National Examination Council, the Teachers Service Commission, the Kenya National Institute for Statistics, KISE, TVETA, CUE, and Directorate of Quality Assurance and Standards (DQAS).

5.5 Reviews
An important component of this NESSP, monitoring evaluation system is a set of reviews that form one of its principal outcomes:
● Annual reviews at the national, county and institutional levels (school levels) for feedback and refinement of policies, programmes and indicators;
● Mid-term and quarterly reviews to provide an opportunity for work-plan adjustments and to ensure that outcomes remain consistent with changing national priorities; and
● End-of-cycle evaluations to consider constraints encountered and ways and means of addressing them to inform the design of new projects, programmes and initiatives.

5.6 Instruments
The core instruments/events for reporting will be:
● Quarterly reports on budget and activities/programme implementation;
● County level reports and bi-annual reviews;
● Bi-annual joint sector review (one with a small group focusing on budget and formative evaluation and one comprehensive with large audience to develop the annual report);
● Annual financial external audits; and
● Mid-term and end of term external evaluation.

5.7 Major Assumptions, Risks and Mitigation Strategies
This plan constitutes a major reform of the education sector and is subject to a number of risks that need mitigation strategies. The implementation of NESSP depends on:
● Adequate allocation of required resources to ensure the activities of the plan are implemented;
● Effectiveness of the institutional framework for implementation;
● Satisfactory and sustained economic performance;
● Capacity of the National and County governments in prioritizing the education sector priorities;
● Effectiveness of public private partnerships in the sector and effective coordination of the sector stakeholders;
● Modalities for improving efficiency and effectiveness in utilization of available resources;
● Full transparency and accountability of on-budget and off-budget outlays;
● Financial prudence and full adherence to the PFM practices;
● Effective monitoring and evaluation.
● Adequate capacity at national, county, sub-county and institutional level and well thought out capacity building plan.

Table 22 highlights possible risks to achieving the targets expressed in the plan and associated mitigating measures.

Table 22: Possible Risks and Mitigation Strategies

Critical Risks	Risks Mitigation Strategies	Responsibility
Lack of institutional linkage and harmony within the sector to deliver to the promises of the plan. The sector is characterised by different agencies and institutions, some with duplicating roles and not to deliver to the learner.	• Review the structure of the education sector and its Agencies from the headquarters to the learning Institutions, with the review of making proposals for enhancing linkages and a focus on the delivery to the learner. • Undertake functional analysis of implementing Agencies, directorates and departments, identifying areas of duplication and make proposals for reforms. • All the above will seek to clarify roles and responsibilities.	• MOE • County governments • Sector SAGAs • Sector directorates among others
Public Financial Management Challenges: • Inability for funds to reach the intended beneficiaries, that is, the learners; • Inadequate oversight at the school level on the school level resource use; • Inability to follow the procurement procedures; • Poor project planning at the school level; • Inadequate institutional (school level) Audit capacity; and • Budgeting and failure to introduce MTEF budgeting processes with clear sets of rules and priorities at subnational levels.	• Undertake a Public Expenditure Tracking surveys at all sub-sectors- primary, secondary and tertiary to track the flow of funds and address any financial loopholes. • Address limited capacity to audit institutions at decentralized levels. • Strengthen NEMIS while ensuring that going forward, all learner's per capita allocations are based on NEMIS registered learners. • Enhance financial management capacity by establishment of education sector IFMIS. • Provision of management and procurement handbooks to schools to empower BOMs and head teachers in PFM issues including tendering processes. • Address corruption, misuse of funds and gross inefficiency.	• MOE, County governments, Sector SAGAs, Sector directorates among others.
Natural disaster including floods, droughts, fires, insecurity, interclan clashes among others.	• Develop and implement a policy on education in emergency. • Undertake a risk and disaster mapping of education institutions across the country. • Build the capacity of teachers, learners and school administrators in risk and disaster early warning, prevention and surveillance systems. • Set up county level multisector early warning, prevention and surveillance systems. • Set up county level multisector coordination systems to coordinate responses to disasters by government and non-governmental agencies.	• MO • County governments • Sector SAGAs • Sector directorates among others.
	• Set up endowment fund for post school disaster reconstruction.	

Insufficient financing resulting from poor economic performance, shift of resources from the education sector to other sectors (especially those targeted under the Big Four Agenda), insufficient external financing among others.	• Rigorously apply needs-based funding, EMIS and IFMIS. • Strengthen collaboration with key external education development partners and reduce offbudget and increase on-budget donor financing. Ensure strong governance and accountability to minimize financial impropriety.	• Development partners • NGOs • Faith based organisations • MOE • County treasury • National Treasury
Inadequate capacity at the national and county levels to implement the plan.	• Build the capacity of staff in core aspects of education planning and management. • Build the capacity of education teams at the national and county levels to support service delivery in schools.	• MOE • County governments
Delay or failure to formulate and/or implement necessary policy reforms	• Prioritize and implement proposed reforms. • Provide budget line for sector wide communication strategy	• MOE • County governments • Sector SAGAS • Sector directorates
High cost of education due to unauthorized charges leading to high cost burden on households.	• Strengthen the inspectorate and enforce the regulations; • Communicate regulations/fees guidelines and apply sanctions uniformly.	• MOE • Parents Teachers • Associations • County Education Boards

ANNEX 1 : SUMMARY ANNUAL COST PROJECTIONS

Development (in Million Kenya Shillings)

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
All State Departments		**19**	**34**	**4**	**8**	**65**
Sector Governance & Accountability		19	34	4	8	65
State Department of Early Learning & Basic Education	**3,875**	**62,825**	**71,092**	**75,711**	**41,270**	**254,774**
Pre-Primary Education		10,705	15,705	10,705	5,705	42,820
Primary Education	300	36,275	40,175	50,175	22,575	149,500
Secondary Education	3,405	10,794	10,852	10,851	10,799	46,702
Inclusive Education		3,800	2,510	2,460	1,121	9,891
Teacher Education, Development & Management	170	170	170	170	170	850
Adult & Continuing Education		1,080	1,680	1,350	900	5,011
State Department of Vocational and Technical Training	**2,445**	**31,481**	**38,560**	**48,980**	**51,646**	**173,112**
Vocational & Technical Training	2,445	31,481	38,560	48,980	51,646	173,112
State Department of University Education	**16,400**	**19,025**	**18,775**	**17,775**	**17,525**	**89,500**
University Education	15,600	18,225	18,475	17,475	17,225	87,000
Science, Technology & Innovation	800	800	300	300	300	2,500
Grand Total	**22,720**	**113,350**	**128,461**	**142,470**	**110,449**	**517,450**

Recurrent (in Million Kenya Shillings)

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
All State Departments	**13**	**42**	**46**	**73**	**22**	**196**
Cross-Cutting & Contemporary Issues	13	42	46	73	22	196
State Department of Early Learning & Basic Education	**102,909**	**131,432**	**138,166**	**146,153**	**146,486**	**665,147**
Pre-Primary Education	2,320	9,102	9,302	8,227	5,502	34,453
Primary Education	4,311	22,490	25,426	28,250	24,090	104,567
Secondary Education	77,418	79,600	83,180	89,419	96,723	426,341
Inclusive Education	205	1,544	1,553	1,566	1,495	6,364
Teacher Education, Development & Management	18,656	18,656	18,656	18,656	18,656	93,278
Adult & Continuing Education		41	49	36	20	145
State Department of Vocational and Technical Training	**7,048**	**5,138**	**7,656**	**5,332**	**4,654**	**29,828**
Vocational & Technical Training	7,048	5,138	7,656	5,332	4,654	29,828
State Department of University Education	**63,814**	**70,921**	**76,075**	**81,490**	**87,187**	**379,487**
University Education	63,686	70,614	75,750	81,162	86,860	378,071
Science, Technology & Innovation	129	307	325	327	327	1,416
State Department of Post Training & Skills Development	**92**	**587**	**1,381**	**2,189**	**3,215**	**7,464**
Post-Training & Skills Development	92	587	1,381	2,189	3,215	7,464
Grand Total	**173,877**	**208,120**	**223,324**	**235,237**	**241,564**	**1,082,122**

System Strengthening (in Million Kenya Shillings)

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
All State Departments	**95**	**1,758**	**1,919**	**1,839**	**1,424**	**7,036**
Sector Governance & Accountability	75	1,168	1,189	1,191	1,085	4,708
Kenya National Qualifications Framework	0	45	95	30	0	170
Cross-Cutting & Contemporary Issues	20	545	635	618	339	2,158
State Department of Early Learning & Basic Education	**48,294**	**101,677**	**129,453**	**80,771**	**83,495**	**443,690**
Pre-Primary Education	11	365	393	538	558	1,866
Primary Education	287	1,304	1,018	938	818	4,365
Secondary Education	22,319	23,388	25,315	28,595	31,498	131,115
Inclusive Education	21	177	241	125	116	680
Teacher Education, Development & Management	20,184	70,716	100,056	50,066	50,056	291,078
Adult & Continuing Education	4,968	5,252	1,955	37	7	12,218
Quality Assurance & Standards	504	475	475	472	442	2,368
State Department of Vocational and Technical Training	**1,740**	**3,816**	**1,642**	**943**	**853**	**8,994**
Vocational & Technical Training	1,740	3,816	1,642	943	853	8,994
State Department of University Education	**872**	**1,836**	**2,154**	**1,572**	**1,512**	**7,945**
University Education	187	566	730	295	261	2,038
Science, Technology & Innovation	685	1,270	1,424	1,277	1,251	5,907
State Department of Post Training & Skills Development	**158**	**1,447**	**1,360**	**1,606**	**1,146**	**5,717**
Post-Training & Skills Development	158	1,447	1,360	1,606	1,146	5,717
State Department/ Sub-Sector	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**Total Cost**
Grand Total	**51,159**	**110,534**	**136,528**	**86,731**	**88,429**	**473,381**

Total (in Million Kenya Shillings)

State Department/ Sub-Sector	2018/19	2019/20	2020/21	2021/22	2022/23	Total Cost
All State Departments	**108**	**1,819**	**1,999**	**1,916**	**1,454**	**7,297**
Sector Governance & Accountability	75	1,187	1,223	1,195	1,093	4,773
Kenya National Qualifications Framework		45	95	30		170
Cross-Cutting & Contemporary Issues	33	587	681	691	361	2,354
State Department of Early Learning & Basic Education	**155,079**	**295,934**	**338,712**	**302,635**	**271,251**	**1,363,611**
Pre-Primary Education	2,331	20,172	25,400	19,470	11,765	79,139
Primary Education	4,898	60,069	66,620	79,362	47,483	258,431
Secondary Education	103,142	113,782	119,348	128,865	139,020	604,158
Inclusive Education	226	5,521	4,304	4,151	2,733	16,936
Teacher Education, Development & Management	39,010	89,542	118,882	68,892	68,882	385,206
Adult & Continuing Education	4,968	6,372	3,683	1,423	927	17,374
Quality Assurance & Standards	504	475	475	472	442	2,368
State Department of Vocational and Technical Training	**11,233**	**40,436**	**47,858**	**55,255**	**57,153**	**211,934**
Vocational & Technical Training	11,233	40,436	47,858	55,255	57,153	211,934
State Department of University Education	**81,086**	**91,782**	**97,003**	**100,836**	**106,224**	**476,931**
University Education	79,473	89,404	94,955	98,932	104,345	467,109
Science, Technology & Innovation	1,614	2,378	2,049	1,904	1,878	9,823
State Department of Post Training & Skills Development	**250**	**2,034**	**2,741**	**3,795**	**4,361**	**13,181**
Post-Training & Skills Development	250	2,034	2,741	3,795	4,361	13,181
Grand Total	**247,756**	**432,004**	**488,313**	**464,438**	**440,442**	**2,072,953**

ANNEX 2 : PROGRAM LEVEL ANNUAL COST PROJECTIONS

Development (in Million Kenya Shillings)

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
All State Departments		19	34	4	8	65
Sector Governance & Accountability		19	34	4	8	65
1 Efficiency and effectiveness in the delivery of education services		19	34	4	8	65
1.2 Human Resource Management in the Education Sector		15	15			30
1.3 Data Management in the Education Sector		4	19	4	8	35
State Department of Early Learning & Basic Education	3,875	62,825	71,092	75,711	41,270	254,774
Pre-Primary Education		10,705	15,705	10,705	5,705	42,820
1 Access & Participation		10,705	15,705	10,705	5,705	42,820
1.1 Universal Pre-Primary Education		5,705	10,705	5,705	705	22,820
1.2 Improve Health, Nutrition and Protection of Pre-primary Education learners		5,000	5,000	5,000	5,000	20,000
Primary Education	300	36,275	40,175	50,175	22,575	149,500
1 Access & Participation	300	1,075	1,075	1,075	1,075	4,600
1.1 Universal Primary Education	300	1,075	1,075	1,075	1,075	4,600
2 Equity & Inclusivity		1,200	2,100	2,100	1,500	6,900
2.1 Reduce disparities in access and retention to primary education		1,200	2,100	2,100	1,500	6,900
3 Quality & Relevance		34,000	37,000	47,000	20,000	138,000
3.3 Integrate ICT in teaching & learning in primary education		30,000	30,000	40,000	15,000	115,000
3.4 Enhance early talent identification under competency based primary education		4,000	7,000	7,000	5,000	23,000
Secondary Education	3,405	10,794	10,852	10,851	10,799	46,702
1 Access & Participation	3,055	10,444	10,502	10,501	10,449	44,952
1.1 Universal Secondary Education	3,055	10,444	10,502	10,501	10,449	44,952
2 Equity & Inclusivity	350	350	350	350	350	1,750
2.1 Reducing disparities in secondary education	350	350	350	350	350	1,750
Inclusive Education		3,800	2,510	2,460	1,121	9,891
1 Access & Participation		3,300	2,510	2,460	1,121	9,391
1.1 Progressive Transition to Inclusive Basic Education		2,370	1,590	1,480	151	5,591
1.2 Functional assessment and early intervention services in education and training		930	920	980	970	3,800
3 Quality & Relevance		500				500
2.2 Friendly Learning Environment for Inclusive Education		500				500
Teacher Education, Development & Management	170	170	170	170	170	850
3 Quality & Relevance	170	170	170	170	170	850
1.1 Pre-Service Teacher Training Reforms	170	170	170	170	170	850
Adult & Continuing Education		1,080	1,680	1,350	900	5,011
1 Access & Participation		1,080	1,680	1,350	900	5,011
1.1 Expand Learning Opportunities in ACE		1,080	1,680	1,350	900	5,011
State Department of Vocational and Technical Training	2,445	31,481	38,560	48,980	51,646	173,112
Vocational & Technical Training	2,445	31,481	38,560	48,980	51,646	173,112
1 Access & Participation	325	19,105	23,385	34,685	39,421	116,921

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
1.1 Infrastructure development and equipment of TVET	325	19,105	23,385	34,685	39,421	116,921
2 Equity & Inclusivity		5,250	7,750	7,750	5,175	25,925
2.1 Inclusive training in TVET		5,000	7,500	7,500	4,925	24,925
2.2 Talent Development and Mentorship		250	250	250	250	1,000
3 Quality & Relevance	2,120	7,126	7,425	6,545	7,050	30,266
3.1 Competency Based Education and Training (CBET) Curriculum Development	10	10	10	10	10	50
3.2 Trainer Management Services		600	900			1,500
3.4 TVET Research, Innovations, Technology Transfers, Entrepreneurship and Commercialization	2,100	3,000	3,000	3,000	3,000	14,100
3.5 ICT Integration in Curriculum Delivery		3,515	3,515	3,515	4,026	14,571
3.6 Greening Technology in TVET	10	1		20	14	45
State Department of University Education	16,400	19,025	18,775	17,775	17,525	89,500
University Education	15,600	18,225	18,475	17,475	17,225	87,000
1 Access & Participation	12,000	13,300	13,550	13,550	13,300	65,700
1.1 Expand infrastructure in all public universities	12,000	12,600	12,600	12,600	12,600	62,400
1.2 Improve retention, wellbeing and productivity of university students		700	700	700	700	2,800
1.4 Open, Distance and E-learning in University Education			250	250		500
3 Quality & Relevance	3,600	4,925	4,925	3,925	3,925	21,300
3.1 Human Resource capacity development for Public Universities		325	325	325	325	1,300
3.3 Develop Infrastructure and provide training equipment	3,600	4,600	4,600	3,600	3,600	20,000
Science, Technology & Innovation	800	800	300	300	300	2,500
1 Access & Participation	800	800	300	300	300	2,500
2.1 Develop infrastructure and provide state of art equipment to support ST&I	800	800	300	300	300	2,500
Grand Total	22,720	113,350	128,461	142,470	110,449	517,450

Recurrent (in Million Kenya Shillings)

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
All State Departments	13	42	46	73	22	196
Cross-Cutting & Contemporary Issues	13	42	46	73	22	196
1 Cross-cutting & Contemporary Issues and Value systems	13	42	46	73	22	196
1.1 Reduce violence, radicalization, extremism, drug and substance abuse	3	5	8	10	10	36
1.2 Mainstream Gender Issues in Education and Training at All Levels		2	3	3	2	10
1.3 Promote Education in Emergencies	10	10	10	10	10	50
1.6 Enhancing Mentorship, moulding and Nurturing of National Values		25	25	50		100
2 State Department of Early Learning & Basic Education	102,909	131,432	138,166	146,153	146,486	665,147
Pre-Primary Education	2,320	9,102	9,302	8,227	5,502	34,453
1 Access & Participation	1	2,283	2,283	2,283	2,283	9,133
1.2 Improve Health, Nutrition and Protection of Pre-primary Education learners	1	2,283	2,283	2,283	2,283	9,133
3 Quality & Relevance	2,294	6,744	6,944	5,894	3,194	25,070
2.1 Implement the Competency Based Curriculum for Pre-Primary education	1,000	3,000	1,400	500	500	6,400
2.2 Improve assessment of learning in Pre- Primary education	94	94	694	544	244	1,670

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
2.3 Strengthen the capacity of pre-primary Workforce	1,200	2,400	3,600	3,600	1,200	12,000
2.4 Improve pre- primary education standards and quality assurance		1,250	1,250	1,250	1,250	5,000
4 Governance & Accountability	25	75	75	50	25	250
3.1 Develop a multi-sectoral collaborations and linkages in the management of pre-primary education	25	75	75	50	25	250
Primary Education	4,311	22,490	25,426	28,250	24,090	104,567
2 Equity & Inclusivity	3,205	3,413	3,635	3,848	4,044	18,145
2.1 Reduce disparities in access and retention to primary education	3,205	3,413	3,635	3,848	4,044	18,145
3 Quality & Relevance	968	18,939	21,653	24,264	19,909	85,732
3.1 Curriculum Reforms in Primary Education	550	550	300	250	150	1,800
3.2 Assessment Reforms in Primary Education	59	5,430	5,434	5,434	5,434	21,791
3.3 Integrate ICT in teaching & learning in primary education	6	10,504	12,752	14,750	10,300	48,312
3.4 Enhance early talent identification under competency based primary education		2,013	2,071	2,079	1,837	8,000
5.1 Enhance National Volunteer Assistance Program	353	441	1,096	1,751	2,188	5,829
4 Governance & Accountability	138	138	138	138	138	690
4.1 Improve School Level Governance and Accountability	138	138	138	138	138	690
Secondary Education	77,418	79,600	83,180	89,419	96,723	426,341
1 Access & Participation	35,041	35,869	38,735	43,691	49,596	202,933
1.1 Universal Secondary Education	35,041	35,869	38,735	43,691	49,596	202,933
2 Equity & Inclusivity	3,485	4,591	4,940	5,491	6,137	24,644
2.1 Reducing disparities in secondary education	3,485	4,591	4,940	5,491	6,137	24,644
3 Quality & Relevance	38,892	39,139	39,505	40,237	40,991	198,764
3.1 Reform Secondary Education Curriculum	20,000	20,000	20,000	20,000	20,000	100,000
3.2 Reform Assessment Practices in Secondary Education				100	100	200
3.3 Provision of Teaching and learning resources in secondary schools	4,861	4,966	5,332	5,964	6,718	27,841
3.4 ICT Integration in Secondary Schools	13,998	13,998	13,998	13,998	13,998	69,990
3.5 Enhance STEM, Sports and Talent in secondary	33	175	175	175	175	732
Inclusive Education	205	1,544	1,553	1,566	1,495	6,364
1 Access & Participation		857	867	879	908	3,511
1.1 Progressive Transition to Inclusive Basic Education		798	807	819	829	3,253
1.2 Functional assessment and early intervention services in education and training		60	60	60	80	259
3 Quality & Relevance	205	687	687	687	587	2,853
2.1 Curriculum Adaptation for Inclusive Education	100	205	205	205	105	819
2.2 Friendly Learning Environment for Inclusive Education		375	375	375	375	1,498
2.3 Human Resource Development for Effective Inclusive Education	105	108	108	108	108	536
Teacher Education, Development & Management	18,656	18,656	18,656	18,656	18,656	93,278
3 Quality & Relevance	18,656	18,656	18,656	18,656	18,656	93,278
2.1 Recruitment of teachers for public primary and secondary schools	17,294	17,294	17,294	17,294	17,294	86,468
4.1 Enhance teacher professional development at cluster and school levels	1,362	1,362	1,362	1,362	1,362	6,810
Adult & Continuing Education		41	49	36	20	145
3 Quality & Relevance		41	49	36	20	145
2.1 Sustainable functional literacy		8	16	16		40
2.3 Integrate ICT in teaching, learning and assessment in adult and continuing education		33	33	20	20	105
State Department of Vocational and Technical Training	7,048	5,138	7,656	5,332	4,654	29,828

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
Vocational & Technical Training	7,048	5,138	7,656	5,332	4,654	29,828
1 Access & Participation	600	915	1,275	1,575	1,935	6,300
1.2 Rebranding and repositioning TVET	600	915	1,275	1,575	1,935	6,300
2 Equity & Inclusivity		143	144	144	144	574
2.1 Inclusive training in TVET		143	144	144	144	574
3 Quality & Relevance	6,448	4,081	6,237	3,613	2,575	22,953
3.2 Trainer Management Services	6,408	2,640	4,410	1,786	1,038	16,281
3.3 TVET Accreditation and Quality Assurance	40	40	40	40	40	200
3.5 ICT Integration in Curriculum Delivery		1,170	1,470	1,470	1,180	5,290
3.6 Greening Technology in TVET		231	317	317	317	1,182
State Department of University Education	63,814	70,921	76,075	81,490	87,187	379,487
University Education	63,686	70,614	75,750	81,162	86,860	378,071
1 Access & Participation		550	550	550	550	2,200
1.2 Improve retention, wellbeing and productivity of university students						
1.3 Increase access to SET Programs		100	100	100	100	400
1.4 Open, Distance and E-learning in University Education		450	450	450	450	1,800
2 Equity & Inclusivity	61,680	64,677	68,663	72,926	77,488	345,434
2.1 University Scholarships, Loans and Bursaries	61,680	64,127	68,113	72,376	76,938	343,234
2.2 Affirmative action for Disadvantaged groups		550	550	550	550	2,200
3 Quality & Relevance	2,006	5,387	6,537	7,686	8,821	30,437
3.1 Human Resource capacity development for Public Universities	2,000	3,318	4,468	5,617	6,767	22,170
3.2 Review of curriculum and Program delivery in Universities		2,050	2,050	2,050	2,035	8,185
3.3 Develop Infrastructure and provide training equipment	4	4	4	4	4	20
3.4 University Research and Community Service in Universities	2	15	15	15	15	62
Science, Technology & Innovation	129	307	325	327	327	1,416
1 Access & Participation	74	179	195	199	199	846
2.1 Develop infrastructure and provide state of art equipment to support ST&I		100	100	100	100	400
2.2 Improve Intellectual property Rights regimes of Science Technology & Innovation	9	9	9	9	9	45
2.3 Innovation, technology transfer and commercialization	65	70	86	90	90	401
2 Equity & Inclusivity	3	3	3	3	3	15
3.1 Promoting equitable and inclusive participation in Science Technology & Innovation	3	3	3	3	3	15
3 Quality & Relevance	52	125	127	125	125	555
1.1 Develop ST&I Human Resource Capacities	49	122	124	122	122	540
1.2 Strengthen Science, Technology, Engineering and Mathematics (STEM) in Education and Training	3	3	3	3	3	15
State Department of Post Training & Skills Development	92	587	1,381	2,189	3,215	7,464
Post-Training & Skills Development	92	587	1,381	2,189	3,215	7,464
3 Quality & Relevance	20	485	1,265	2,075	3,095	6,940
1.2 Work-Based Learning Services	20	485	1,265	2,075	3,095	6,940
4 Governance & Accountability	72	102	116	114	120	524
2.1 Enhance Governance and accountability	72	102	116	114	120	524
Grand Total	173,877	208,120	223,324	235,237	241,564	1,082,122

System Strengthening (in Million Kenya Shillings)

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
All State Departments	95	1,758	1,919	1,839	1,424	7,036
Sector Governance & Accountability	75	1,168	1,189	1,191	1,085	4,708
1 Efficiency and effectiveness in the delivery of education services	75	1,113	1,144	1,131	1,085	4,548
1.1 Improve Institutional Linkages in the Education sector		8	23	15		45
1.2 Human Resource Management in the Education Sector	3	1,011	1,031	1,033	1,005	4,083
1.3 Data Management in the Education Sector	24	39	35	35	37	170
1.4 Strengthening Devolved and Decentralized Education	48	56	56	48	43	250
2 Enhance policy formulation and implementation for effective education service delivery		46	36	48		130
2.1 Enhance the development and implementation of education policies		24	24	32		80
2.2 Enhance Partnerships, Collaborations and Linkages in Education and Training		22	12	16		50
3 Framework for Implementation of NESSP 2018-2022		9	9	12		30
3.1 Establish a Framework for Implementation of the NESSP 2018-2022		9	9	12		30
Kenya National Qualifications Framework		45	95	30		170
4 Governance & Accountability		45	95	30		170
1.1 Articulation of Kenya National Qualifications Framework (KNQF)		35	50	15		100
2.1 Quality assurance of national qualifications in education and training		10	45	15		70
Cross-Cutting & Contemporary Issues	20	545	635	618	339	2,158
1 Cross-cutting & Contemporary Issues and Value systems	20	545	635	618	339	2,158
1.1 Reduce violence, radicalization, extremism, drug and substance abuse		105	31	22	1	159
1.2 Mainstream Gender Issues in Education and Training at All Levels		94	84	80	44	302
1.3 Promote Education in Emergencies	12	18	16	10	0	56
1.4 Prevent HIV and AIDS Infections	2	205	312	314	203	1,036
1.5 Promote Education for Sustainable Development (ESD)	6	101	157	157	76	497
1.6 Enhancing Mentorship, moulding and Nurturing of National Values		23	36	35	15	109
State Department of Early Learning & Basic Education	48,294	101,677	129,453	80,771	83,495	443,690
Pre-Primary Education	11	365	393	538	558	1,866
1 Access & Participation	3	314	371	513	555	1,756
1.1 Universal Pre-Primary Education	3	314	371	463	555	1,706
1.2 Improve Health, Nutrition and Protection of Pre-primary Education learners				50		50
3 Quality & Relevance	8	26	22	15	3	75
2.1 Implement the Competency Based Curriculum for Pre-Primary education		10	8	2	3	24
2.2 Improve assessment of learning in Pre-Primary education				8		8

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
2.3 Strengthen the capacity of pre-primary Workforce	8	8	6	5		27
2.4 Improve pre- primary education standards and quality assurance		8	8			16
4 Governance & Accountability		25		10		35
3.1 Develop a multi-sectoral collaborations and linkages in the management of pre-primary education		25		10		35
Primary Education	**287**	**1,304**	**1,018**	**938**	**818**	**4,365**
1 Access & Participation		94	50			144
1.1 Universal Primary Education		94	50			144
2 Equity & Inclusivity		100	10			110
2.1 Reduce disparities in access and retention to primary education		100	10			110
3 Quality & Relevance	285	385	219	208	102	1,199
3.1 Curriculum Reforms in Primary Education	110	110	110			330
3.2 Assessment Reforms in Primary Education	173	171	39	132	22	537
3.3 Integrate ICT in teaching & learning in primary education		100	60	60	60	280
5.1 Enhance National Volunteer Assistance Program	3	4	10	16	20	53
4 Governance & Accountability	2	725	739	730	716	2,912
4.1 Improve School Level Governance and Accountability	2	725	739	730	716	2,912
Secondary Education	**22,319**	**23,388**	**25,315**	**28,595**	**31,498**	**131,115**
1 Access & Participation	30	85	45	45	45	250
1.1 Universal Secondary Education	30	85	45	45	45	250
2 Equity & Inclusivity		46	36	36	36	154
2.1 Reducing disparities in secondary education		46	36	36	36	154
3 Quality & Relevance	539	614	778	1,018	220	3,168
3.1 Reform Secondary Education Curriculum	409	409	408	408		1,633
3.2 Reform Assessment Practices in Secondary Education	120	115	310	550	165	1,260
3.3 Provision of Teaching and learning resources in secondary schools		15				15
3.4 ICT Integration in Secondary Schools	10	65	60	60	55	250
3.5 Enhance STEM, Sports and Talent in secondary		10				10
4 Governance & Accountability	21,750	22,643	24,457	27,496	31,197	127,543
4.1 Improve School Level Management	21,750	22,643	24,457	27,496	31,197	127,543
Inclusive Education	**21**	**177**	**241**	**125**	**116**	**680**
1 Access & Participation	21	38	138	28	26	251
1.1 Progressive Transition to Inclusive Basic Education		10	10			20
1.2 Functional assessment and early intervention services in education and training	21	28	128	28	26	231

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
3 Quality & Relevance		97	73	67	60	297
2.1 Curriculum Adaptation for Inclusive Education		18	18	5	5	46
2.2 Friendly Learning Environment for Inclusive Education		10	10	17	10	47
2.3 Human Resource Development for Effective Inclusive Education		69	45	45	45	204
4 Governance & Accountability		42	30	30	30	132
3.1 Advocacy, Partnership, Collaboration and Coordination		42	30	30	30	132
Teacher Education, Development & Management	20,184	70,716	100,056	50,066	50,056	291,078
3 Quality & Relevance	20,184	70,711	100,041	50,051	50,041	291,028
1.1 Pre-Service Teacher Training Reforms	20,170	20,570	50,000	50,000	50,000	190,740
3.1 Equitable and optimal utilisation of the teaching resource		50,015	50,000			100,015
4.1 Enhance teacher professional development at cluster and school levels	14	126	41	51	41	273
4 Governance & Accountability		5	15	15	15	50
5.1 Coordination in teacher education and professional development						
5.2 Teacher management, performance and accountability		5	15	15	15	50
Adult & Continuing Education	4,968	5,252	1,955	37	7	12,218
1 Access & Participation		20				20
1.1 Expand Learning Opportunities in ACE		20				20
3 Quality & Relevance	4,841	5,117	1,948	32	2	11,939
2.1 Sustainable functional literacy		254	234	30		517
2.2 Accelerated Curriculum for ACE (Primary & Secondary)	4,841	4,831	1,692			11,364
2.3 Integrate ICT in teaching, learning and assessment in adult and continuing education		32	22	2	2	58
4 Governance & Accountability	127	115	7	5	5	259
3.1 Strengthen ACE Management Structures	117	107				224
3.2 Advocacy and Publicity of ACE programs	10	8	7	5	5	35
Quality Assurance & Standards	504	475	475	472	442	2,368
4 Governance & Accountability	504	475	475	472	442	2,368
1.1 Review and align Quality Assurance and Standards to Competency Based Education	51	22	22	22	22	139
2.1 Mainstream quality assurance at School/ Institutional Level	453	453	453	450	420	2,229
State Department of Vocational and Technical Training	1,740	3,816	1,642	943	853	8,994
Vocational & Technical Training	1,740	3,816	1,642	943	853	8,994
1 Access & Participation	60	755	140	120	120	1,195
1.1 Infrastructure development and equipment of TVET		630				630
1.2 Rebranding and repositioning TVET	60	125	140	120	120	565

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
2 Equity & Inclusivity		335	515	15	5	870
2.1 Inclusive training in TVET		60				60
2.2 Talent Development and Mentorship		275	515	15	5	810
3 Quality & Relevance	1,464	2,284	641	422	352	5,162
3.1 Competency Based Education and Training (CBET) Curriculum Development	752	1,321	311	251	251	2,886
3.2 Trainer Management Services	190	389	195	105	55	934
3.3 TVET Accreditation and Quality Assurance	22	32	28	14	9	103
3.4 TVET Research, Innovations, Technology Transfers, Entrepreneurship and Commercialization	501	502	2	2	2	1,009
3.5 ICT Integration in Curriculum Delivery		35	105	45	35	220
3.6 Greening Technology in TVET		5		5		10
4 Governance & Accountability	216	443	347	387	377	1,768
4.1 Improve TVET Industry Linkage		136	135	135	30	436
4.2 Strengthen Institutional and Inter-Governmental Linkages in TVET	4	45			15	64
5.1 Public Financial Management in the TVET	212	262	212	252	332	1,268
State Department of University Education	872	1,836	2,154	1,572	1,512	7,945
University Education	**187**	**566**	**730**	**295**	**261**	**2,038**
1 Access & Participation	10	22	25	5	1	62
1.1 Expand infrastructure in all public universities		1	10	5	1	16
1.2 Improve retention, wellbeing and productivity of university students		6				6
1.3 Increase access to SET Programs	10	5				15
1.4 Open, Distance and E-learning in University Education		10	15			25
2 Equity & Inclusivity	7	14			10	31
2.1 University Scholarships, Loans and Bursaries		10			10	20
2.2 Affirmative action for Disadvantaged groups	7	4				11
3 Quality & Relevance	170	290	465	290	250	1,465
3.1 Human Resource capacity development for Public Universities			15			15
3.2 Review of curriculum and Program delivery in Universities	170	290	450	290	250	1,450
4 Governance & Accountability		240	240			480
4.1 Capacity building of University councils and Management		125	125			250
4.2 Governance and Accountability in Universities		115	115			230
Science, Technology & Innovation	**685**	**1,270**	**1,424**	**1,277**	**1,251**	**5,907**
1 Access & Participation	142	339	324	325	324	1,454
2.1 Develop infrastructure and provide state of art equipment to support ST&I	140	310	300	300	300	1,350

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
2.2 Improve Intellectual property Rights regimes of Science Technology & Innovation	2	9	4	5	4	24
2.3 Innovation, technology transfer and commercialization		20	20	20	20	80
2 Equity & Inclusivity	11	22	14	12	12	70
3.1 Promoting equitable and inclusive participation in Science Technology & Innovation	11	22	14	12	12	70
3 Quality & Relevance	470	835	890	875	910	3,980
1.1 Develop ST&I Human Resource Capacities		275	300	250	250	1,075
1.2 Strengthen Science, Technology, Engineering and Mathematics (STEM) in Education and Training	470	560	590	625	660	2,905
4 Governance & Accountability	62	75	195	65	5	402
4.1 Strengthen Governance and Accountability for ST&I	62	75	195	65	5	402
State Department of Post Training & Skills Development	158	1,447	1,360	1,606	1,146	5,717
Post-Training & Skills Development	158	1,447	1,360	1,606	1,146	5,717
3 Quality & Relevance	76	1,323	730	1,450	790	4,368
1.1 Work Place Readiness Services	50	248	232	384	224	1,137
1.2 Work-Based Learning Services	6	215	188	256	256	921
1.3 Post-Training Information Management	20	860	310	810	310	2,310
4 Governance & Accountability	82	124	631	156	356	1,349
2.1 Enhance Governance and accountability	82	114	80	55	55	386
2.2 Skills and Employment Database Management		10	551	101	301	963
Grand Total	51,159	110,534	136,528	86,731	88,429	473,381

Total (in Million Kenya Shillings)

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
All State Departments	108	1,819	1,999	1,916	1,454	7,297
Sector Governance & Accountability	75	1,187	1,223	1,195	1,093	4,773
1 Efficiency and effectiveness in the delivery of education services	75	1,132	1,178	1,135	1,093	4,613
1.1 Improve Institutional Linkages in the Education sector		8	23	15		45
1.2 Human Resource Management in the Education Sector	3	1,026	1,046	1,033	1,005	4,113
1.3 Data Management in the Education Sector	24	43	54	39	45	205
1.4 Strengthening Devolved and Decentralized Education	48	56	56	48	43	250
2 Enhance policy formulation and implementation for effective education service delivery		46	36	48		130
2.1 Enhance the development and implementation of education policies		24	24	32		80
2.2 Enhance Partnerships, Collaborations and Linkages in Education and Training		22	12	16		50
3 Framework for Implementation of NESSP 2018-2022		9	9	12		30
3.1 Establish a Framework for Implementation of the NESSP 2018-2022		9	9	12		30
Kenya National Qualifications Framework		45	95	30		170

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
4 Governance & Accountability		45	95	30		170
1.1 Articulation of Kenya National Qualifications Framework (KNQF)		35	50	15		100
2.1 Quality assurance of national qualifications in education and training		10	45	15		70
Cross-Cutting & Contemporary Issues	33	587	681	691	361	2,354
1 Cross-cutting & Contemporary Issues and Value systems	33	587	681	691	361	2,354
1.1 Reduce violence, radicalization, extremism, drug and substance abuse	3	110	39	32	11	195
1.2 Mainstream Gender Issues in Education and Training at All Levels		96	87	83	46	312
1.3 Promote Education in Emergencies	22	28	26	20	10	106
1.4 Prevent HIV and AIDS Infections	2	205	312	314	203	1,036
1.5 Promote Education for Sustainable Development (ESD)	6	101	157	157	76	497
1.6 Enhancing Mentorship, moulding and Nurturing of National Values		48	61	85	15	209
State Department of Early Learning & Basic Education	155,079	295,934	338,712	302,635	271,251	1,363,611
Pre-Primary Education	2,331	20,172	25,400	19,470	11,765	79,139
1 Access & Participation	4	13,302	18,359	13,501	8,543	53,709
1.1 Universal Pre-Primary Education	3	6,019	11,076	6,168	1,260	24,526
1.2 Improve Health, Nutrition and Protection of Pre-primary Education learners	1	7,283	7,283	7,333	7,283	29,183
3 Quality & Relevance	2,302	6,770	6,966	5,909	3,197	25,145
2.1 Implement the Competency Based Curriculum for Pre-Primary education	1,000	3,010	1,408	502	503	6,424
2.2 Improve assessment of learning in Pre- Primary education	94	94	694	552	244	1,678
2.3 Strengthen the capacity of pre-primary Workforce	1,208	2,408	3,606	3,605	1,200	12,027
2.4 Improve pre- primary education standards and quality assurance		1,258	1,258	1,250	1,250	5,016
4 Governance & Accountability	25	100	75	60	25	285
3.1 Develop a multi-sectoral collaborations and linkages in the management of pre-primary education	25	100	75	60	25	285
Primary Education	4,898	60,069	66,620	79,362	47,483	258,431
1 Access & Participation	300	1,169	1,125	1,075	1,075	4,744
1.1 Universal Primary Education	300	1,169	1,125	1,075	1,075	4,744
2 Equity & Inclusivity	3,205	4,713	5,745	5,948	5,544	25,155
2.1 Reduce disparities in access and retention to primary education	3,205	4,713	5,745	5,948	5,544	25,155
3 Quality & Relevance	1,253	53,324	58,872	71,472	40,010	224,931
3.1 Curriculum Reforms in Primary Education	660	660	410	250	150	2,130
3.2 Assessment Reforms in Primary Education	231	5,602	5,473	5,566	5,456	22,328
3.3 Integrate ICT in teaching & learning in primary education	6	40,604	42,812	54,810	25,360	163,592
3.4 Enhance early talent identification under competency based primary education		6,013	9,071	9,079	6,837	31,000
5.1 Enhance National Volunteer Assistance Program	356	445	1,106	1,767	2,208	5,881
4 Governance & Accountability	140	863	877	868	854	3,602
4.1 Improve School Level Governance and Accountability	140	863	877	868	854	3,602
Secondary Education	103,142	113,782	119,348	128,865	139,020	604,158
1 Access & Participation	38,127	46,399	49,282	54,237	60,090	248,135
1.1 Universal Secondary Education	38,127	46,399	49,282	54,237	60,090	248,135
2 Equity & Inclusivity	3,835	4,987	5,326	5,877	6,523	26,548
2.1 Reducing disparities in secondary education	3,835	4,987	5,326	5,877	6,523	26,548
3 Quality & Relevance	39,431	39,754	40,282	41,255	41,211	201,932
3.1 Reform Secondary Education Curriculum	20,409	20,409	20,408	20,408	20,000	101,633

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
3.2 Reform Assessment Practices in Secondary Education	120	115	310	650	265	1,460
3.3 Provision of Teaching and learning resources in secondary schools	4,861	4,981	5,332	5,964	6,718	27,856
3.4 ICT Integration in Secondary Schools	14,008	14,063	14,058	14,058	14,053	70,240
3.5 Enhance STEM, Sports and Talent in secondary	33	185	175	175	175	742
4 Governance & Accountability	21,750	22,643	24,457	27,496	31,197	127,543
4.1 Improve School Level Management	21,750	22,643	24,457	27,496	31,197	127,543
Inclusive Education	226	5,521	4,304	4,151	2,733	16,936
1 Access & Participation	21	4,195	3,515	3,367	2,056	13,154
1.1 Progressive Transition to Inclusive Basic Education		3,178	2,407	2,299	980	8,864
1.2 Functional assessment and early intervention services in education and training	21	1,018	1,108	1,068	1,076	4,290
3 Quality & Relevance	205	1,284	760	754	647	3,650
2.1 Curriculum Adaptation for Inclusive Education	100	223	223	210	110	864
2.2 Friendly Learning Environment for Inclusive Education		885	385	392	385	2,045
2.3 Human Resource Development for Effective Inclusive Education	105	177	153	153	153	740
4 Governance & Accountability		42	30	30	30	132
3.1 Advocacy, Partnership, Collaboration and Coordination		42	30	30	30	132
Teacher Education, Development & Management	39,010	89,542	118,882	68,892	68,882	385,206
3 Quality & Relevance	39,010	89,537	118,867	68,877	68,867	385,156
1.1 Pre-Service Teacher Training Reforms	20,340	20,740	50,170	50,170	50,170	191,590
2.1 Recruitment of teachers for public primary and secondary schools	17,294	17,294	17,294	17,294	17,294	86,468
3.1 Equitable and optimal utilisation of the teaching resource		50,015	50,000			100,015
4.1 Enhance teacher professional development at cluster and school levels	1,376	1,488	1,403	1,413	1,403	7,083
4 Governance & Accountability		5	15	15	15	50
5.1 Coordination in teacher education and professional development						
5.2 Teacher management, performance and accountability		5	15	15	15	50
Adult & Continuing Education	4,968	6,372	3,683	1,423	927	17,374
1 Access & Participation		1,100	1,680	1,350	900	5,031
1.1 Expand Learning Opportunities in ACE		1,100	1,680	1,350	900	5,031
3 Quality & Relevance	4,841	5,157	1,996	68	22	12,084
2.1 Sustainable functional literacy		262	250	46		557
2.2 Accelerated Curriculum for ACE (Primary & Secondary)	4,841	4,831	1,692			11,364
2.3 Integrate ICT in teaching, learning and assessment in adult and continuing education		65	55	22	22	163
4 Governance & Accountability	127	115	7	5	5	259
3.1 Strengthen ACE Management Structures	117	107				224
3.2 Advocacy and Publicity of ACE programs	10	8	7	5	5	35
Quality Assurance & Standards	504	475	475	472	442	2,368
4 Governance & Accountability	504	475	475	472	442	2,368
1.1 Review and align Quality Assurance and Standards to Competency Based Education	51	22	22	22	22	139
2.1 Mainstream quality assurance at School/ Institutional Level	453	453	453	450	420	2,229
State Department of Vocational and Technical Training	11,233	40,436	47,858	55,255	57,153	211,934
Vocational & Technical Training	11,233	40,436	47,858	55,255	57,153	211,934
1 Access & Participation	985	20,775	24,800	36,380	41,476	124,416
1.1 Infrastructure development and equipment of TVET	325	19,735	23,385	34,685	39,421	117,551

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
1.2 Rebranding and repositioning TVET	660	1,040	1,415	1,695	2,055	6,865
2 Equity & Inclusivity		5,728	8,409	7,909	5,324	27,369
2.1 Inclusive training in TVET		5,203	7,644	7,644	5,069	25,559
2.2 Talent Development and Mentorship		525	765	265	255	1,810
3 Quality & Relevance	10,032	13,491	14,303	10,579	9,976	58,380
3.1 Competency Based Education and Training (CBET) Curriculum Development	762	1,331	321	261	261	2,936
3.2 Trainer Management Services	6,598	3,629	5,505	1,891	1,093	18,715
3.3 TVET Accreditation and Quality Assurance	62	72	68	54	49	303
3.4 TVET Research, Innovations, Technology Transfers, Entrepreneurship and Commercialization	2,601	3,502	3,002	3,002	3,002	15,109
3.5 ICT Integration in Curriculum Delivery		4,720	5,090	5,030	5,241	20,081
3.6 Greening Technology in TVET	10	237	317	342	331	1,237
4 Governance & Accountability	216	443	347	387	377	1,768
4.1 Improve TVET Industry Linkage		136	135	135	30	436
4.2 Strengthen Institutional and Inter-Governmental Linkages in TVET	4	45			15	64
5.1 Public Financial Management in the TVET	212	262	212	252	332	1,268
State Department of University Education	81,086	91,782	97,003	100,836	106,224	476,931
University Education	79,473	89,404	94,955	98,932	104,345	467,109
1 Access & Participation	12,010	13,872	14,125	14,105	13,851	67,962
1.1 Expand infrastructure in all public universities	12,000	12,601	12,610	12,605	12,601	62,416
1.2 Improve retention, wellbeing and productivity of university students		706	700	700	700	2,806
1.3 Increase access to SET Programs	10	105	100	100	100	415
1.4 Open, Distance and E-learning in University Education		460	715	700	450	2,325
2 Equity & Inclusivity	61,687	64,691	68,663	72,926	77,498	345,465
2.1 University Scholarships, Loans and Bursaries	61,680	64,137	68,113	72,376	76,948	343,254
2.2 Affirmative action for Disadvantaged groups	7	554	550	550	550	2,211
3 Quality & Relevance	5,776	10,602	11,927	11,901	12,996	53,202
3.1 Human Resource capacity development for Public Universities	2,000	3,643	4,808	5,942	7,092	23,485
3.2 Review of curriculum and Program delivery in Universities	170	2,340	2,500	2,340	2,285	9,635
3.3 Develop Infrastructure and provide training equipment	3,604	4,604	4,604	3,604	3,604	20,020
3.4 University Research and Community Service in Universities	2	15	15	15	15	62
4 Governance & Accountability		240	240			480
4.1 Capacity building of University councils and Management		125	125			250
4.2 Governance and Accountability in Universities		115	115			230
Science, Technology & Innovation	1,614	2,378	2,049	1,904	1,878	9,823
1 Access & Participation	1,016	1,318	819	824	823	4,800
2.1 Develop infrastructure and provide state of art equipment to support ST&I	940	1,210	700	700	700	4,250
2.2 Improve Intellectual property Rights regimes of Science Technology & Innovation	11	18	13	14	13	69
2.3 Innovation, technology transfer and commercialization	65	90	106	110	110	481
2 Equity & Inclusivity	14	25	17	15	15	85
3.1 Promoting equitable and inclusive participation in Science Technology & Innovation	14	25	17	15	15	85
3 Quality & Relevance	522	960	1,017	1,000	1,035	4,535
1.1 Develop ST&I Human Resource Capacities	49	397	424	372	372	1,615
1.2 Strengthen Science, Technology, Engineering and Mathematics (STEM) in Education and Training	473	563	593	628	663	2,920

State Department/ Sub-Sector/ Thematic Area/ Program	2018/19	2019/20	2020/21	2021/22	2022/23	Total
4 Governance & Accountability	62	75	195	65	5	402
4.1 Strengthen Governance and Accountability for ST&I	62	75	195	65	5	402
State Department of Post Training & Skills Development	250	2,034	2,741	3,795	4,361	13,181
Post-Training & Skills Development	**250**	**2,034**	**2,741**	**3,795**	**4,361**	**13,181**
3 Quality & Relevance	96	1,808	1,995	3,525	3,885	11,308
1.1 Work Place Readiness Services	50	248	232	384	224	1,137
1.2 Work-Based Learning Services	26	700	1,453	2,331	3,351	7,861
1.3 Post-Training Information Management	20	860	310	810	310	2,310
4 Governance & Accountability	154	226	747	270	476	1,873
2.1 Enhance Governance and accountability	154	216	196	169	175	910
2.2 Skills and Employment Database Management		10	551	101	301	963
Grand Total	247,756	432,004	488,313	464,438	440,442	2,072,953

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