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Status of Children in Kenya: Linking Budgets to Performance Outcomes

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THE KENYA INSTITUTE FOR PUBLIC POLICY RESEARCH AND ANALYSIS (KIPPRA)

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Kenya Institute for Public Policy
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Executive Summary

Childhood is a critical period for the development of both social and human capital and forms a firm foundation for preparing inclusive and sustainable societies. It is estimated that 40 per cent of the world population is composed of children, and developing countries continue to capture an increasing share. In Kenya, for instance, the Kenya Population and Housing Census (KPHC) 2019 put the population of children aged 0-17 years at 51 per cent. Evidence suggests high returns on investment on children particularly when policy interventions are aimed at enhancing the inclusivity of children, particularly the disadvantaged, in the provision of social services. This signifies that the issues of children need to be critically addressed through policy, planning, and budgeting. The paper presents an analysis of children's sensitive spending status in the context of public finance management for children, and linkages between spending and the performance of key outcome indicators in socio-economic well-being, health, nutrition, education, child protection, and water and sanitation (WASH) sectors.

The national budget allocation to health increased from Ksh 36 billion in 2013/14 to Ksh 62 billion in 2017/18. This accounts for an increase in allocation as a share of total government budget of 2.7 per cent from 5.5 per cent in 2013/14 to 8.2 per cent in 2017/18. In 2017/18, 49 per cent of the allocation went to recurrent activities while 51 per cent went to development activities. Less than half of the counties, 23 out of 47 counties, in the period between 2013/14 and 2017/18 had complied with the Public Finance Management (PFM) Act 2012, which requires that the national and county governments allocate a minimum of 30 per cent of their annual budgets to development spending.

The health sector budget was comparatively higher than that of other child-sensitive sectors in most counties with an average absorption rate of above 80 per cent throughout the period under review. Linkages between health sector spending and outcomes appear to be weak, with disparities in access to child and maternal health services decreasing in some counties; maternal and under 5 mortality rate (U5MR) remained higher than international and national targets as set in the Sustainable Development Goals (SDGs) 2030 and the Medium-Tem Plan (MTP) III of the Kenya Vision 2030, and there were disparities in equitable access to maternal and child health services across counties. This reflects the need for national and county governments to develop strategies for institutionalizing a results-based financing framework for the sector.

The results show that for pre-primary education, the share of total county budget allocation increased marginally from 7.4 per cent in 2014 to 7.5 per cent at the end of the period under review. Though gross enrolment over the period increased,

net enrolment decreased from 71.8 per cent to 63.5 per cent in 2018. Secondary and primary school enrolment indicators generally improved during the review period, a situation that can be attributed to the subsidization of the programmes through free primary and day secondary education. Even though pre-primary education is part of basic education and is expected to be free and compulsory, learners at this level do not benefit from capitation grants as is the case for primary and secondary education. National government and County governments could provide policy and per capita guidelines for pre-primary free schooling and ring-fence adequate resources especially by the counties whose mandate this falls, to support this programme.

There exists a framework for investment in child protection in the country; however, a few counties seem to have budget lines specific to child protection in the years leading up to 2017/18. The country's allocation to child protection declined between 2016/17 and 2017/18 from Ksh 8.994 billion to Ksh 8.497 billion during the review period. There was an increase in number of cases reported across all child protection indicators. However, reporting of these indicators remained a challenge in many counties. Inadequacy in micro-level data for the sector poses challenges to designing and implementing programmes and projects. There is need to enhance the human and capital capacity of county and national governments implementing agencies to conduct effective monitoring and evaluation of child protection initiatives.

With regard to Water, Sanitation and Hygiene (WASH), the overall counties' budget spending increased from Ksh 14.5 billion in 2014/15 to the highest of Ksh 20.5 billion in 2016/17 but declined to Ksh 16 billion in 2017/18, resulting in improvement in various WASH indicators. Improvements were observed in the following indicators: county population within service areas of water service providers (WSP), water coverage by utilities, sewerage coverage, and the number of toilet facilities. Non-water revenue, however, remains a major challenge within the sector and has increased by 3 per cent since 2014. There is need for the country to put in place initiatives to reduce non-revenue water to minimize losses and increase water access coverage. Increased investment in WASH by allocating more resources towards the construction and development of water infrastructure resources and supporting key initiatives such as community lead total sanitation is critical.

Abbreviations and Acronyms

AAAA	Addis Ababa Action Agenda
ANPPCAN	African Network for the Prevention and Protection Against Child Abuse and Neglect
ACRWC	African Charter on the Rights and Welfare of the Child
BOM	Board of Management
CBC	Competence-Based Curriculum
CEC	County Executive Committee
CoK	Constitution of Kenya
ECDE	Early Childhood Development Education
FGM/C	Female Genital Mutilation and Cutting
FP	Family Planning
FY	Financial Year
GAPPD	Global Action Plan on Pneumonia and Diarrhoea
GCP	Gross County Product
HIV/AIDS	Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome
KCO	Kenya Country Office
KESHP	Kenya Environmental Sanitation and Hygiene Policy
KESSF	Kenya Environmental Sanitation and Hygiene Strategic Framework
KICD	Kenya Institute of Curriculum Development
KNEC	Kenya National Examinations Council
LDCs	Least Developed Countries
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MTP	Medium Term Plan
NESCRA	National Environmental Sanitation Coordinating and Regulatory Authority

NGEC	National Gender and Equality Commission
NGOs	Non-Governmental Organizations
NHIF	National Health Insurance Fund
NRW	Non-Water Revenue
NTDs	Neglected Tropical Diseases
OSR	Own Source Revenue
PWDs	Persons with Disabilities
PFM	Public Finance Management
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
SDGs	Sustainable Development Goals
SGBV	Sexual and Gender Based Violence
STIs	Sexually Transmitted Infections
TGB	Total Government Budget
TSC	Teachers Service Commission
UHC	Universal Health Coverage
UNCRC	United Nations Convention on the Rights of the Child
VTC	Vocational Training Centre
WASH	Water, Sanitation, and Hygiene
WASREB	Water Services Regulatory Board
WRA	Water Resources Authority

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1. Introduction

Children[1] constitute more than 40 per cent of the world population, and an increasing and substantial share of the population in developing countries. In 2018, nearly 20 per cent of children lived in Least Developed Countries (LDCs) compared with 1990 when this proportion was only 12 per cent. This trend is likely to continue, changing the demographic structures of many developing countries. The resulting demographic dividend provides major opportunities for future growth but requires countries to prioritize public investments in child-focused programmes. Further, whether nations, Kenya included, will grow and prosper in future years depends highly on whether its people, including children are healthy and educated (UNICEF, 2012).

Kenya's population is estimated at 47.6 million (KNBS, 2020), with children[2] aged 0-17 years accounting for 51 per cent of the total population. Among the children population are adolescents aged 10-19 years who constitute about 24 per cent of the country's total population. The proportion of children in the total population of each of the 47 Kenyan counties is projected to constitute about 50 per cent by 2025, with Nairobi taking the largest share (KNBS, 2020). The high proportion of children and youth implies that national and county governments must invest in children-related programmes and services to minimize negative social and economic consequences in the future. This requires prioritized investments not only for children through such sectors as health, nutrition, education, child protection, water and sanitation but also youth and women-related programmes given their implications to children's socio-economic performance outcomes.

The Constitution of Kenya, under Article 53 (1) (the Bill of Rights), provides for the rights of children including the right to basic nutrition, health care, parental care, quality basic education and shelter. However, the country has over time experienced high cases of child mortality (52 deaths per 1000 live births) and infant mortality (39 deaths per 1000 live births). In addition, at least one in every four children are still not getting full immunization, and the proportion of children below 5 years who are delivered at home is still high, at an average of 37.4 per cent. This presents the implementation gaps of Section 9 of the Children Act (2001), which entitles every child to health and medical care, by responsible persons, including parents and the government.

Further, both pre- and post-natal nutrition plays a key role in the health of a child. This has, however, not obtained sufficient attention despite the campaigns of sensitizing counties to have direct nutrition interventions and budgets. The

1 Defined as those aged 24 years and younger. The United Nations Population Division estimated that in 2015, 42% of the world's population were 24 years or younger, and 31% of the world's population were 17 years or younger.

2 A child is any person aged less than 18 years (Constitution of Kenya, 2010).

counties still lack a clear budgetary allocation to nutrition. This has also been emphasized in the Constitution of Kenya, under Article 53 (1) (the Bill of rights), on the rights of children to have basic nutrition, health care and parental care. Children continue to experience high cases of malnutrition depicted by stunted growth (26%), wasted growth (4%), and at least one in every 10 children are underweight. This presents implementation demand on the MTP III plans, which focus on food security and scaling up the rollout of High Impact Nutrition Interventions (HINI).

Basic education is important in the growth and development of capabilities among children. Chapter 4 Articles 43 (1(f)), 53(1(b)), 54, and 56(1(b)), of the Kenyan constitution outlines children's right to free and compulsory basic education, including quality education services, and access to educational institutions and facilities for children with disabilities, to the extent that is compatible with the needs of the child. The Kenya Vision 2030 blueprint also has the goal of enhancing efficiency and effectiveness of education services; transparency and accountability as a way of increasing children's access to education. Despite increased budgetary allocations to education, there was unsatisfactory participation in schooling. Net enrolment rates (NER) in the pre-primary schools was recorded at 70.4 per cent in 2014 and 77.2 per cent in 2018. NER for primary education was 88.2 per cent in 2014 and 82.4 per cent in 2018. Secondary education NER was 47.4 per cent in 2014 and 53.2 per cent in 2018. This implies about 17.6 per cent and 46.8 per cent of primary and secondary school age children were out of school in 2018. It is therefore important to assess the progress of children and their access to education in Kenya while considering disparities across counties.

Child protection is at the core of the socio-economic development of any nation. Despite moving from a low-income country to a lower-middle-income country, about 41.5 per cent of the country's children are monetary poor and live below the poverty line. In addition to this, child labour is prevalent in sectors such as commercial agriculture, street hawking and domestic workers (KNBS, 2018). Other practices still prevalent in the country include female genital mutilation where young girls and women still undergo female genital mutilation (FGM) (Government of Kenya, 2018). Early marriages, in which almost a quarter of young girls are married off before reaching a legal consent age of 18 years, is a challenge, and about 4 per cent of the children are married before 15 years.

Water, Sanitation, and Hygiene (WASH) have implications of child well-being and forms part of the priority areas of the 2030 Sustainable Development Goals (SDGs), Kenya's Vision 2030, medium-term plans and county development plans. Water Sanitation and Hygiene (WASH) services are integral in the provision of Universal Health Care (UHC) and an essential foundation for averting

communicable diseases. Delivery of WASH services acts as a primary barrier to disease transmission. Lack of improved sanitation poses a risk of physical abuse and sexual violence to girls and women, especially those who are involved in water collection. Consequently, this study will address the status of children in Kenya with a specific focus on targeted sectors' budgetary spending and related performance outcomes while exploring related policy interventions. It will also establish how public spending correlates with the selected children indicators. Target child sensitive sectors include health, nutrition, education, child protection, water, sanitation and hygiene. This assessment is undertaken both at the national and county government levels for enhanced regional equity analysis.

Why invest in children?

Investing in children is critical for the promotion of equitable and sustainable development. This is recognized in global, regional, and national conventions, agreements, and policies. As an example, the Addis Ababa Action Agenda (AAAA) recognizes that 'investing in children is critical to achieving inclusive, equitable and sustainable development for present and future generations (UN, 2015). The AAAA goes beyond earlier financing agreements (Doha and Monterrey) to treat children as active agents of future growth and development, rather than passive recipients of social assistance. The Agenda also includes various additional commitments for children under the new social compact; future support to youth employment and the promotion of national strategies; in education; in support of the human rights of girls (Article 78) and migrants (Article 112); and access to technology and science for youth and children (Article 114).

Further, there are strong cross-sectoral links between early investments in a child (in health and nutrition, education, access to water and sanitation, and social protection interventions) and the overall development of not only the child but society in general. For instance, delays in children's cognitive and overall development can lead to immensely larger public health and education sectors costs in the future. Indeed, the cost of child undernutrition to Kenya's economy for instance was estimated at Kshs 373.9 billion, which represented a loss of 6.9 per cent of the Gross Domestic Product (GDP) in 2014[3]. The child development delays are also associated with under-investment in child health and nutrition before and after birth, which may lead to poor brain development and cognitive ability. In a nutshell, it makes economic sense to invest in children.

Despite this fact, most children in Kenya (about 87%) live under one or multiple deprivations based on the findings of the Multi-Dimensional Child Poverty report

3 Cost of Hunger in Africa (COHA) Kenya Case Study Report (2019).

(UNICEF, 2016). The proportion of children living under severe deprivation of their basic rights including health, water, housing, and sanitation was estimated at 45 per cent equivalent to 9.5 million children. The condition of children is particularly deplorable in the growing urban informal settlements, which expose residents including children to increased shocks, stresses, and vulnerabilities. The vulnerabilities are in turn associated with high levels of deprivations (including poverty, poor nutrition, vulnerability to HIV; low access to sanitation, shelter, clean water, health and education); street children families; violence against children, criminality, insecurity, and radicalization.

The focus on children is also predicated on the observation that issues affecting them may not be adequately addressed in terms of policy, planning, and budgeting processes. In Kenya, child-sensitive budgeting concept is relatively new and relative to other types of budgeting, requires adequate attention. UNICEF (2007) defines a child-sensitive budget as one that reflects the realization of children's rights. Specifically, it is a budget that adequately addresses the rights of children such as health, education, nutrition, child protection, well-being, and elimination of poverty and all socio-economic deprivations including WASH. The goal of such a budget is to prioritize children and other socially vulnerable groups in the public expenditure system.

Another compelling reason to focus on children is the rights-based approach to development. The government, as a duty bearer, has an obligation to bequeath children with their rights. In this respect, the Constitution of Kenya 2010 and the Kenya Vision 2030 are guiding instruments for the provision of social services by all stakeholders, including National and County governments, the private sector, and civil society. In the Constitution, every Kenyan has a right to: quality education; clean and safe water; the highest attainable standard of health; and social security. The Constitution of Kenya is complemented by other instruments including the Children Act of 2001, which stipulates that the government shall take steps to maximize its available resources to progressively achieve the constitutional rights of children. It also makes provisions for non-discrimination and protection from: child labour; armed conflict; abuse; harmful cultural rites; sexual exploitation; drugs; and torture and deprivation of liberty. These provisions are in line with Agenda 2030 (SDGs) and provisions made in 1989 UN Convention on the Rights of the Child (UNCRC), and the African Charter on the Rights and Welfare of the Child (ACRWC), which Kenya has signed and ratified. However, there is limited evidence of the social and economic performance indicators on children in Kenya.

The broad objective of this study was to assess the status of children in Kenya with a specific focus on budgetary spending in child-sensitive sectors and related performance outcomes while exploring effectiveness of related policy frameworks.

The specific objectives were to:

i) Assess the status of children in Kenya with a specific focus on budgetary spending on children sensitive sectors and related performance indicators that can be used to monitor the status of children; and

ii) Review policy and legislative frameworks dealing with issues of children in Kenya.

The paper is organized as follows. In the next section 2, we focus on the methodology followed by status of county economies and spending in the context of children in section 3. Section 4 presents analysis on children health and nutrition; section 5 focuses on children and education; section 6 covers child protection; section 7 water, sanitation and hygiene and section 8 covers summary of recommendations and policy action areas.

2. Methodological Approaches

2.1 Framework of Analysis

The study adopted a rights-based approach to development in the analysis. As indicated above, every child has a right to nutrition, health care, parental care, quality basic education and shelter as enshrined in the Sustainable Development Goals (SDGs) (2030); Constitution of Kenya (2010); the Kenya Vision 2030; Medium-Term Plan (MTP III) and County Integrated Development Plans (CIDPs, 2018-2022). The analyzed indicators and policy targets were therefore gleaned from the various policy documents across the selected sectors. The index frameworks included a series of indicators that together measure a country's policy and actions towards greater child outcomes.

2.2 Data Sources

The study utilized data, indicators and information from national and county governments' sources. County officers responsible for planning, budgeting, and programme implementation were trained in 2019 on children, youth, women, and Persons with Disabilities' (PWDs) sensitive planning and budgeting. During the training sessions, they provided county data on their budget status for the period 2014/15 to 2017/18. The counties also provided policies and legislative frameworks each county was utilizing with regard to planning and budgeting for children. This data and information were used to establish the current status of budgeting for the children while providing the policies to be reviewed alongside those at the national level. The county and existing survey datasets were complemented by public data sources from relevant Ministries, Departments, and Agencies.

In addition, there were various indicators captured in various surveys with a view to measuring the status of children. These indicators include immunization coverage, under-5 and maternal mortality, adolescent pregnancies and health status, child labour activities, and social protection status, among others. Some of these indicators were contained, for example, in the demographic and health surveys. The indicators, data and policies provided a framework for monitoring the status of children in the country. Table 1 presents a list of selected indicators analyzed and that can be used to monitor the status of children.

Table 1: Selected indicators for monitoring children performance

Child Health and Nutrition	Definition and Measurement
i. Neonatal mortality rate (per 1,000 live births)	The probability that a child born in a specific year or period will die during the first 28 completed days of life if subject to age-specific mortality rates of that period, expressed per 1000 live births. *= (Number of children who died during the first 28 days of life) / (Number of live births (years of exposure)) × 1000 live births* The data is collected after 3-5 years based on the frequency of surveys; i.e. household surveys.
ii. Infant mortality rate (per 1,000 live births)	The probability that a child born in a specific year or period will die before reaching the age of 1 year, if subject to age-specific mortality rates of that period, expressed as a rate per 1000 live births. *= (Number of children who died before their first birthday) / (Number of live births (years of exposure)) × 1000 live births* The data is collected after 3-5 years based on the frequency of surveys; i.e. household surveys.
iii. Under-five mortality rate (per 1,000 live births)	The probability of a child born in a specific year or period dying before reaching the age of 5 years, if subject to age-specific mortality rates of that period, expressed per 1000 live births. *= (Number of children who died aged 0-4 years (0-59 months)) / (Number of live births (years of exposure)) × 1000 live births* The data is collected after 3-5 years based on the frequency of surveys; i.e. household surveys.
iv. Maternal mortality ratio (per 100,000 live births)	The annual number of female deaths from any cause related to or aggravated by the pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100,000 live births, for a specified period. *= (Number of maternal deaths) / (Number of live births) × 100,000 live births* The data is collected after 5 or more years based on the frequency of surveys; i.e. household surveys.
v. Deliveries attended by a skilled provider (%)	Percentage of live births attended by skilled health personnel during a specified period. That is, the number of births attended by doctors, nurses, or midwives trained in providing life-saving obstetric care, including giving the necessary supervision, care, and advice to women during pregnancy, childbirth, and the postpartum period, to conduct deliveries on their own, and to care for newborns. *= (Number of births attended by skilled health personnel) / (Total number of live births in the same period)* The data is collected on a routine facility information system; however, household surveys are preferred.

vi. Antenatal care coverage (At least four visits)	Percentage of women aged 15–49 years with a live birth in a given period who received antenatal care, four times or more. *= (Number of women aged 15-49 years with a live birth who received ANC 4 times or more)/(Number of women aged 15-49 years with a live birth in the same period)* The data is collected from routine facility reports or during surveys.
x. Children under 6 months exclusively breastfed (%)	Percentage of infants 0–5 months of age (<6 months) who are fed exclusively with breast milk. *= (Number of infants 0-5 months (<6 months) who are exclusively breastfed) / (Total number of infants 0-5 months of age surveyed)* The data is collected through the household surveys after 3-5 years.
Nutrition Indicators	
vii. Stunted children under-five (%)	Percentage of stunted (moderate and severe) children aged 0–59 months. (Moderate = height-for-age below -2 standard deviations from the WHO Child Growth Standards median; severe = height-for-age below -3 standard deviations from the WHO Child Growth Standards median). *= (Number of children aged 0-59 months who are stunted) / (Number of children aged 0-59 months who were measured)* The data is collected during the population-based household surveys in the nutrition modules after 3-5 years.
viii. Wasted children under-five (%)	Percentage of wasted (moderate and severe) children aged 0–59 months. (Moderate = weight-for-height below -2 standard deviations of the WHO Child Growth Standards median; severe = weight-for-height below -3 standard deviations of the WHO Child Growth Standards median). *= (Number of children aged 0-59 months who are wasted) / (Number of children aged 0-59 months who were measured)* The data is collected during the population-based household surveys in the nutrition modules after 3-5 years.
ix. Underweight children under-five (%)	Percentage of children aged under 5 years whose weight-for-age is below -2 standard deviations of the WHO Child Growth Standards median. *= (Number of children aged 0-59 months who are underweight) / (Number of children aged 0-59 months who were measured)* The data is collected during the population-based household surveys in the nutrition modules after 3-5 years.
Note: Definitions according to World Health Organization (WHO).	

Pre-primary; primary and secondary school education sector performance indicators	
Indicators	**Definition and Measurement**
i) Gross enrolment ratio (%) by gender	The gross enrolment ratio is measured as the number of boys and girls regardless of the age of a particular level of education that are enrolled in that level of education (pre-primary, primary, secondary), expressed as a percentage of the total population in that age group. For example, the pre-primary education gross enrolment ratio constitutes of learners regardless of age that are enrolled in pre-primary education expressed as a percentage of the total population in pre-primary age group.
ii) Net enrolment ratio (%) by gender	The net enrolment ratio is measured as the number of boys and girls of the age of a particular level of education that are enrolled in that level of education (pre-primary, primary, secondary), expressed as a percentage of the total population in that age group. For example, the pre-primary education net enrolment ratio (is the number of boys and girls of pre-primary school age (4-5 years) that are enrolled in pre-primary education, expressed as a percentage of the total population in that age group. The primary school age is 6-13 years while secondary school age is 14-17 years.
iii) School size (Public) (Pupils) (Average)	Average school size is measured as the total number of learners in a school.
iv) Gender parity index (value)	Gender parity index is the ratio of girls to boys enrolled in any given level of education.
v) Pupil-teacher ratio (No.) (Public)	The pupil-teacher ratio entails the number of learners divided by the total number of teachers in a school.
vi) Proportion of enrolment in private schools (%)	The proportion of enrolment in private schools is the share of learners in private schools at a given level of education expressed as a percentage of the total number of students enrolled in a given level of education.
Source: UNESCO Institute of Statistics Glossary (accessed in 2020)	
Child protection indicators	**Definition and measurement**
i) Monetary poor children	The proportion of children aged between 0-17 years living in households operating below the poverty line divided by the total households sampled during the study period.
ii) Children working in conditions that fall within the definition of the worst forms of child labour	The total number of children in any form of labour during the study period.

iii) Prevalence of physical violence experienced before age 18	The total number of children who had been physically abused during the study period.
iv) Prevalence of emotional violence experienced before age 18	The total number of children who had been emotionally abused during the study period.
v) Prevalence of sexual violence experienced before age 18	The total number of children who had been sexually abused during the study period.
vi) Female genital mutilation/ cutting	The total number of girls who have undergone FGM divided by the total sample size during the study period.
vii) Child trafficking, abduction, and kidnapping	Total number of children who have been trafficked, abducted, and kidnapped in a given period
viii) Child neglect and abandonment	The total number of children who have been neglected and abandoned during the study period.
ix) Multi-dimensionally poor children	The proportion of multi-dimensionally poor children between 0-17 years in the study period.
WASH Indicators	
i) County population within service areas of water service providers (WSPs) (%)	The total number of households with access to WSPs against the total population with access to WSPs during the study period.
ii) Water coverage by utilities (%)	Percentage of the population with access to water services against the total population under the utility during the study period.
iii) Non-revenue water (NRW) (%)	The difference between the amount of water supplied through the water distribution system and that billed to customers.
iv) Sanitation coverage within utility area (%)	Total number of households in the sample with access to sanitation utility divided by the total number of households in the sample during the study period.
v) Sewerage coverage (%)	Total number of households in the sample with access to sewer system source divided by total number of households in the sample.
vi) Access to improved water (%)	Total number of households in the sample with access to an improved water source divided by total number of households in the sample.

vii) Access to improved sanitation (%)	Total number of households in the sample with access to any facility listed as improved sanitation source divided by the total number of households in the sample during the study period.
viii) No toilet facility – potential open defecation county-wide (%)	The total number of households with no toilet facility divided by the number of households in the sample during the study period.

Data Sources: Government of Kenya, UNICEF, and Global Affairs Canada (2015); KDHS 2008/09, KDHS 2014, WHO, 2017; MOE (2014, 2015, 2016)

2.3 Approach for Computation of Children Indices

The study computed five separate indices namely health index, nutrition index, education index, child protection index and WASH index. The broad steps in computing each of the five indices were as follows.

1. The process began by identifying indicators (as indicated in Tables 1 above) which were used to compute sub-indices.
2. Where necessary, indicators were transformed to measure incremental values from 0 to 100 per cent. At all times, 0 was adjusted to be the worst performance. As an example, lower values of underweight children suggest an improvement in performance and 0 per cent underweight would be the best score. This was transformed to have 0 as the worst score by subtracting the percentage score from 100 per cent.
3. Thereafter the indices were adjusted based on national targets for each indicator. As a result, a variable score equivalent to the national target was transformed to a score of 100 per cent.

In cases where there were numerous indicators, the Principal Components Analysis (PCA) technique using Stata Software was used to identify indicators to be included in the computation of indices for each of the four sectors under study[4]. The PCA technique begins with the inclusion of all factors that influence health, such as mortality rate indicators and clinical preventive services indicators. This was followed by a process of identifying insignificant variables and adjusting the initially associated variables into fewer uncorrelated variables. Among the advantages of the PCA technique is that it generates scores for multiple dimensions.

Finally, the weighted data for each of the variables that explain the components were aggregated to determine the sub-indices for each component. The composite health index, for instance, is a sum of the standardized sub-indices, assuming

4 Health, Nutrition, Education, Social Protection and WASH PCA results are presented in Annex Table 1.

equal weights. The hypothetical value of health index lies between 0 and 100, while that of composite indicators lies between zero and derived maximum score. The specific approach used to compute the indices for each sector variable is discussed below.

2.3.1 Health index

The approach and assumptions adopted by the study in the computation of the health index are outlined as follows: Where necessary, the indicators for health values were all adjusted to measure improvement from 0 to 100 per cent. The selected indicators comprised of skilled delivery (%), ever breastfed (%), fully immunized (%), life expectancy (years), infant mortality rate, under-5 mortality, and neonatal mortality. The calculation considered the specific indicator targets provided by WHO, SDGs, and the Kenya Vision 2030 targets as the base by equating them to the possible attainable maximum index score of 100 per cent. The index score for each health indicator was then converted to a maximum of 100 per cent, and the overall health index was arrived at by taking the average of the total indices for the respective counties. The health index for a county was measured as:

Health index = $(x) / (Specific\ Indicator\ target) \times 100$ where x is the indicator score for the county

The health indicators were obtained from Kenya Demographic Health Survey 2014.

2.3.2 Nutrition index

The indicators included in the computation of this index were: the percentage of children who were wasted, stunted and underweight, the proportion of children aged 6 to 59 months who received Vitamin A supplement and the proportion of children consuming adequately iodized salt. The calculation considered the specific indicator targets provided in the SDG and the Kenya Vision 2030 as the base by equating them to the possible attainable maximum index score. The maximum index score was arrived at by equating the national targets to 100 per cent to compute the index for each variable using the current values for nutrition indicators. The index was computed as:

Nutrition index = $(100-x) / (100-Target) \times 100$ where x is the indicator score for the county

The data source includes the Demographic Health Survey of 2014.

2.3.3 Education index

The selected indicators comprised the net enrolment ratio (%) and gender parity index value for pre-primary, primary, and secondary education using 2018 data. The calculation considered the specific indicator targets and norms outlined in the SDGs and the Kenya Vision 2030 targets as the base by comparing them to the possible attainable maximum index score. The index score was arrived at by equating the national targets to the maximum score of 100 per cent to establish the indices for each indicator using the current status. The index score for each education indicator was then converted to 100 per cent, and the overall education index was arrived at by taking the average of the total indices for the respective counties.

Education index = *(x) / (Specific Indicator SDG target) × 100* where *x* is the indicator score for the county.

2.3.4 Child protection index

In estimating child protection index, the indicators used were: the proportion of monetary poor children aged 0-17 years; the proportion of multi-dimensionally poor children 0-17 years; the total number of children who had been sexually abused; the total number of children who had been neglected and abandoned; the total number of children who had been trafficked, abducted or kidnapped; total number of children in child labour; and the total number of children who had been emotionally abused. The index score was arrived at as shown below:

Child protection index = *(Max no.of cases - x) / (Max no.of case) × 100)* where *x* is the indicator score for the county.

From the index, counties with the highest score in the indicators mean that they are performing well in that particular indicator, whereas counties with a score further away from the maximum score mean they were performing poorly in that particular indicator.

2.3.5 WASH index

The indicators used in computing the WASH index included: the proportion of households with access to improved water; the proportion of households with access to improved sanitation; and the proportion of households with toilet facilities. The index score for each respective county was computed as:

WASH index = *(100 - x) / Target × 100* where *x* is the indicator score for the county

In the next section, we focus on the status of county economies and spending in the context of children.

3. State of County Economies and Spending in Context of Children

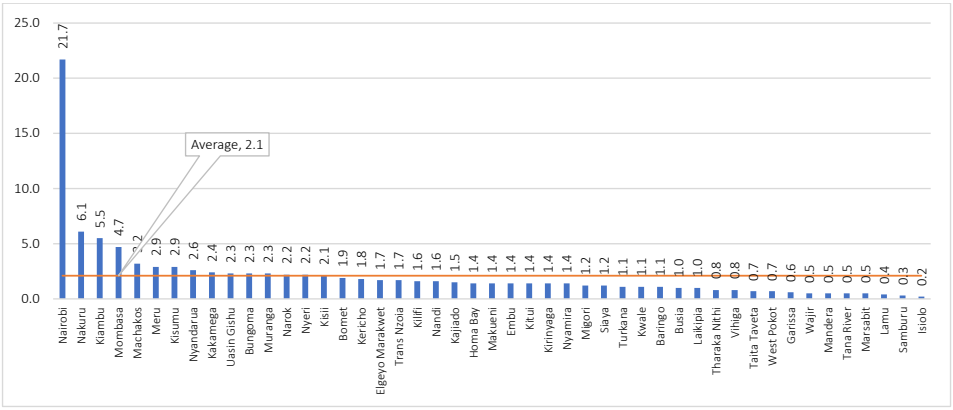
The budget system in Kenya integrates children-related budgets under child-related programmes in diverse but broader sectors. This study therefore used proxy data from the county budget documents, since it was not possible to isolate the specific budget for child-related programmes. Based on the impact of economic status of a county or country, the study reviewed the economic growth of the counties and their overall budget performance and how it affects the health status of a child.

3.1 Gross County Product Growth

On aggregate, Kenya's economy grew by 4.9 per cent in 2017 and 5.7 per cent in 2018. The counties' average contribution to Gross Domestic Product in Kenya recorded an annual average rate of 2.1 per cent between 2013 and 2017, while the contribution to Gross Domestic Product (GDP) varied across counties during the same period. On average, there are significant differences in the size of economy across counties. Urban counties – Nairobi (21.7%), Nakuru (6.1%), and Mombasa (4.7%) – made large contributions to the national GDP (Figure 1). This indicates large disparities in the size of GCP across the counties but also elevates the uniqueness in each of these units in tackling the pressing needs of reducing poverty and promoting inclusive growth.

Further, only 14 counties (barely a quarter) contributed more than the average of 2.1 as presented in Figure 1. This also denotes disparities across counties, but also elevates the opportunity that devolved system of governance could tackle. Isiolo, Samburu, and Lamu counties have consistently recorded the lowest contribution of GCP to the GDP since the onset of devolution and, as a result, the status of children in these counties still remains low. However, following the different measures outlined in the respective development plans, these counties have shown greater potential with a faster rate of growth over time but also potential for catch-up; this has the potential of improving the status of children in the counties.

Figure 1: Counties' average GCP contribution to Gross Domestic Product in Kenya (2013-2017) (%)



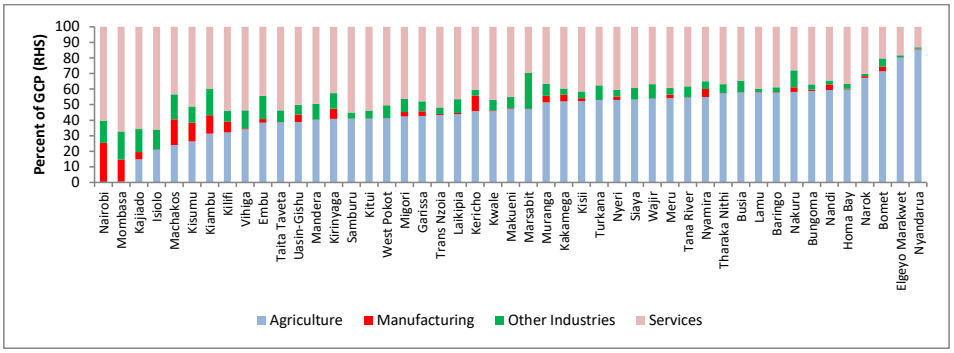
Source: KNBS statistics 2019

The county economies remain heavily reliant on agriculture. With the exception of Nairobi City, Mombasa, and Kajiado, agricultural activities account for at least 20 per cent of GCP for all the other counties. Nyandarua and Elgeyo Marakwet have agriculture contributing 85 per cent and 80 per cent to the economy and about 22 counties having agriculture contributing more than 50 per cent (Figure 2). Only Nairobi City and Machakos had the manufacturing sector contributing above 15 per cent of GCP with respective rates of 25 per cent and 16 per cent. There remains untapped opportunities for the manufacturing sector, which contributed less than 1 per cent to GCP in counties such as Isiolo, Vihiga, Taita Taveta, Mandera, Samburu, Kitui, West Pokot, Tana River, Wajir, Turkana, Tharaka Nithi, Lamu, and Baringo. Mombasa County has the highest contribution of the services sector, accounting for 67.3 per cent to the GCP under the review period.

Research has shown that over-reliance on agriculture poses risk to countries due to erratic climatic conditions, lack of improved methods of farming and fluctuation in prices of agricultural produce. The physical risks posed by climate change are 'high' or 'extreme' in 85 per cent of the world's most agriculturally dependent countries, leaving their economies vulnerable to shocks and countries supply chains open to disruption.[5] This poses the same risks of poor nutrition status to a child and lack of education because of the inability of a parent to finance education costs.

5 https://reliefweb.int/report/world/study-africa-s-agriculturally-dependent-nations-facing-highest-costs-climate-change-key.

Figure 2: Structure of the county economies, 2013-2017 (% of GCP) (%)



Source: KNBS (2019) statistics

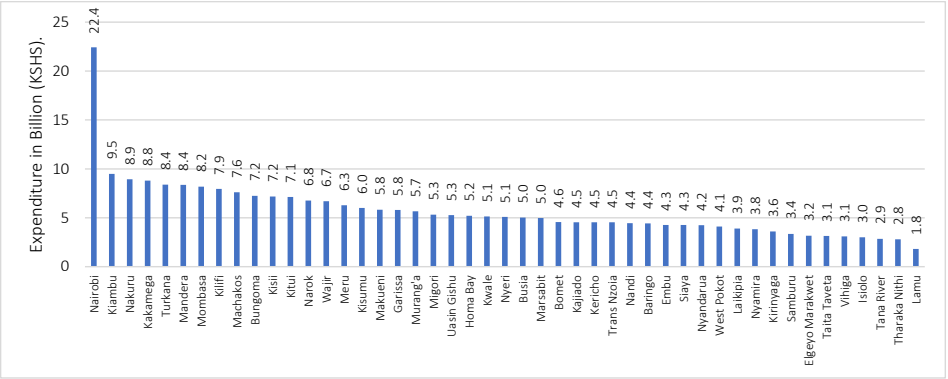
Economic growth is expected to alter child welfare in several ways. Growth is associated with an increase in the financial resources of households and hence improved child well-being. Indirectly, governments can use the additional tax revenue that comes from growth to provide services that benefit children and young people. Economic growth can also change the nature of risk events to which households and children are exposed (such as vulnerability to price increases or loss of livelihood). Nevertheless, while growth can improve the quality of life for poor households, there is a wide variation in how improvements are distributed. There is evidence that children living in poverty experience worse health outcomes; child poverty also contributes to poor health outcomes during adulthood. Children have low levels of access to health care services, while others may suffer from inadequate nutrition, which can contribute to physical health problems.

3.2 Overall Budget Performance

The national nominal annual spending increased from Ksh 169 billion in 2013/14 to Ksh 303 billion in 2017/18. Nairobi City County had consistently recorded the largest expenditure relative to all the counties, with an average of Ksh 22.4 billion between 2013/14 and 2017/18, increasing by Ksh 6.8 billion from 2013/14. Kiambu, Nakuru, Kakamega, Turkana, Mandera, and Mombasa counties all recorded expenditures on average above Ksh 8 billion between the same period. Lamu, Tharaka Nithi, and Tana River spent the least amount of Ksh 1.8 billion, 2.8 billion, and 2.9 billion, respectively, on average during the review period (Figure 3). Though spending increased in all counties during the period, it increased by the most in Nairobi, Mandera, and Kitui at Ksh 6.8 billion, Ksh 6.1 billion, and Ksh 5.7 billion. The increase was, however, the lowest in Trans Nzoia, Homa Bay, and Vihiga at Ksh 1.2 billion, Ksh 1.1 billion, and Ksh 218 million. As expenditure

increases in the counties, the key sectors vital for development of a child, such as health, education, nutrition, social protection and WASH also increases. For instance, in education, the non-salary allocation to the basic education programme is 21.7 per cent of the education budget. This includes funding for the country's free primary schooling at 1,420 shillings per student and free secondary school education programme at 22,244 shillings per student[6].

Figure 3: County government average nominal spending between 2013/14 and 2017/18 (Ksh billion)



Source: Office of the Controller of Budget (2013-2018 reports)

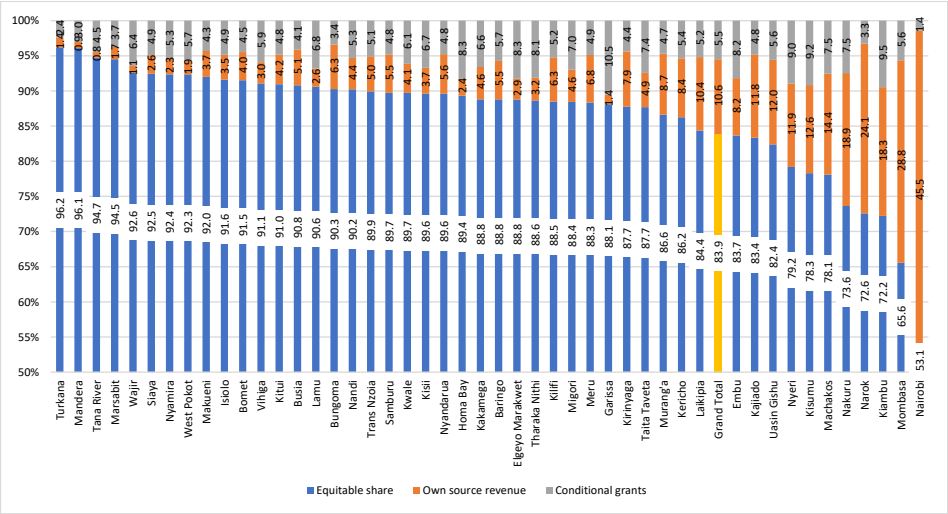
This spending is heavily dependent on national government transfers across all the counties, accounting on average 83.9 per cent of county spending across the counties between 2013/14- and 2017/18. Nairobi City County generated the largest share of own-source revenue (OSR), on average contributing 45.5 per cent to the total budget during the review period, followed by Mombasa with 28.8 per cent and Narok with 24.1 per cent. Perhaps this is because Nairobi and Mombasa have a large manufacturing base and population and hence can generate substantial OSR while Narok's OSR can be attributed to the tourism attractions and demand in the county. Turkana, Mandera, Marsabit, Tana River, Wajir, and Garissa generated less than 2 per cent own source revenue on average in the same period, receiving the largest share from equitable shares. Garissa, Kiambu and Kisumu counties received the largest share of conditional grants between 2013/14 and 2017/18, each accounting for 10.5 per cent, 9.5 per cent, and 9.2 per cent of the total budget in the period (Figure 4).

Given the limited revenue-raising powers, majority of counties will continue to rely on transfers from the national government for the near future since those counties were collecting OSR below their potential. Enhancing efforts to accelerate revenue mobilization would create more fiscal space to accommodate social sector

6 https://theconversation.com/where-kenya-is-spending-money-on-education-and-whats-missing-119393.

spending. Additionally, enhancing OSR reduces over-reliance on conditional grants, which are more often than not unreliable, and its usage is constrained to a specific programme. For instance, nutrition programmes in Kenya are largely funded through conditional grants, and since the grants only cover specific counties for a specific period of time, the counties have consistently failed to have a reliable budget line as discussed in the nutrition section.

Figure 4: Counties' average revenue composition (%) for the period 2013/14- 2017/18



Source: Office of the Controller of Budget (2013-2018) reports

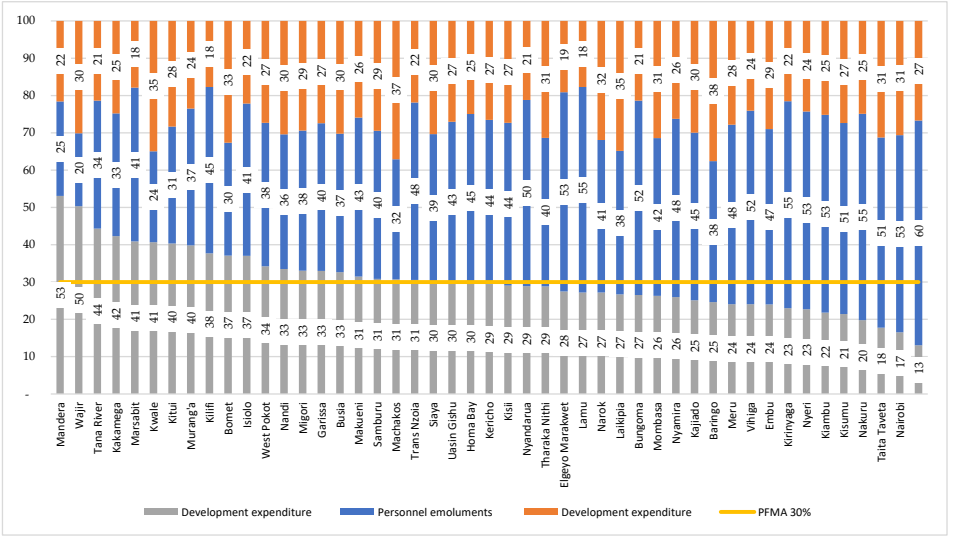
The total development expenditure by counties in Kenya has increased from Ksh 36.55 billion in 2013/14 to Ksh 103 billion in 2015/16 and 2016/17 before decreasing to Ksh 66.9 billion. On average, in the period between 2013/14 and 2017/18, the counties had an allocation of development expenditure accounting for 30 per cent of all the expenditures in the counties during the review period. In the same period, 23 counties observed the Public Finance Management (PFM) Act 2012 provision that puts a ceiling on development spending at a minimum of 30 per cent of total budget (Figure 5). Nairobi City and Taita Taveta counties had the least at 13 per cent and 17 per cent, respectively (Figure 5).

The counties recurrent expenditure was dominated mainly by wages, and operations and maintenance. Nairobi City County had the largest recurrent share of the total budget at an average of 60 per cent for 2013/14 and 2017/18, followed by Kisumu, Embu and Elgeyo Marakwet counties all recording an average of 55 per cent. This leaves only 13 per cent and less than 30 per cent of the respective income available for development. Only 8 counties observed the 2015 regulation,

which requires that not more than 35 per cent of the county's total revenue will go to payment of wages and salaries in actual spending (Figure 5).

Despite having a budgeting line for specific programmes such as health and education, the personnel emoluments accounts for the largest share of budgeting, leaving a constrained allocation for development programmes that ought to support development spending for children in terms of education and health. For instance, in the Ministry of Education, the Teachers' Service Commission, whose mandates includes hiring and managing teaching staff at primary, secondary schools and tertiary colleges, receives over 50 per cent of the education budget, out of which over 85 percent goes to pay salaries for teachers and trainers. This implies that only half of the education budget is left to finance the expansion and improvement access and quality of education.

Figure 5: Average county government spending, economic classification, 2013/14 - 2017/18



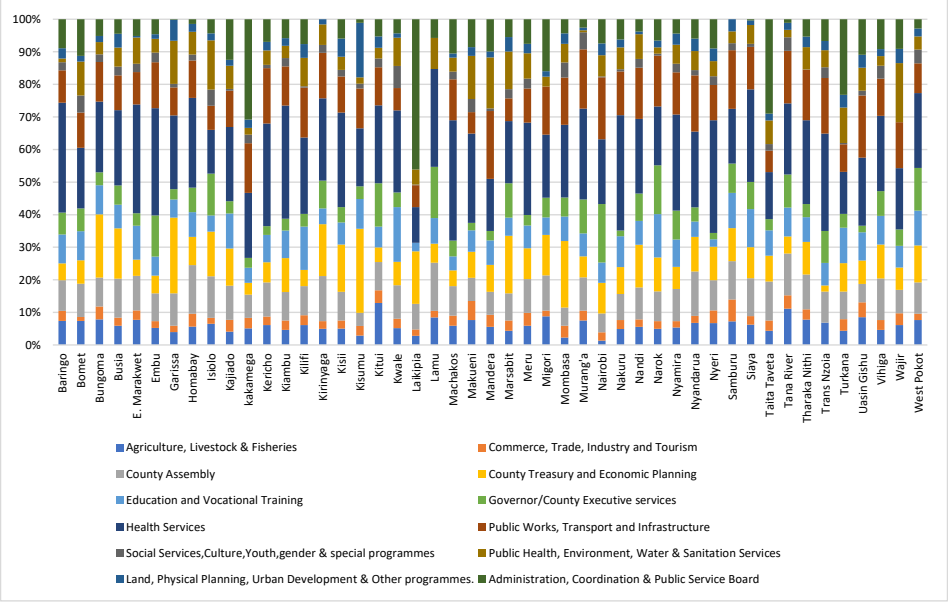
Source: Office of the Controller of Budget (2013-2018) reports

In various counties, the majority of the county budget in the period under review went to at least seven (7) sectors or departments, which received over 80 per cent of the total budget. Health services spending on average accounts for the largest share of the total spending at 24 per cent or a quarter of the total spending in the period under review (2013/14-2017/18). This can be attributed to devolution of primary health care services. Public works transport and infrastructure was second, accounting for 12 per cent while governance (county assembly, county treasury, and officer of the governor) cumulatively accounted for an average of 10 per cent of the total spending by all the counties. Education sector (ECD and

VTCs) accounted for 8 per cent, agriculture, livestock, and fisheries benefited with 6 per cent, commerce, trade, industry, and tourism received 3 per cent of the total spending with water and sanitation, social services, culture youth and gender accounting for 7 per cent and 2 per cent, respectively (Figure 6).

Despite a higher spending priority on health and education sectors and departments that support the development of child capacity both in terms of physically development and academic enhancement, some other crucial departments that facilitate the success of children in those sectors in terms of access to good health and quality education received minimal financial allocation. For instance, a few counties did not have a stand-alone budget line for nutrition and social protection. Further, departments that are crucial to status of health in the counties, such as WASH, received minimal allocation (less than 5% of the total budget spending). These departments equally need to be resourced in the counties to improve the status of children.

Figure 6: Counties average spending priorities by economic classification for 2013/14 - 2017/18



Source: Office of the Controller of Budget (2013-2018) reports

In the next section, we focus on the status of children in the context of policy and legislative frameworks, performance indicators in health and nutrition, education, child poverty and protection, and WASH and implications of sector spending.

4. Child Health and Nutrition

4.1 Overview

This section highlights the status of child health in Kenya with a key focus on child and maternal health and nutrition. The policy frameworks and legislation that supports health and nutrition are discussed, including their implications on children. Additionally, the progress of key child health indicators is also discussed, both at the national and county level. The child health indicators include the under-5 mortality rate, HIV/AIDS knowledge and sexual behaviour among adolescents, and child nutrition indicators, based on the Kenya Demographic and Health Survey 2014. Besides, this section provides a discussion on the progress in maternal health and nutrition indicators with a key focus on maternal mortality rate and maternal nutrition indicators based on the Kenya Demographic and Health Survey 2014. In the financing sub-section, the trend in budget allocation and expenditure is discussed, and more so the relationship between spending per capita and key maternal and child health indicators. Finally, an index around the dispersion from the expected target is computed to gauge the totality of the status of the health status of children. The section also sought to assess the impact of health expenditure on the performance of the child and maternal health indicators; reviewed emerging issues related to child and maternal health; and presents recommendations based on findings of the analysis.

4.2 Health and Nutrition Legal and Policy Frameworks and Implications on Children

Globally, the specific health indicators and targets have been emphasized in the 2030 Agenda on Sustainable Development Goals (SDGs) and the Updated 2016-2030 Global Strategy for Women's, Children's and Adolescent's Health. SDG 3 seeks to ensure healthy lives and promote well-being for all at all ages. Under this goal, the specific child health targets include reducing the global maternal mortality ratio to less than 70 per 100,000 live births, neonatal mortality to at least 12 per 1,000 live births, and under-5 mortality to at least 25 per 1,000 live births by 2030. The goal also targets to reduce premature mortality from non-communicable diseases by one third through prevention and treatment and to achieve universal health coverage by 2022. Reproductive health-care, information, and education also form part of this goal. These commitments call for early investments in children for improved health outcomes of the population.

The counties' collective effort of ensuring every newborn, mother, and child survives, thrives, and transforms is supported by the updated 2016-2030 Global

Strategy for Children's and Adolescent's Health, which focuses on achieving the highest attainable standard of health for all children and adolescents. The push to reduce the global maternal mortality to less than 70 per 100,000 live births, reduce under-5 mortality to at least 25 per 1,000 live births, reduce newborn mortality to at least 12 per 1,000 live births, reduce premature mortality from non-communicable diseases by a third, and end epidemics such as malaria, tuberculosis and HIV is provided under objective one of the strategy. The drive to end all forms of malnutrition, ensure universal health coverage and access to reproductive and sexual health-care services, and reduce pollution-related illnesses and deaths is guided by the second objective of the strategy. The third objective aims at eradicating extreme poverty, ensuring free, quality, and equitable education; eliminating all forms of discrimination and harmful practices against girls and women; and providing legal identity for all.

The Government of Kenya has also made provisions in coverage for child health services a priority as is reflected in the Constitution (2010), Children Act, 2001, the Health Sector Strategic and Investment Plan 2014-18, and the Kenya Vision 2030. Article 53 of the 2010 Constitution of Kenya (CoK) recognizes the need for all children to be provided with basic rights including the right to nutrition, health care, and parental care, education, and shelter. The CoK also entitles every child to quality health care, including free immunization, vaccination, and de-worming at any public hospital, and free annual medical checkups at any public hospital for any child below the age of five years. The CoK also maps out the following as responsibilities of counties: training the formal and informal community-based midwives and health care providers in basic maternal and child health services; provision of adolescent-friendly reproductive health services; and sexual health information and education. These responsibilities are in the offices of the County Executive Committee Member (CEC Member) and the board in consultation with government institutions and other bodies. This is aimed at improving antenatal and post-natal care for both children and women, which will ultimately contribute to the realization of SDGs 3 and 5, and Kenya's Vision 2030.

In addition, the health sector has been prioritized in Kenya's Vision 2030 and its implementation frameworks. The Vision's social pillar aims at ensuring that the population is healthy and productive. Under the Medium-Term Plan III and the "Big 4" agenda, the country seeks to implement the following projects relevant to children's health: Universal Health Care, Health Insurance Subsidy Programme for Orphans and Vulnerable Children; Linda Mama Project to cover 1.36 million mothers and babies by 2022; and scaling up nutrition interventions at the community level. There are many other programmes under the Kenya Vision 2030 that directly support the development and health of children. These

include the school feeding programme, Home Grown School Meals Programmes (HGSMP), provision of school-based health and enhancement of the provision of sanitary towel programme and school milk programme, which to date has not yet been re-introduced as it was planned.

In the legislative realm, the provision of health services to children in Kenya is mainly governed by the Health Act No. 21 of 2017. One of its main objectives is to protect, respect, promote, and fulfill the rights of children to basic nutrition and health services as stipulated in Articles 43 Section 1(c) and 53 Section 1(c). The provisions mandate the State to ensure the realization of health-related rights and interests of vulnerable groups, including children. The Children's Act No. 12 of 2012 echoes this. In particular, it requires that national and county governments ensure the provision of free and compulsory vaccination for children under five years and the implementation of comprehensive programmes on neonatal and child health. Further, it requires the State to put in place interventions to promote a healthy lifestyle of children through, in part, countering exposure of children to health risks.

The protection of children from child labour, armed conflict, harmful cultural rites that are likely to harm the physical and mental aspect of child's health is provided for under the Children's Act No. 12 of 2001. It also allows for the establishment of a National Council for Children's Services. The council has a member whose responsibility is to deal with health-related challenges affecting children. The National Hospital Insurance Fund (NHIF) Act No. 9 of 1988 has also made provisions for the financial protection of children under the guardian's benefits package.

As a guiding framework for reducing infant and child mortality, the country has developed the 2016 Kenya Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) Investment Framework. The framework guides towards the realization the Kenya Vision 2030, the Constitution of 2010 and the Health Sector Strategic and Investment Plan 2018-23 and Sustainable Development Goals (SDGs). The framework is developed in line with Article 24 of the UNCRC and Article 14 of the ACRWC outlining strategies in line with: diminishing infant and child mortality; provision of necessary medical assistance and health care to all children with an emphasis on the development of primary health care; combating disease and malnutrition; ensuring pre and post-natal health care for mothers; promoting access to education and the use of basic knowledge of child health and nutrition; and developing preventive health care programmes. To create impact, evidence-based and proven targeted interventions are to be implemented at the community, first, secondary, and tertiary level health facilities.

Enhanced child nutrition is key to the improvement of health outcomes. The Kenya National Food and Nutrition Security Policy 2011 utilizes the life cycle approach to nutrition improvement. It therefore outlines strategies for maternal and newborn nutrition; early childhood nutrition; late childhood nutrition; and adolescent nutrition. The government has also put in place the Breast Milk Substitutes (Regulation and Control) Act No. 34 (2012), which regulates marketing and distribution of breast milk substitutes to provide for safe and adequate nutrition for infants. The Food Security Bill, 2017 bestows the responsibility of child nutrition on both national and county governments. It further stipulates that the national and county governments shall collaborate with stakeholders to establish and implement programmes. In line with pregnant and lactating mothers, it stipulates that every woman has the right to adequate food during pregnancy and lactating.

The outputs of child health budgeting and planning include budgetary information on health, analysis of sectoral budgetary trends and re-prioritization towards children health; indicators for examining and assessing re-prioritization of government expenditure towards healthcare delivery to children; suggestions for improvement in healthcare delivery to children; and involvement by non-State actors in the budgetary debate in health sector and areas affecting children.

But challenges remain in the legislative, legal, and policy framework. Some of the key challenges faced in the legal and policy frameworks include:

a) Slow or sluggish implementation of policies and laws, which is attributed to gaps or lack of comprehensiveness in content and delayed enactment. Examples are the Child Act and the Sexual Offences Act, which experienced long delays in their enactment.

b) Weak coordination and harmonization among actors at the national and county levels. This is usually attributed to gaps in legislation and in some cases overlapping mandates of institutions leading to compromised effectiveness of the interventions.

c) Inadequate resources is a key challenge and interventions such as child protection are short of human and other resources leading to ineffective interventions. As examples, there are hardly enough rescue centres and social workers in most counties. In addition, budgetary resources are hardly provided to cover the proposed interventions. This has been attributed to lack of legislation that makes provision for the establishment of shelters for various victims including neglected children.

d) Limited technical capacity and weaknesses in capability of personnel. This is aggravated by re-deployment of staff while paying little attention to their

technical abilities. This usually leads to loss of technically endowed staff and affects effective implementation of interventions such as gender-based violence and child labour.

e) Lack of a mechanism to monitor and evaluate the implementation processes. Absence of or ineffective frameworks makes the implementation of interventions difficult.

4.3 Health and Nutrition Budget and Expenditure

4.3.1 Health budget and expenditure

Budget allocation and spending in Kenya under the period of study was guided by the Medium-Term Plan II for the period 2013-2017. The programmes prioritized under the health sector included: scaling up community health high impact interventions; improving access to referral systems; constructing model level 4 hospitals; providing health care subsidies for social health protection; re-engineering human resource for health; developing policies, guidelines, and legal frameworks to guide the process of procurement and quality of drugs; establishing E-health hubs in 58 health facilities; mainstreaming research and development in health; and promoting health tourism.

4.3.2 National health allocation and expenditure

The national health budget allocation still falls short of the Abuja Declaration target of 15 per cent despite an upward trend in allocation. The national budget allocation to health increased from Ksh 36 billion in 2013/14 to Ksh 62 billion in 2017/18. This accounts for an increase in allocation as a share of the total government budget (TGB) of 2.7 per cent from 5.5 per cent in 2013/14 to 8.2 per cent in 2017/18. In the 2017/18, 49 per cent of the allocation went to recurrent activities while 51 per cent went to development activities (Kahuthu, Muchiri and Njoroge, 2019).

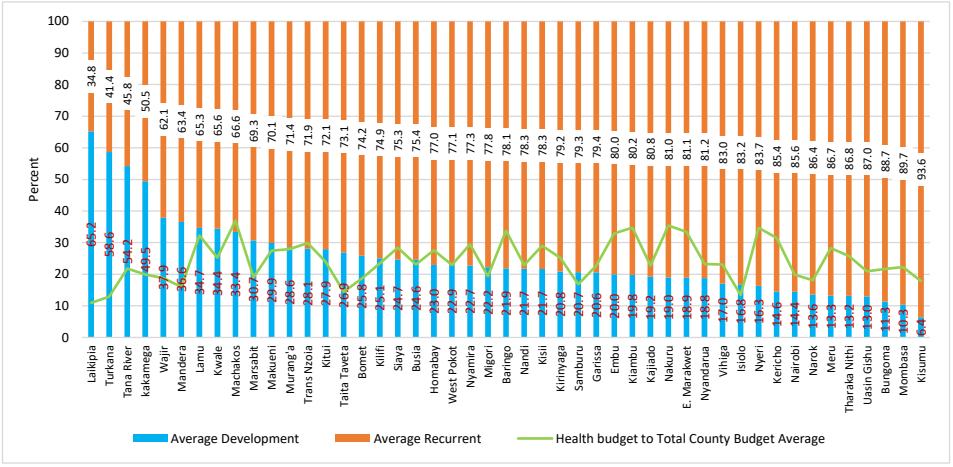
4.3.3 County health allocation and expenditure

Less than half of the counties, 23 out of 47 counties, in the period 2013/14 to 2017/18 had complied with the PFM Act 2012, which requires that the national and county governments allocate a minimum of 30 per cent of their budgets over the medium to development expenditure (PFM Act, 2012 Section 15 (2)). The share of the health budget varied across counties in the period under review (2013/14-2017/18) and was on average 24.3 per cent of the total county budget

allocation. It comprised of 75.1 per cent recurrent and 24.9 per cent development allocation (Figure 7). Machakos, Lamu, Nakuru, Nyeri, Kericho, Kiambu, Baringo, Trans Nzoia and Embu are the only counties allocation to health as a share of their total budget above 30 per cent.

Laikipia County had the largest share of 65 per cent for development, even though it had the least allocation of the share of health budget in the total budget of 11 per cent. Turkana, Tana River and Kakamega allocated more than half of their resources to development budget; that is, 58, 54 and 50 per cent, respectively. Kisumu, Mombasa and Bungoma counties had the highest average share of recurrent expenditure at 94 per cent, 90 per cent and 89 per cent, respectively, under the review period. In 26 out of the 47 counties, the allocation to health as a share of the total county budget increased, with the highest increments of 20, 14, and 11 per cent being observed in Embu, Murang'a, and Kirinyaga. In 21 counties, health allocation as a share of the total county budget decreased, with the highest decrease of 20.8 per cent, 17.6 per cent and 17.2 per cent being observed in Lamu, Nyandarua, and Kisumu, respectively. Therefore, it is expected that counties with higher health expenditure and particularly development expenditure should reflect positive and improved performance of children status across the funded programmes in the health sector.

Figure 7: Share of health budget and spending by recurrent and development categorization for 2013/14 to 2017/18

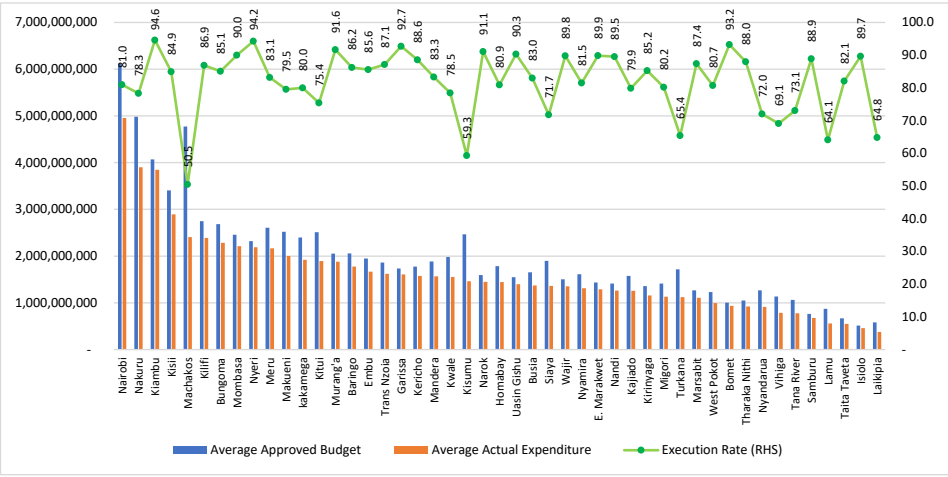


Source: Office of the Controller of Budget (2013-2018) reports

The absorption rates were low in most counties. This has been worsened by a 3 per cent decline in overall absorption rate between 2013/14 and 2017/18 to 82 per

cent. Total budget allocation on health by counties increased from Ksh 68 billion in 2013/14 to Ksh 113 billion in 2017/18 while actual expenditure increased from Ksh 56 billion in 2013/14 to Ksh 89 billion in 2017/18. Machakos County had the lowest absorption rate in period under review of 50.5 per cent relative to other counties, followed by Kisumu with 59.3 per cent (Figure 8). This is attributable to the exchequers' failure to release the full amount approved in the health budget. However, some counties recorded the highest absorption rates of over 90 per cent, including, Bomet, Kiambu, Mombasa, Nyeri, Murang'a, Garissa, Narok and Uasin Gishu. Health actual expenditure for all the counties expanded from about Ksh 82 billion to Ksh 90 billion. This translated to an average absorption rate of 82 per cent for the period between 2013/14 and 2017/18. Despite the challenge in delays in exchequer releases, the counties with higher absorption rates for the health budget are expected to be reflected by improved status for various health indicators. For instance, a county such as Kiambu, which recorded high absorption rate, also recorded improved health outcomes as noted in the index section later.

Figure 8: County governments' overall health budgets, spending, and execution rates in 2017/18

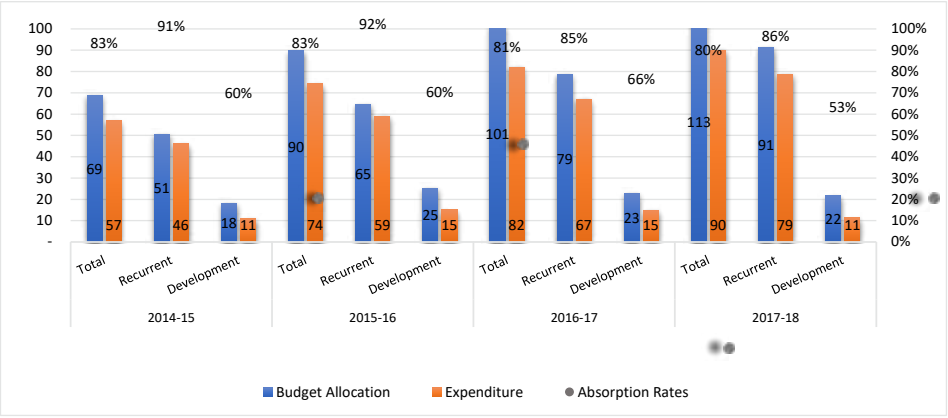


Source: Office of the Controller of Budget (2013-2018) reports

Even with the level of development budget allocation to the health sector in the counties, the absorption rates were barely 60 per cent for 2013/14 to 2017/18, while the absorption rate for recurrent expenditure was almost 90 per cent in the same period. Recurrent budget allocation, in nominal terms, increased from Ksh 50.7 billion in 2014/15 to Ksh 91.4 billion in 2017-18 while development allocation increased from Ksh 18.3 billion in 2014/15 to Ksh 21.6 billion in 2017/18. Absorption rates for recurrent expenditure increased from 91 per cent in 2014/15 to 92 per cent in 2015/16 before decreasing to 80 per cent in 2017/18.

Development expenditure, on the other hand, was constant at 60 per cent in 2014/15 and 2015/16 before increasing to 66 per cent in 2016/17, then decreasing to 53 per cent in 2017/18. Furthermore, the implication of weak absorption is delayed implementation of key projects and poor service delivery, which in turn may result in adverse health outcomes. There is a need to increase utilization rates in counties especially as it pertains to development spending.

Figure 9: Total recurrent vs development health budget for counties (%)

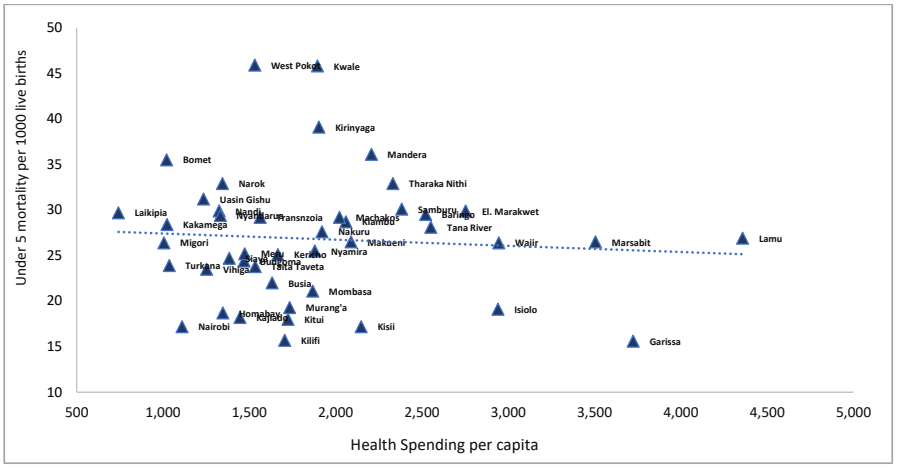


Source: National Treasury IFMIS 2014-2018 and Authors Computations

4.3.4 Correlation of health spending and selected health indicators

Higher health spending per capita does not seem to be associated with better outcomes in the under-5 mortality across the counties. While the counties of Elgeyo Marakwet, Samburu, Baringo, Tana River, Lamu and Marsabit record the highest health spending per capita, the counties have relatively high under-5 mortality rates. The counties of Nairobi, Homa Bay, Kajiado and Kitui, record relatively lower under-5 mortality rates with comparatively lower health spending per capita, suggesting that with the prevailing health resources other counties could achieve better health outcomes (Figure 10).

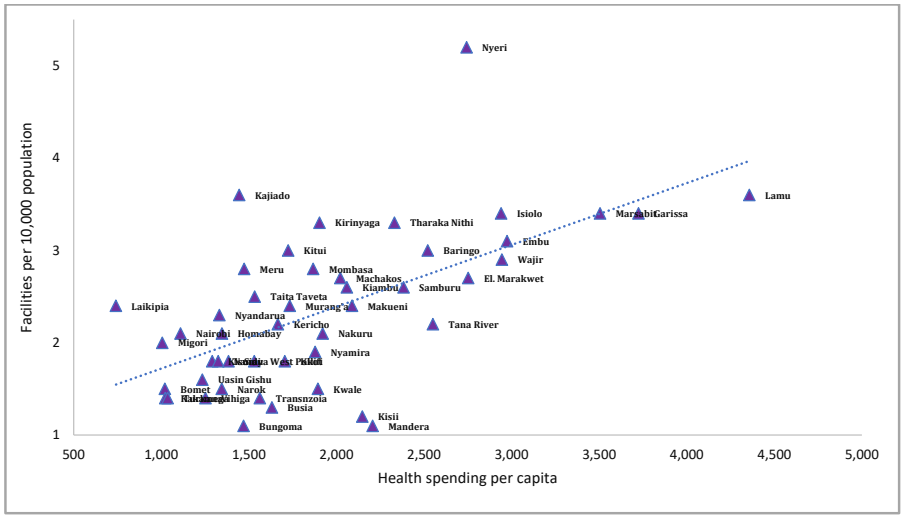
Figure 10: County health spending per capita and under-5 mortality per 1000 live births



Source: National Treasury IFMIS 2014-2018 and authors' computations

There was positive association between health spending per capita and number of health facilities per 10,000 persons by county (Figure 11). This is in tandem with the large spending on new health facilities by most counties since the onset of devolution of health in 2013. Such a trend underlines the significance of increased health allocation and spending systems that ensure high health budget execution rates so as to reduce fatalities and mortality rates (Figure 11).

Figure 11: County health spending per capita and facilities per 10,000 population



Data Source: National Treasury IFMIS 2014-2018 and authors' computations

The country aims to continue investing in health, especially in child and maternal health by prioritizing quality health infrastructure and human resources in all counties. The country also aims to prioritize investment in reproductive health information, especially for the youth and undertake awareness campaigns on the importance of healthy practices. It also aims to continue investing in the provision of quality health services by the employment of more health service providers, construction of more health facilities, and equipping them.

To realize these new milestones, the country will need to address various challenges, including limited funds relative to health needs for the counties, including those for children and mothers; long procurement processes; delays by the National Treasury in releasing funding to the sector; and pending bills affecting the overall sector absorption rate.

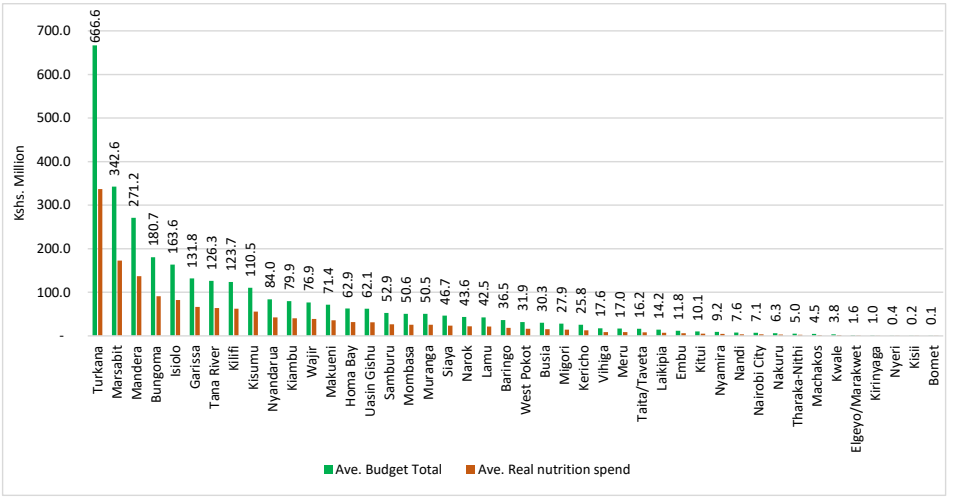
Nutrition budget and expenditure

The Government efforts to improve the nutritional status within the country are supported by the Medium-Term Plan (MTP) II and III, through the following targeted interventions: development of nutritional information systems; scaling up high impact nutrition intervention (HINI) in ASAL counties; investing in value addition natural products with a nutritional value under manufacturing; implementing the school health and nutrition programme; and accelerating health initiatives targeting nutrition services.

4.3.5 County nutrition allocation and expenditure

On average, between 2014/15 and 2017/18, the counties cumulatively have allocated Ksh 3.13 billion to nutrition budget, with Turkana County on average contributing the largest share during the period with budget amounting to Ksh 666.6 million, while Bomet County contributing the least on average (Figure 12). However, there is inconsistency in allocation of budget to nutrition by counties, with some counties failing to allocate completely to the sub-sector on some financial years. For instance, in 2017/18, 10 counties did not have a clear nutrition budgetary allocation despite the campaigns of sensitizing counties to have direct nutrition interventions and budgets (nutrition sensitive spending). These counties included Elgeyo Marakwet, Kajiado, Kakamega, Kisii, Kwale, Nakuru, Narok, Siaya, Tharaka Nithi, and Trans Nzoia. The county with the highest allocation for nutrition in 2017/18 was Marsabit, which allocated Ksh 440 million followed by Turkana County with a budget allocation of Ksh 422 million. Therefore, it is expected that counties with higher nutrition expenditure should reflect positive or improved performance of children nutrition status across the funded programmes in the nutrition sector.

Figure 12: National government (100%) nutrition sensitive spending in 2014-18

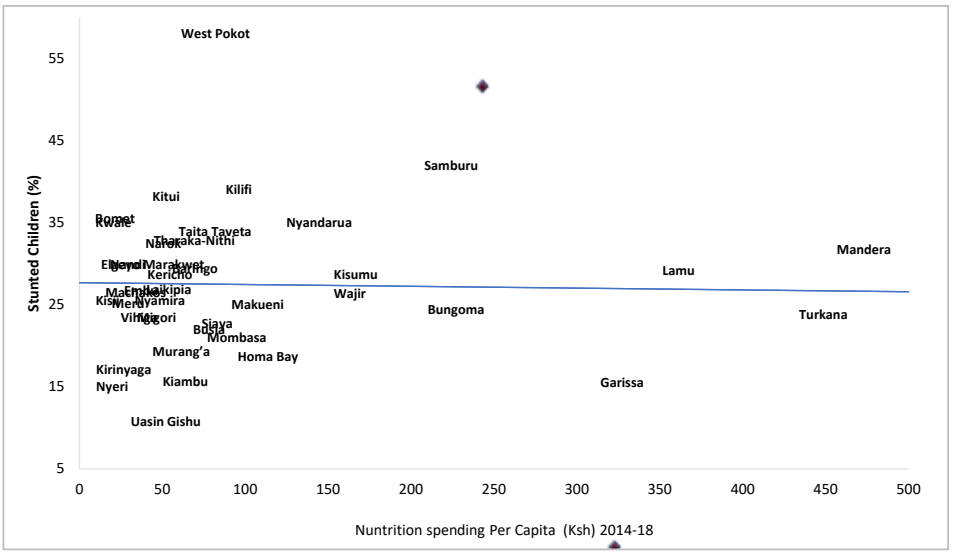


Data Source: National Treasury IFMIS 2014-2018

4.3.6 Correlation of nutrition spending and selected health indicators

While the counties of West Pokot, Kilifi, and Kitui recorded a high proportion of stunted children of above 35 per cent, the counties have comparatively lower nutrition spending per capita. Such lower nutrition per capita spending puts the children at risk of illness, under-5 child mortality, impaired cognitive development, and physical and mental handicaps which are irreversible and compromise their contribution to the socio-economic development of their economies at adult age. Moreover, stunted growth traps the children and society in the poverty and malnutrition cycle. Such risk, therefore, calls for counties to adequately and sustainably allocate funds for nutrition. There is also need for inter-sectoral collaboration to address other factors that contribute to constrained access to nutritious foods, such as access to basic water and sanitation services. An inter-sectoral collaboration is key to track development and implementation of policies that enhance food security and access that is key in improved nutrition.

Figure 13: Nutrition spending per capita and stunted children (%)



Data Source: KNBS (2014), KDHS and authors' computations

In the period 2018-2022, the country plans to promote nutrition education and strengthen Community Units to offer broad-based services to eliminate malnutrition cases. To realize the objective, the counties will be required to increase the share of nutrition-sensitive spending, which has been inconsistent.

4.4 Health and Nutrition Indicators

4.4.1 Child and maternal health and nutrition indicators

Health refers to the absence of disease and infirmity, which now includes physical, mental, and social well-being, according to the World Health Organization (WHO). In 1984, the definition was enhanced to encompass the extent to which an individual or group can realize aspirations and satisfy needs and change or cope with the environment. The recognition of health not only as a human right but as a means to economic well-being and sustainable development of countries has led to its recognition in various conventions, treaties, and agreements, including: United Nations Agenda 2030, African Union (AU) Agenda 2063, and the East African Community (EAC) Agenda 2050. More specific to health are the Abuja Declaration of 2001 and the 2018 Astana Declaration on Primary Health Care, among others.

Biological differences determine how physiological processes unfold and how organ systems adapt to outside influences. For example, the surface area of

children's skin and lungs are proportionately greater in comparison to their weight than at any other time of their lives. This, therefore, makes children more susceptible to certain types of environmental exposures. Behavioural differences relate to a child's emotions, beliefs, cognitions, and attitudes, and his or her overt behaviours. Children are by nature more exploratory and experimental than their adult counterparts, and also exhibit hand-to-mouth, crawling climbing behaviours. This exposes them to environmental hazards that they may not have the cognitive mastery and behavioural inhibitions to avoid, thus placing them at risk of negative long-term consequences, including disability. Socially, children are not only politically powerless, they are solely dependent on parents and guardians for the prevention of disease and the promotion and protection of their health and development.

In terms of manifestations, what especially distinguishes children from adults is that they have greater resilience, less rapid biological deterioration, and the ability to develop and grow in the face of negative health conditions. This is indicative of the fact that health interventions at this stage are more possible and more effective with children than with adults. However, if interventions are not put in place in a timely fashion, due to their longer life expectancy they take longer to manifest a disease with a long latency period, and longer to live with toxic damage. This may adversely affect their quality of life in later years.

Globally, there has been a renewed momentum and support for child health, which forms part of the 2030 Agenda on Sustainable Development and the Updated 2016-2030 Global Strategy for Women's, Children's and Adolescent's Health. SDG three seeks to ensure healthy lives and promote well-being for all at all ages. Under this goal, the specific health targets include reduction of the global maternal mortality ratio to less than 70 per 100,000 live births, neonatal mortality to at least 12 per 1000 live births, and under-5 mortality to at least 25 per 1000 live births by 2030. The goal also targets reducing premature mortality from non-communicable diseases by one-third through prevention and treatment, and achieve universal health coverage by 2030, which includes reproductive health-care, information, and education.

Moreover, the updated 2016-2030 Global Strategy for Women's, Children's and Adolescent's Health focuses on achieving the highest attainable standard of health for all women, children, and adolescents. This strategy is anchored on three objectives: ensuring that for every birth, mother and child survives, thrives, and transforms. The first objective of surviving aims at reducing global maternal mortality to less than 70 per 100,000 live births, reducing under-5 mortality to at least 25 per 1,000 live births, reducing new-born mortality to at least 12 per 1,000 live births, reducing premature mortality from non-communicable diseases

by a third, and ending epidemics such as malaria, tuberculosis, and HIV. The second objective of thriving aims at ending all forms of malnutrition, ensuring universal health coverage and access to reproductive and sexual health-care services, and reducing pollution-related illnesses and deaths. The third objective of transforming aims at eradicating extreme poverty, ensuring free, quality, and equitable education, eliminating all forms of discrimination and harmful practices against girls and women, and providing legal identity for all.

The Government has enhanced coverage for child health services, which is a priority, as reflected in the Constitution of Kenya 2010, Children Act 2001, the Health Sector Strategic and Investment Plan 2014-18, and the Kenya Vision 2030. The Government has also introduced new policies and initiatives such as free maternity services and elimination of user fees for primary care. Article 53 of the Constitution of Kenya 2010 recognizes the need for all children to be provided with basic rights, including the right to nutrition, health care, and parental care, education, and shelter. The right to health entitles every child to free immunization, vaccination, and de-worming, and free annual medical checkup at any public hospital for any child below the age of five years. At the county level, the responsibility of training the formal and informal community-based midwives and health care providers in basic maternal and child health services, provision of adolescent-friendly reproductive health services, and sexual health information and education are given to the County Executive Member and the board in consultation with government institutions and other bodies. This is aimed at improving ante-natal and post-natal care for both children and women, which will ultimately contribute to the realization of SDGs 3 and 5, and Kenya's Vision 2030.

In effect, the health status of children in Kenya improved between 2014 and 2018 based on most of the health indicators, although it remained the same or declined in some key indicators. For instance, the proportion of children below 5 years who were delivered at home stood at an average 37.4 per cent in 2014, indicating that at least two in three children born are born in the hospital (skilled delivery 61.8%) (Table 2); this implies better access to health facilities by mothers for prenatal and maternal services.

The share of fully immunized children in Kenya declined slightly from 74.9 per cent in 2014 to 73.7 per cent in 2018 (Table 2). This implies that at least one in every four children are exposed to the health complications and risks associated with lack of immunization. This implies implementation gaps of Section 9 of the Children Act (2001), which entitles every Kenyan child to health and medical care, by the responsible persons including parents and the government.

Infant mortality rate increased from 39 per cent to 54 per cent between 2014 and 2018. Under-5 mortality was at 52 per cent in 2014 while neo-natal mortality was at 22 per cent. Antiretroviral therapy (ART) children coverage for HIV/AIDS positive children increased from 42 per cent in 2014 to 82 per cent in 2018 (Table 2).

Table 2: National selected health sector performance indicators

Maternal and Child Services	**2014-National**	**2018-National**
Skilled delivery (%)	61.8	61.8
Children born at home	37.4	-
Exclusive breastfeeding	61.0	61.0
Ever breastfed	99.0	98.7
Fully immunized child	74.9	73.7
Child Mortality	**2014-National**	**2018-National**
Infant mortality (*/1000)	39.0	54.0
Under-5 mortality (*/1000)	52.0	-
Neo-natal mortality (*/1000)	22.0	-
Child mortality (*/1000)	14.0	24.0
HIV (%)	**2014-National**	**2018-National**
HIV adult prevalence (%)	6.0	5.6
Children with HIV(No.)	191,333.0	-
ART adult coverage (%)	79.0	75.0
ART children coverage (%)	42.0	82.0

Source: KNBS (2014), KDHS 2014 and KNBS (2015) KIHBS 2015/16

According to the Kenya Population and Housing Census of 2019, Kenya has a predominantly young population (aged 0-17), representing 50.1 per cent of the total population. This implies that investing in improved child health is a sound economic decision for sustained development.

4.4.2 Progress in key child health indicators

Most health indicators are not measured regularly; therefore, to establish the progress for all the child indicators is a challenge. Thus, the study considered the selected few and the progress for each is discussed below.

I Under-5 mortality rate (U5MR)

Article 24 Section 2 of the Convention on the Rights of the Child of 1989 stipulates that member countries in a bid to uphold the right to health shall act appropriately to reduce infant and child mortality. According to the World Health Organization,

about 90 per cent of deaths for children aged below 15 years occurred before the age of 5 in 2018. These deaths are caused by preventable and treatable illnesses such as pneumonia, malaria, and diarrhoea. The risk of succumbing to these conditions is only further heightened if a child is malnourished.

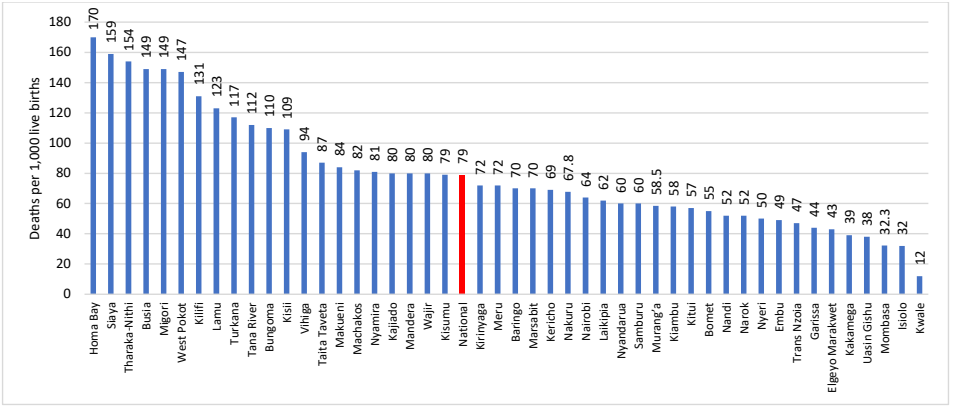
Under-5 mortality has been identified as a leading child health indicator as it allows one to gauge the social, economic and environmental conditions a child is living in (Gebretsadik and Gabreyohannes, 2016). Therefore, because data on disease incidence and prevalence is often unavailable, it serves as a useful proxy to identify vulnerable populations. Even though progress towards reducing under-5 mortality is underway, Sub-Saharan Africa remains to have the highest under-5 mortality rate of about 77 deaths per 1,000 live births.

Kenya's national under-5 mortality rate was estimated at 79 deaths per 1,000 live births in 2016. In the counties, 21 counties were above the national average, while 26 counties were below the national average. The under-5 mortality rate was higher in Homa Bay, Siaya, Tharaka Nithi, Busia and Migori at 170, 159, 154, 149, 149, and 147 deaths per 1,000 live births and lower in Kwale, Isiolo, and Mombasa where they stood at 12, 32, and 32 deaths per 1,000 live births. Not only was the national under-5 mortality above the international recommended level of 25 deaths per 1,000 live births outlined under SDG Target 3.2, but also the local target of 35 deaths per 1,000 live births outlined in MTP II.

Kwale County is the only county that had achieved neither the national nor international targets (Figure 14). High under-5 mortality rates have been associated with lack of family planning methods or lack of enough spacing for child-bearing among mothers[7]. The study also reported that the risk of neonatal, post neonatal, infant, child and under-5 deaths was significantly higher in mothers who reported a previous death of a sibling. Therefore, to reduce childhood mortality, the study suggests public health interventions that focus on child spacing, and contraceptive use by mothers may be most effective approach.

7 Abir, T., Agho, K. E., Page, A. N., Milton, A. H., and Dibley, M. J. (2015), "Risk factors for under-5 mortality: Evidence from Bangladesh Demographic and Health Survey, 2004–2011". *British Medical Journal,* 5(8), e006722.

Figure 14: National under-5 mortality rate estimates 2016



Data Source: KNBS (2014), KDHS, 2014; County Statistical Fact Sheets 2018

II Immunization indicators

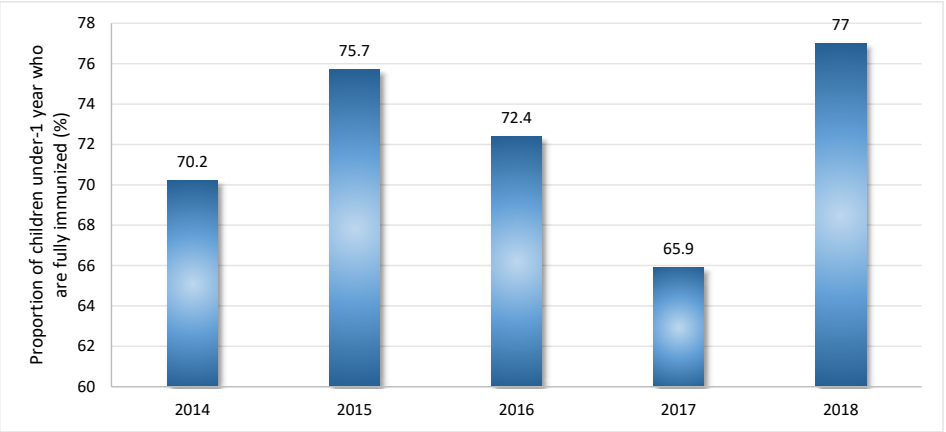
Internationally, routine immunization has been identified as a leading response to infectious diseases that cause preventable child mortality. Global policies in immunization date back to 1977. Immunization has continued to be considered an essential part of the attainment of good health and well-being. In particular, SDG Target 3.8 calls for member States to strive towards achieving universal health coverage (UHC), which encompasses access to quality and affordable essential medicines and vaccines. Besides, under SDG Target 3.b countries are encouraged to support research and development of vaccines.

The Kenya Expanded Programme on Immunization was initially developed in the 1980s as part of the requirements of the Alma Ata World Health Assembly Declaration of 1978. Initially, it aimed at providing immunization against six killer diseases, namely tuberculosis, polio, diphtheria, whooping cough, and tetanus. In 2001, the Ministry of Health expanded this to include four more vaccines, namely: yellow fever; hepatitis B vaccine; and Haemophilus Influenza type B vaccine. Further, in 2011 and 2013, the Ministry of Health introduced the Pneumococcal conjugate vaccine and Rotavirus vaccine, respectively. These vaccines are otherwise known as routine vaccines.

Nationally, the proportion of fully immunized children under 1 year increased from 70.2 per cent in 2014 to 75.7 per cent in 2015 before decreasing to 65.9 per cent in 2017 then increasing again to 77 per cent in 2018. Further, with the introduction universal healthcare coverage, which aims to achieve 100 access to healthcare services by all, it may lead to attainment of 100 per cent immunization of children across counties. Immunization helps prevent diseases that can cause

lifelong damage. For example, meningococcal disease can cause brain damage, kidney damage, deafness, and loss of limbs[8].

Figure 15: National proportion of fully immunized children under 1 year (%)

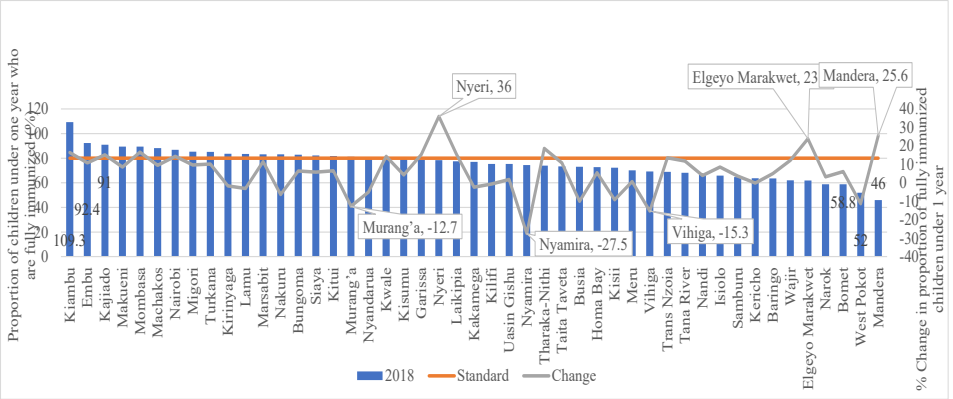


Data Source: Ministry of Health (2018)

More than half (27 counties) in 2018 had not attained the maximum immunization coverage of 80 per cent of fully immunized children as provided by the National Policy Guidelines on Immunization of 2013. However, majority of the counties have rolled out children immunization programmes and campaigns since health was devolved. The counties with the highest proportion of fully immunized children under 1 year were Kiambu (109.3%), Embu (92.4%), and Kajiado (91.0%) while the lowest were Bomet (58.8%), West Pokot (52.0%), and Mandera (46.0%). Despite being among the lowest, Elgeyo Marakwet and Mandera counties registered among the highest improvements of 29.9 and 25.6 per cent, respectively. Majority of the counties with lower number of fully immunized children had lower budgetary allocation to health. This emphasizes the need for more budgetary allocation to health, especially development expenditure with specific budget line items such as construction and equipment of health facilities, improvement of infrastructure to ease access, and health sensitization programmes.

8 https://www.healthlinkbc.ca/healthlinkbc-files/benefits-immunizing-your-child

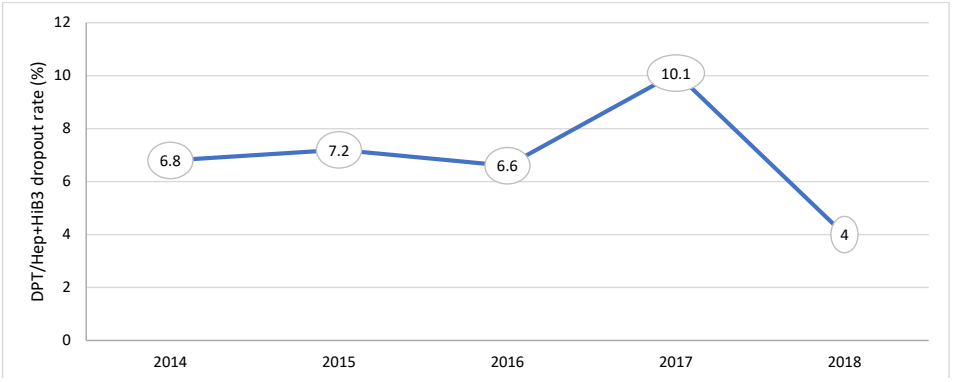
Figure 16: Proportion of fully immunized children under 1 year



Data Source: Ministry of Health (2018)

Since the rollout of the routine infant vaccination schedule in 1980, children under 1 year have been vaccinated against diphtheria. Initially, it was undertaken using a combination vaccine containing diphtheria toxoid but this changed at the end of 2001 when DPT-HepB-Hib was introduced. It is administered at 6, 10, and 14 weeks after birth. DPT/Hep+HiB3 dropout rate is one of the main indicators used to measure the effectiveness of immunization programmes as it is universally present in all national vaccination schedules. The national DPT/ Hep+HiB3 dropout rates fluctuated between a maximum of 10.1 per cent in 2017 and a minimum of 4 per cent in 2018. The dropout rates remained below the World Health Organization prescribed cut-off point of 10 per cent throughout the period except in 2017 (Department of Immunization, Vaccines and Biologicals, 2019).

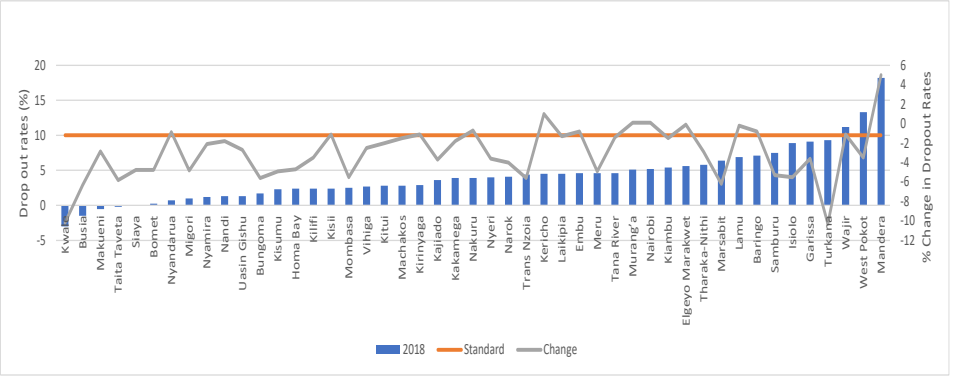
Figure 17: National DPT/Hep+HiB3 dropout rate (%) between 2014 and 2018



Data Source: Ministry of Health (2018)

Majority of the counties had dropout rates below 10 per cent except for Mandera, Wajir, and West Pokot, which stood at 18.2, 11.2, and 13.3 per cent, respectively. The highest improvement was registered by Turkana County, which improved by 10.3 per cent. The drop in the rates is associated with the increase in full immunization. Research has shown that the immunization vaccine is the best way to protect children and avert deaths against diphtheria, tetanus, pertussis, hepatitis B, polio, and Haemophilus influenzae type b, which are serious and sometimes fatal diseases[9].

Figure 18: County level DPT/Hep+HiB3 dropout rates (%) between 2014 and 2018



Data Source: Ministry of Health (2018)

4.4.3 Progress in maternal health indicators

III Maternal mortality rate (MMR)

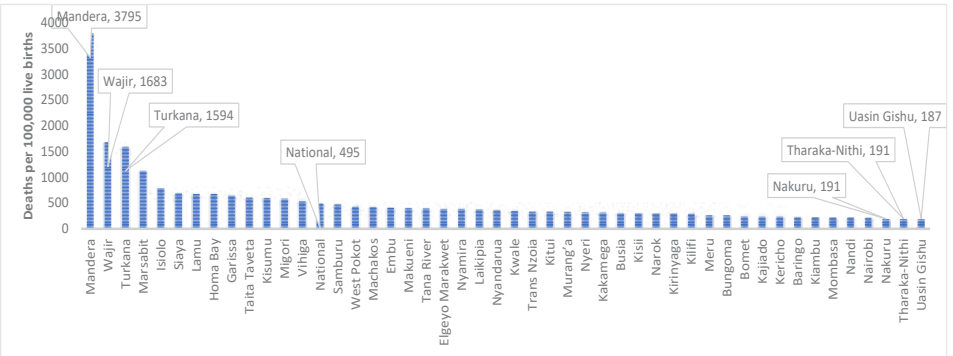
Maternal mortality refers to the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (10th Revision of the International Classification of Diseases). Causes of maternal deaths are divided into two groups, direct and indirect obstetric deaths. Direct obstetric deaths result from complications of the pregnant state, such as high blood pressure during pregnancy or interventions, omissions, and incorrect treatment. Indirect causes result from pre-existing conditions of the mother.

Maternal mortality disproportionately affects women in low and middle-income countries, which accounts for 99 per cent (approximately 242 deaths per 100,000)

9 Bogale, T. (2017), Assessment of incomplete vaccination and associated risk factors among children under one year at Guder Hospital, West Shoa Zone, Oromia Regional State, Ethiopia. *Assessment*, *45*.

of global maternal deaths. KDHS 2014, reports an improvement in maternal mortality rates from 520 deaths in 2008-2009 to 362 deaths per 100,000 live births. Recent data from the District Health Information System reports an increase to 495 deaths per 100,000 live births in 2016. This is, however, different for different counties with 13 counties having an MMR above the national average, while 34 counties were below the national average. It was highest in Mandera, Wajir, and Turkana at 3,795, 1,683, and 1,594 deaths per 1,000 live births and lowest in Nakuru, Tharaka Nithi and Uasin Gishu where they stood at 191, 191, and 187 deaths per 1,000 live births. Reduction in death rates reduces cases of orphans among children and boosts the potential of having better access to health and education.

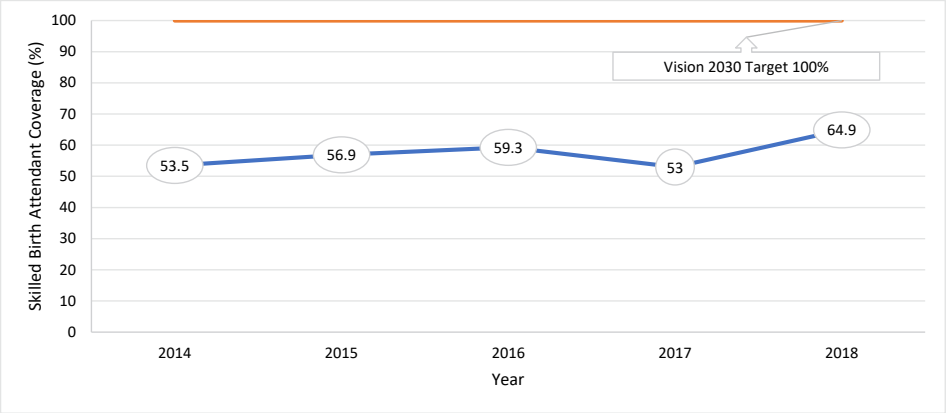
Figure 19: MMR (death per 100,000 live births) 2016



Data Source: Ministry of Health (2018)

SDG 3 Target 1 aims to reduce the maternal mortality ratio to less than 70 deaths per 100,000 live births by 2030 in part through increasing access to skilled delivery. In 2013, Kenya rolled out Free Maternity Programme dubbed "Linda Mama", which waives user fees for delivery in government and some missionary facilities. Since its rollout, the proportion of women with access to skilled birth attendants increased by 11.4 per cent from 53.5 per cent in 2014 to 64.9 per cent in 2018. This was, however, not consistent across counties. Further, the outcomes for roll-out of UHC across the counties is yet to be felt in the counties.

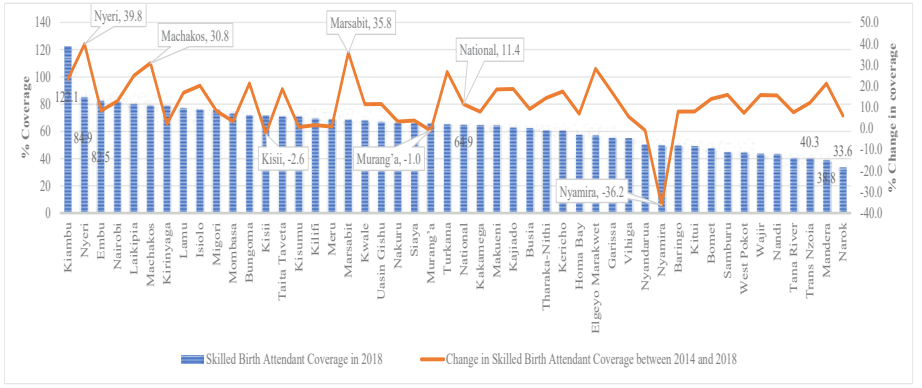
Figure 20: Skilled birth attendant coverage (%) between 2014 and 2018



Data Source: Ministry of Health (2018)

At the end of the period under review (2018), 23 counties had skilled birth attendant coverage below the national average, while 24 were above it. Kiambu, Nyeri, and Embu had the highest skilled birth attendant coverage and stood at 122.1 per cent, 84.9 per cent, and 82.5 per cent. Narok, Mandera, and Trans Nzoia had the lowest skilled birth attendant coverage and stood at 33.6 per cent, 38.8 per cent, and 40.3 per cent, respectively. The counties that registered the highest improvement in this indicator were as follows: Nyeri which increased by 39.8 per cent; Marsabit, which increased, by 35.8 per cent; and Machakos, which increased, by 30.8 per cent. The skilled birth attendant coverage decreased by 36.3 per cent, 2.6 per cent, and 1 per cent in Nyamira, Kisii and Murang'a. It would therefore be important to address the gap through enhanced awareness of the importance of skilled birth attendance among mothers.

Figure 21: Skilled birth attendant coverage by county in 2018



Data Source: Ministry of Health (2018)

In line with the Convention on the Rights of the Child of 1989 under Article 24, The Linda Mama Programme also covers antenatal care (ANC) visits and post-natal care visits. For antenatal care package, the following services are offered in addition to testing the ANC profile: Preventative services including provision of the following: vaccines tetanus toxoid, malaria prophylaxis, and deworming; and nutrition services such as the provision of Iron and Folate.

IV HIV/AIDS knowledge and sexual behavior among adolescents

The Kenya HIV/AIDS Policy 2009 recognized that children are affected and infected by HIV/AIDS and recognize their role in enriching decision-making and to participate as actors of change. As such, identified as an objective under the National School Health Strategy Implementation Plan 2011-2015 was the creation of awareness on preventable diseases in 80 per cent of the schools by 2014. This saw an improvement in comprehensive knowledge about HIV/AIDS among the youth (15-24) improve from 34 per cent to 57 per cent among women and from 47 per cent to 64 per cent among men. Among those aged 15-17, 48.8 per cent of the women reported having comprehensive knowledge about HIV/AIDS while 52.5 per cent of men reported having comprehensive knowledge about HIV/AIDS.

According to the Kenya HIV Estimates Report 2018, of those that were HIV positive in 2017 in the population, children aged 0-14 accounted for 7 per cent while young adults aged 15-24 accounted for 12.4 per cent. The total HIV population decreased by 36.6 per cent from 165,894 in 2007 to 105,213 in 2017. The number of new infections fluctuated during the period. It decreased from 20,658 new cases in 2007 to 10,965 new cases in 2011 before increasing to 12,845 new cases in 2013 followed by another decrease to 7,105 in 2016. Later, it increased to 7,978 in 2017. The annual AIDS-related deaths decreased by 75.9 per cent from 17,891 in 2007 to 4,312 in 2017. Throughout the period, more male than female children were HIV positive in the population, new infections, and died from AIDS-related illnesses.

Figure 22a: Children in HIV + population between 2007 and 2017

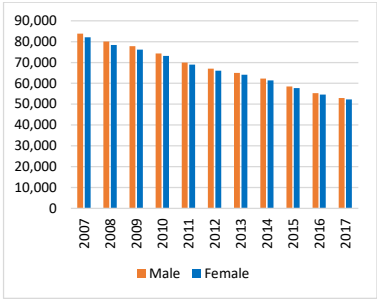
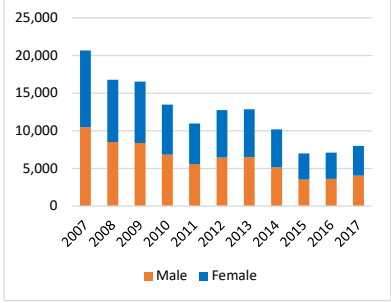


Figure 22b: New infections among children between 2007 and 2017



Data Source: Ministry of Health (2018)

The counties with the highest number of HIV positive cases, new infections, and HIV-related deaths among children were Homa Bay, Siaya, and Kisumu while Mandera, Tana River, and Wajir had the lowest numbers. This notwithstanding, Mandera and Wajir had the highest proportion of children among the HIV positive population at 18.4 per cent in each of the counties.

Among the young adults aged 15-24, Nairobi, Homa Bay, Siaya, and Kisumu had the highest numbers of HIV positive cases, new infections, and HIV-related deaths while the lowest numbers are in Tana River, Mandera, and Wajir. The youth account for the highest proportion of those infected among the population in Garissa, Mandera, and Wajir at 22.2 per cent, 22.2 per cent, and 22.1 per cent.

4.4.4 Child nutrition indicators

Though global rates of nutrition have greatly improved, undernutrition continues to cause about 45 per cent of deaths in children under 5. It has therefore been identified globally as a public health concern. As such, the Convention on the Rights of the Child of 1989 under Article 24 requires that member States will implement programmes to combat malnutrition and educate citizens on child health and nutrition. Under Article 27, the Convention further advocates for the promotion of a standard of living adequate for the child's physical, mental, spiritual, moral, and social development. More recently, SDG 2 Target 2 advocates for ending all forms of malnutrition, including achieving by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age. SDG 3 Target 4 also calls for the reduction of premature mortality from non-communicable diseases through prevention by among other measures nutrition promotion.

The National Maternal, Infant and Young Child Nutrition Policy Guidelines, 2013, identifies obesity as an emerging issue and puts in place frameworks for infant and young child practices. In addition, to complement feeding of children aged between 6-24 months, the guidelines advocate for breastfeeding and require that when breast milk substitutes are required, they will be procured, distributed, targeted, and used in compliance with Breast Milk Substitutes (Regulation and Control) Act, 2012.

Child growth is internationally recognized as a marker of nutritional status and child health. The Kenya Demographic and Health Survey of 2014 measures malnutrition of children under 5 in using the following child growth indicators: Stunting (Height for Age); Wasting (Weight for Height); and Underweight (Weight for Age). Research has found that all three conditions put children at high risk of illness and/or mortality. As such, the World Health Organization identified the following to be prevalence cut-off values for public health significance in 1995 (World Health Organization (WHO), 2010).

Table 3: World Health Organization cut off values for nutrition indicators

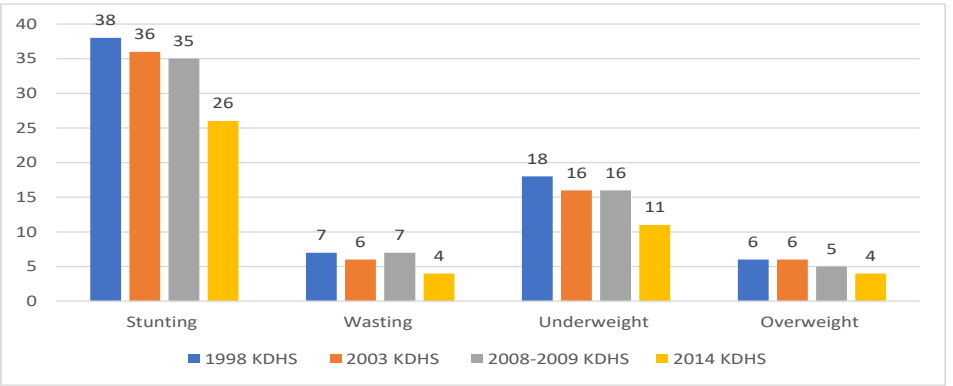
Indicator	Prevalence cut-off values for public health significance
Underweight	<10%: Low Prevalence 10-19%: Medium Prevalence 20-29%: High Prevalence ≥ 30%: Very High Prevalence
Stunting	<20%: Low Prevalence 20-29%: Medium Prevalence 30-39%: High Prevalence ≥ 40%: Very High Prevalence
Wasting	<5%: Acceptable 5-9%: Poor 10-14%: Serious ≥ 15%: Critical

Source: World Health Organization (1995)

4.4.5 Progress in nutrition indicators

Although Kenya has made significant progress in reducing stunting from 2009 and 2014, the vulnerability to nutrition is still high. The 2017 drought put a high number of children at risk, particularly in the ASAL counties. Over the years, child growth indicators in Kenya have improved significantly since 1998 (Figure 23).

Figure 23: Trend in nutritional status of children under 5 years



Source: KNBS (2014), KDHS 2014

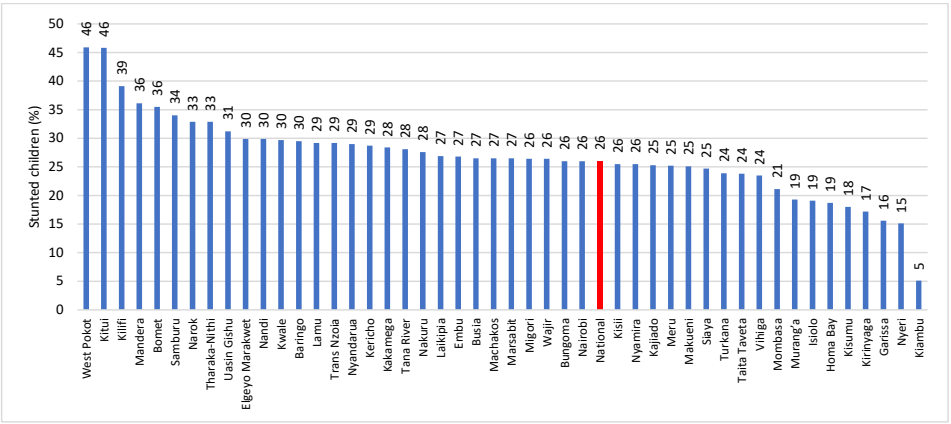
a) Stunting

Stunting, also known as growth retardation, is as a result of poor diets or recurrent infections. Nationally, 26 per cent of children are stunted and 8.1 per cent are

severely stunted. 29.7 per cent of boys are stunted with 9.7 per cent being severely stunted, and 22.3 per cent of girls are stunted with 6.3 per cent being severely stunted. This ranks at medium prevalence according to WHO cut off values.

More children in rural areas than in urban areas by 9.3 per cent are stunted. Disaggregating by age, stunting appears to have a high prevalence in children aged between 18 and 23 months at 35.5 per cent, followed by those between 24 and 35 months at 33.6 per cent. West Pokot, Kitui, and Kilifi also registered high prevalence rates of stunting at 45.9, 45.8, and 39.1 per cent, respectively. Kiambu, Nyeri, and Garissa had the lowest rates at 5, 15, and 16 per cent, respectively (Figure 24). The outcomes associated with high rate of stunting include increased risk of mortality, increased disease risk, developmental delays, diminished ability to learn and lower school achievement, and reduced lifelong productivity[10].

Figure 24: Stunting rate (%)



Source: KNBS (2014), KDHS, 2014; County Statistical Fact Sheets, 2018

b) Wasting

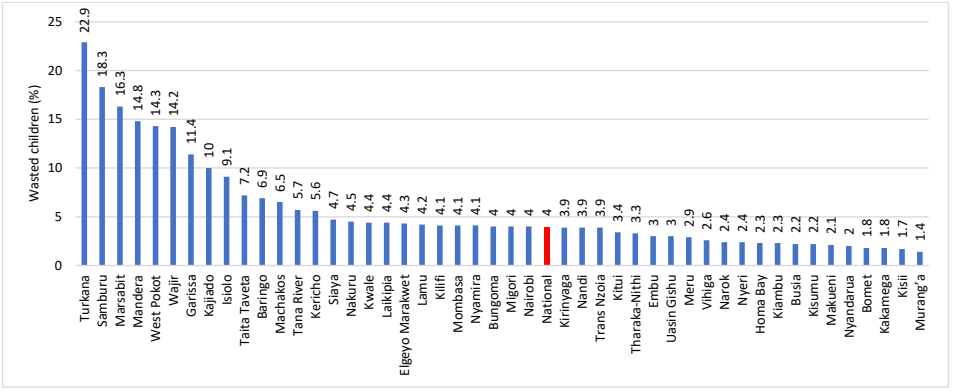
Wasting is a symptom of acute undernutrition, usually a consequence of insufficient food intake or a high incidence of infectious diseases, especially diarrhea. Nationally, 4 per cent of children are wasted and 1 per cent are severely wasted.

More children in rural areas than in urban areas by 2.1 per cent were wasted. Disaggregating by age, wasting appears to occur most among children aged between 6 and 8 months and those aged between 12 and 17 months at 6.5 per cent. 4.4 per cent of boys are wasted with 1 per cent being severely wasted, while 3.7 per cent of girls are wasted with 0.8 per cent being severely wasted. Wasting

10 Woldehanna, T., Behrman, J. R. and Araya, M. W. (2017), "The effect of early childhood stunting on children's cognitive achievements: Evidence from young lives Ethiopia". *Ethiopian Journal of Health Development,* 31(2), 75-84.

was highest in Turkana, Samburu, Marsabit, and Mandera at 22.9, 18.3, 16.3, and 14.8 per cent, respectively. It was lowest in Murang'a, Kisii, and Kakamega at 1.4, 1.7, and 1.8 per cent, respectively (Figure 25). Evidence suggests that episodes of wasting negatively affect linear growth and, therefore, undermine child growth and development both physically and brain wise (WHO).

Figure 25: Wasting rate (%) by county



Source: KNBS (2014), KDHS, 2014; County Statistical Fact Sheets, 2018

c) Underweight

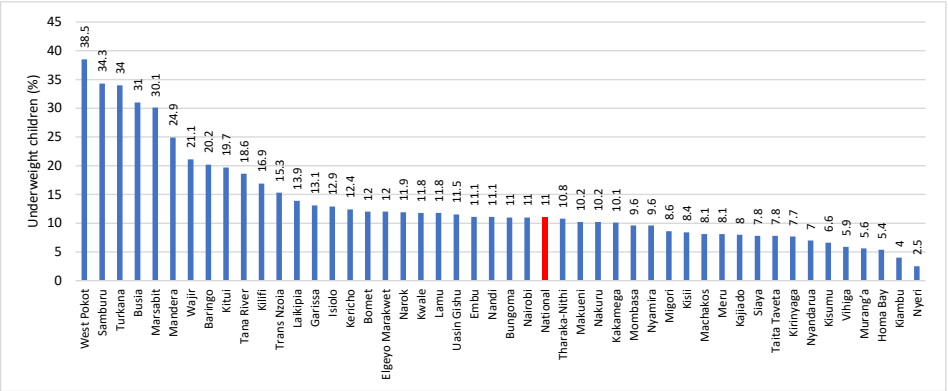
Nationally, 11 per cent of children were underweight and 2.3 per cent were severely underweight. Disaggregating by age, more children aged between 24-23 months at 35.5 per cent appear to be underweight than other age brackets considered[11]. Those between 24 and 35 months follow this at 33.6 per cent, while those between 36 and 47 months were 28.6 per cent. About 29.7 per cent of boys were underweight with 9.7 per cent being severely underweight, while 22.3 per cent of girls are underweight with 6.3 per cent being severely underweight.

A larger proportion of children in rural areas are underweight than in urban areas. Underweight rates were highest in West Pokot, Samburu, and Turkana at 38.5, 34.3, and 34 per cent, respectively. The share of children underweight was lowest in Nyeri, Kiambu, and Homa Bay at 2.5 per cent, 4.0 per cent and 5.4 per cent, respectively (Figure 26). Underweight has been associated with increase the risk of child morbidity, mortality, poor cognitive development, chronic diseases in adults and reduced human and economic productivity.[12]

11 Other age brackets considered in months are: <6, 6-8, 9-11, 12-17, 18-23, 24-35,36-47, and 48-59.

12 Hall, J., Walton, M., Van Ogtrop, F., Guest, D., Black, K. and Beardsley, J. (2020), "Factors influencing undernutrition among children under 5 years from cocoa-growing communities in Bougainville". *British Medical Journal Global Health*, 5(8), e002478.

Figure 26: Underweight (%) children

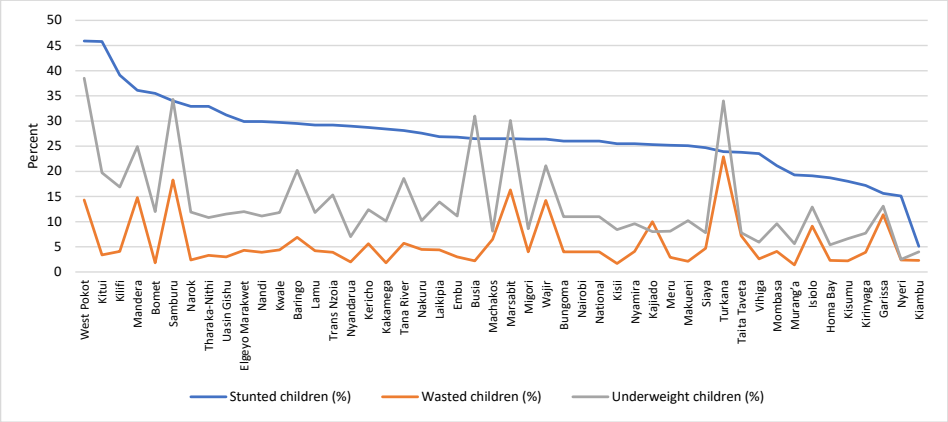


Source: KNBS (2014), KDHS, 2014; County Statistical Fact Sheets, 2018

Comparison of nutrition indicators

Counties with higher rates of underweight children aged 0-5 tend to have higher rates of stunting and wasting. Stunting rates appear to be higher than both wasting and underweight rates (Figure 27).

Figure 27: County comparison of key nutrition indicators - stunting, underweight and wasting rates (%)



Source: KNBS (2014), KDHS, 2014; County Statistical Fact Sheets, 2018

For a sustainable reduction of malnutrition in the country, it will be important to fully implement the following interventions:

i) The MTP III focus on scaling up the rollout of High Impact Nutrition Interventions (HINI);

ii) Continue to support school nutrition and feeding programme and support the nutrition supply chain integration of therapeutic and supplementary feeding and micronutrient supplements;

iii) Support integrated management of acute malnutrition (IMAM) surge approach roll out in 14 ASAL counties;

iv) Facilitate community health strategy roll out in all counties;

v) Accelerate food fortification roll out;

vi) Capacity strengthening of health workers on nutrition;

vii) Investments in community growth monitoring and equipping of facilities with nutrition equipment;

viii) Secondment of nutritionists to relevant sectors such as agriculture and education; and,

ix) Establishment of high-level nutrition multi-stakeholder platforms (MSPs) in 20 counties and at the national level will be enhanced. This is in addition to supporting the development and implementation of a policy, legal and institutional reforms on nutrition.

4.5 Health and Nutrition Index

4.5.1 Health index findings

The study factored in seven key health indicators in the computation of the health index. All the indicators included had the Eigenvalues greater than 1 and were significant after running Principal Components Analysis (PCA) (see Annex Table 1). The indicators include the percentage of births attended by skilled health professionals, the percentage of children who were ever breastfed, fully immunized children, life expectancy (years), infant mortality rate, under-5 mortality, and neonatal mortality. Using the outlined approach in the methodology (section 2.3.1), the health index for the counties was computed and the results are presented in Table 4 below. A county was considered to achieve 100 per cent index score if it has attained the national target for the specific indicators. The total health index score was arrived at by taking the average scores for the health indicators for the respective counties.

The findings showed that Kiambu County attained the highest index score of 97.8 per cent out of the possible 100 per cent. Some indicators contributed greatly to the highest score for Kiambu relative to other counties, such as skilled delivery, which has attained and exceeded the national target of 90 per cent skilled deliveries with

a record of 92.6 per cent, thus achieving the 100 per cent index score for skilled delivery. Additionally, the county scored higher index scores for other health indicators, including ever breastfed indicator, neonatal mortality, and skilled delivery, performing better relative to other counties. Kirinyaga, Murang'a, Nyeri, Embu, and Meru were among the top counties with higher health index scores, implying that they were performing well (have attained or almost attained the set targets for specific indicators). Counties with higher index scores imply that they are performing well in improving the indicators that support the status of children relating to health status.

For the specific indicators such as life expectancy, Makueni, Kitui, and Isiolo were performing well, recording a 100 per cent index score, implying that they had attained or surpassed the national life expectancy target of 66 years. For skilled delivery, Kiambu and Kirinyiga were the best performers having attained the national target of having all mothers having skilled delivery, hence awarded 100 per cent index score. For the forever breastfed indicator, Murang'a, Kwale, and Kitui counties have attained 100 per cent national target, hence they scored the maximum possible (100%) index score. Additionally, Murang'a county also scored the highest score for infant mortality since the county is almost approaching the SDG target while for under-5 mortality Mombasa, Isiolo and Kwale scored the highest scores because of reduced under-5 mortality rates below the set targets.

West Pokot scored the least index score amongst all the other counties with a score of 74.6 per cent against the possible 100 per cent. This means that, on average, the county is about 25.4 per cent shy-off from attaining the national targets for the selected health indicators, including access to skilled delivery, breast feeding, children fully immunized and infant mortality, under-5 mortality, neo-natal mortality and life expectancy. Some of the indicators that contributed to this low index score in West Pokot include low performances in the number of women accessing skilled birth delivery, and low immunization of children. Other low index performers include Migori, Marsabit, Lamu, Narok, and Baringo. Counties with lower index scores implies that they are underperforming in the indicators that support the status of children relating to health status. The summary of the index score is presented in Table 4.

Table 4: Selected health indicators index scores (%)

County/ National	Life ex-pectancy (years)	Skilled delivery (%)	Ever breastfed	Fully im-munized child	Infant mortality (*/1000)	Under-5 mortality (*/1000)	Neo-natal mortality (*/1000)	Total Index Score
Kiambu	95.6	100.0	98.8	97.2	97.7	97.4	98.1	97.8
Kirinyaga	94.1	100.0	98.9	92.3	97.1	96.0	94.6	96.1
Murang'a	91.8	95.0	100.0	86.4	99.5	97.4	94.6	95.0
Nyeri	90.3	97.9	99.6	84.3	98.7	98.2	94.6	94.8
Embu	93.3	90.6	99.1	85.5	98.2	98.3	94.6	94.2
Meru	96.3	92.0	98.7	83.9	97.1	96.0	94.6	94.1
Nairobi	94.1	99.0	99.6	74.4	96.5	96.8	98.1	94.1
Nyandarua	90.3	94.8	98.9	81.4	97.5	97.2	94.6	93.5
Tharaka Nithi	93.3	85.1	98.8	95.3	95.5	87.5	96.9	93.2
Machakos	98.6	70.4	99.4	90.0	98.2	94.9	98.0	92.8
Mombasa	85.0	92.0	95.1	78.6	96.8	100.0	100.0	92.5
Elgeyo Marakwet	89.6	72.2	98.9	85.2	97.3	99.0	100.0	91.7
Makueni	100.0	60.7	98.8	89.7	98.0	94.7	98.3	91.5
Kisii	87.3	80.9	99.6	82.2	93.4	92.1	98.5	90.6
Nandi	85.0	52.0	99.2	96.3	98.7	98.0	97.9	89.6
Nakuru	80.5	77.2	99.3	74.7	99.2	96.4	97.9	89.3
Isiolo	100.0	48.7	99.8	82.3	99.4	100.0	93.6	89.1
Taita Taveta	78.3	69.4	98.9	88.8	95.4	94.4	98.3	89.1
Kwale	85.8	55.7	100.0	84.5	95.5	100.0	99.7	88.7
Bomet	87.3	58.0	99.7	81.3	97.9	97.7	97.9	88.5
Kisumu	74.5	76.9	99.4	78.9	97.1	95.2	97.3	88.5
Kericho	85.0	71.6	99.4	71.8	96.9	96.3	97.9	88.4
Nyamira	88.8	82.3	98.0	92.1	97.9	95.0	62.2	88.1
Uasin Gishu	83.5	65.6	97.3	72.3	97.7	99.5	96.0	87.4
Vihiga	73.8	55.9	97.7	94.4	96.5	93.7	97.3	87.0
Laikipia	82.8	55.0	99.2	79.3	98.3	97.0	97.5	87.0
Kajiado	93.3	70.2	98.4	56.4	97.8	95.1	96.2	86.8
Busia	79.0	65.0	99.6	80.4	96.0	88.0	98.8	86.7
Baringo	85.0	59.8	99.7	69.4	96.7	96.2	97.9	86.4
Kitui	100.0	51.3	100.0	56.8	97.8	97.5	98.3	86.0
Kilifi	89.6	58.1	95.0	74.1	95.4	89.9	98.0	85.7
Bungoma	86.5	46.0	99.1	75.9	99.4	92.0	99.4	85.5
Narok	96.3	44.8	99.5	58.5	98.7	98.0	97.9	84.8
Siaya	64.0	78.2	96.8	78.0	91.3	87.0	97.3	84.6
Trans Nzoia	85.8	46.4	99.2	63.9	96.7	98.6	99.8	84.3
Garissa	91.1	44.2	97.4	57.9	99.3	98.9	98.8	83.9

Lamu	83.5	52.6	99.2	67.4	94.9	90.7	98.3	83.8
Homa Bay	76.8	67.1	99.4	64.4	91.2	85.8	99.3	83.4
Marsabit	97.1	28.7	99.1	67.5	97.8	96.2	94.7	83.0
Samburu	89.6	32.2	99.1	64.1	97.6	97.2	97.7	82.5
Kakamega	81.3	54.0	99.0	73.1	98.7	99.4	69.2	82.1
Migori	78.3	59.3	99.4	57.2	92.9	88.0	97.3	81.8
Tana River	84.3	35.8	97.2	70.2	94.4	91.8	98.3	81.7
Mandera	79.8	43.0	98.5	42.7	95.3	95.1	93.9	78.3
Turkana	79.0	25.3	99.4	61.8	95.9	91.3	93.1	78.0
Wajir	64.7	24.1	97.3	49.5	96.8	95.1	94.7	74.6
West Pokot	88.8	30.0	98.0	31.2	91.1	88.2	94.7	74.6
National	86.8	64.1	98.8	75.0	96.8	95.1	95.8	87.5
Target	*66.44*	*90*	*100*	*100*	*26*	*33*	*12*	
Max score	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	

Data Source: KNBS (2014), KDHS (2014), KIHBS (2015/16); and authors' computations

4.5.2 Nutrition index findings

The study factored in five key nutrition indicators in the computation of the nutrition index. These indicators include the proportion of children who are stunted, wasted, and underweight, the proportion of children aged 6-59 months who received Vitamin A supplements, and the proportion of children consuming adequately iodized salt. Using the outlined approach in the methodology (section 2.3.2), the nutrition index for the counties was computed and the results are presented in Table 5 below. A county was awarded 100 per cent index score if it has attained the national target for the specific nutrition indicators; if not, it was awarded accordingly using the formula presented in the methodology. The total nutrition index score was arrived at by taking the average scores for the five nutrition indicators for the respective counties.

An aggregate or total index score of 100 per cent would suggest that a county achieved the five national targets; i.e. for stunted, wasted, underweight, receipt of vitamin A supplements and consumption of adequate iodized salt. The findings showed that Kiambu County attained the highest nutrition index score of 95.8 per cent out of the possible 100 per cent. This was contributed by some indicators where the county has attained the set national and SDG targets, hence scoring the maximum attainable index score. For instance, the proportion of children who were stunted and underweight–the county has surpassed the set targets and therefore performing better relative to other counties. Nyeri, Homa Bay, Murang'a,

Kisumu, and Kirinyaga are among the top counties with higher nutrition index scores. Counties with higher index scores implies that they are performing well in improving the indicators that support the status of children relating to nutrition status.

Murang'a County performed better relative to all other counties in terms of the proportion of children who were not stunted; the county is approaching the set national target. While for stunted children, Kiambu County has surpassed the SDG target of reducing the proportion of children who are stunted to below 14.7 per cent. However, for underweight indicator, about 15 counties had surpassed the 8.4 SDG target.

Mandera County scored the least index score amongst all the other counties with a score of 72.3 per cent against the possible 100 per cent. This implies that, on average, the county is 27.7 per cent shy-off from the national nutrition targets. Some of the indicators that contributed to this low index score in Mandera include low performances in reducing the proportion of children who are stunted, wasted, and underweight. Other low index performers include West Pokot, Samburu, Kilifi, Turkana, and Marsabit. Counties with lower index scores implies that they are underperforming in the indicators that support the status of children relating to nutrition status. The summary of the index score is presented in Table 5 below.

Table 5: Selected nutrition indicators index scores (%)

County/ National	Non-Stunted children (%)	Non-Wasted children (%)	Not Underweight children (%)	Proportion of children aged 6 to 59 months- Received Vitamin A supplement	Proportion of children consuming adequately iodized salt.	Total Index Score
Kiambu	100.0	97.7	100.0	81.3	100.0	95.8
Nyeri	99.5	97.6	100.0	76.1	100.0	94.6
Homa Bay	95.3	97.7	100.0	79.2	99.7	94.4
Murang'a	94.6	98.6	100.0	76.4	100.0	93.9
Kisumu	96.1	97.8	100.0	74.0	100.0	93.6
Kirinyaga	97.1	96.1	100.0	76.7	98.9	93.8
Mombasa	92.5	95.9	98.7	81.7	100.0	93.8
Bungoma	86.8	96.0	97.2	87.6	99.4	93.4
Makueni	87.8	97.9	98.0	82.1	99.7	93.1
Vihiga	89.7	97.4	100.0	76.3	98.5	92.4
Laikipia	85.7	95.6	94.0	90.1	98.9	92.9
Nyandarua	83.2	98.0	100.0	80.5	100.0	92.3
Taita Taveta	89.3	92.8	100.0	78.9	99.6	92.1
Kwale	82.4	95.6	96.3	86.6	98.1	91.8

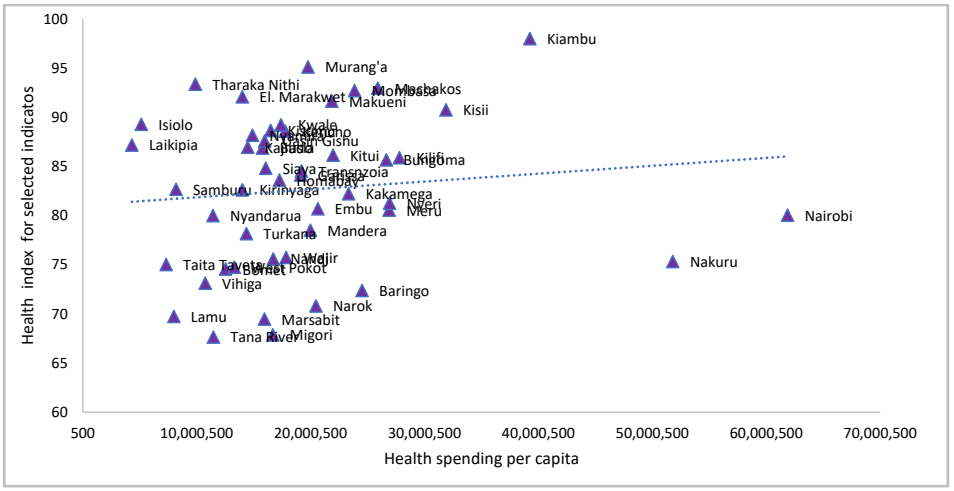
Isiolo	94.8	90.9	95.1	81.2	96.7	91.7
Embu	85.8	97.0	97.1	78.5	100.0	91.7
Nairobi	86.8	96.0	97.2	77.7	100.0	91.5
Nyamira	87.3	95.9	98.7	75.4	100.0	91.5
Migori	86.3	96.0	99.8	73.3	99.8	91.0
Elgeyo Marakwet	82.2	95.7	96.1	80.7	100.0	90.9
Garissa	98.9	88.6	94.9	75.5	96.6	90.9
Nakuru	84.9	95.5	98.0	73.6	100.0	90.4
Machakos	86.2	93.5	100.0	71.6	99.0	90.1
Tharaka Nithi	78.7	96.7	97.4	74.3	98.7	89.1
Siaya	88.3	95.3	100.0	60.8	100.0	88.9
Meru	87.7	97.1	100.0	59.5	100.0	88.9
Kakamega	83.9	98.2	98.1	65.0	99.3	88.9
Uasin Gishu	80.7	97.0	96.6	68.7	100.0	88.6
Nandi	82.2	96.1	97.1	66.6	100.0	88.4
Busia	86.2	97.8	75.3	82.6	100.0	88.4
Trans Nzoia	83.0	96.1	92.5	70.2	100.0	88.4
Kisii	87.3	98.3	100.0	55.4	100.0	88.2
Bomet	75.6	98.2	96.1	69.9	100.0	88.0
Kericho	83.6	94.4	95.6	67.1	98.7	87.9
Lamu	83.0	95.8	96.3	77.2	86.0	87.7
Tana River	84.3	94.3	88.9	67.6	99.6	86.9
Kitui	63.5	96.6	87.7	84.5	99.8	86.4
Narok	78.7	97.6	96.2	57.9	100.0	86.1
Baringo	82.6	93.1	87.1	67.2	100.0	86.0
Kajiado	87.6	90.0	100.0	47.8	99.6	85.0
Wajir	86.3	85.8	86.1	58.5	98.7	83.1
Marsabit	86.2	83.7	76.3	65.0	100.0	82.2
Turkana	89.2	77.1	72.1	69.8	99.3	81.5
Kilifi	71.4	95.9	90.7	49.9	95.5	80.7
Samburu	77.4	81.7	71.7	72.6	99.3	80.5
West Pokot	63.4	85.7	67.1	64.2	100.0	76.1
Mandera	74.9	85.2	82.0	19.5	100.0	72.3
National	85.5	94.3	93.9	71.4	99.1	88.8
Target	*85.3*	*100.0*	*91.6*	*100.0*	*100.0*	
Max index score	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	

Data Source: KNBS (2014), KDHS 2014; KIHBS (2015/16) and authors' computations

4.5.3 Correlation of health spending per capita and health index

There was a positive relationship between health spending and performance, with a tendency towards high per capita spending to be associated with a higher health index score. Many counties with more or less similar per capita expenditure patterns exhibit wide variations in the health index scores. Examples are Machakos, Makueni, Murang'a, and Tharaka Nithi, which record a health index exceeding 90 per cent relative to counties with similar expenditure outlays per capita but comparatively lower health indices–including Marsabit, Migori, Narok, and Tana River. The relationships suggest there is merit in increasing health spending per capita in some counties (such as Lamu and Taita Taveta) but not necessarily in others. Specifically, some of the largest spenders, Nairobi and Nakuru, have relatively low health index scores, suggesting their path to improved performance implies need for enhanced efficiency of spending.

Figure 28: Health spending per capita and health index for selected indicators



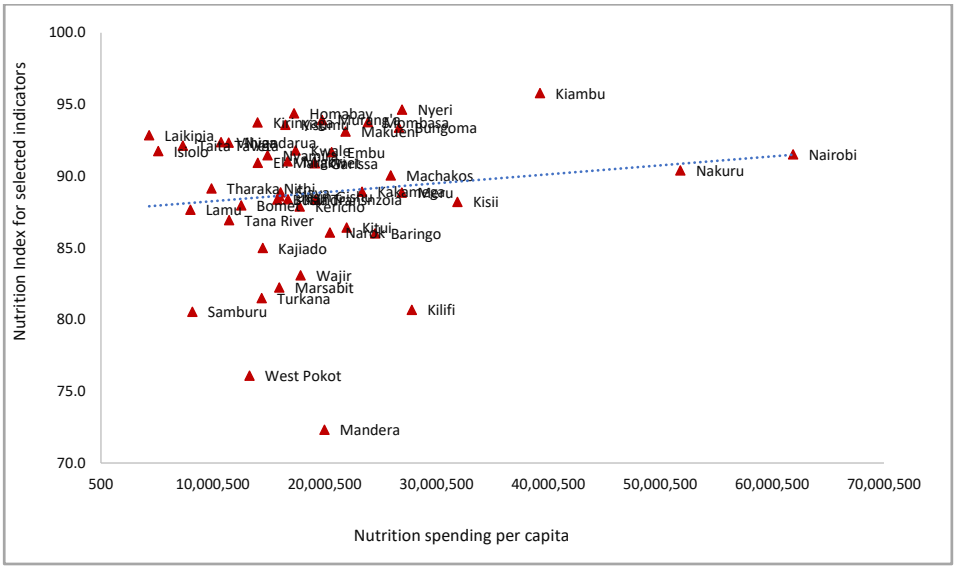
Source: National Treasury IFMIS 2014-2018 and authors' computations

4.5.4 Correlation of nutrition spending per capita and nutrition index

The overriding observation is that relatively similar nutrition expenditure per capita would be associated with varying nutrition index scores across Kenya's counties (Figure 29). The implication is that some counties may have justification

to increase per capita expenditure, such as in Samburu and West Pokot. The case of Laikipia was interesting as the county had achieved relatively high nutrition index with the lowest expenditure per capita. Although the cost structures may vary widely across the counties, the spending variations are suggestive of the need to explore more efficient ways to achieve health targets.

Figure 29: Nutrition spending per capita and nutrition index for selected indicators



Source: National Treasury IFMIS 2014-2018 and authors' computations

4.6 Conclusion

The health status of children in Kenya improved between 2014 and 2018 based on most of the health indicators, although it remained the same or declined in some key indicators. For instance, the proportion of children below 5 years who were delivered at home stood at an average of 37.4 per cent in 2014, indicating that at least two in three children born are born in hospital; this implies better access to health facilities by mothers for prenatal and maternal services. The share of fully immunized children in Kenya declined slightly from 74.9 per cent in 2014 to 73.7 per cent in 2018. Infant mortality rate increased from 39 per cent to 54 per cent between 2014 and 2018. Under-5 mortality was at 52 per cent in 2014 while neo-natal mortality was at 22 per cent. Antiretroviral therapy (ART) children coverage for HIV/AIDS positive children increased from 42 per cent in 2014 to 82 per cent in 2018.

As of 2018, only 20 counties had managed to attain minimum immunization coverage of 80 per cent of fully immunized children while 27 remained below 80 per cent. The counties with the highest proportion of fully immunized children under 1 year were Kiambu (109.3%), Embu (92.4%), and Kajiado (91.0%) while the lowest were Bomet (58.8%), West Pokot (52.0%), and Mandera (46.0%). Despite being among the lowest, Elgeyo Marakwet and Mandera registered among the highest improvements of 29.9 and 25.6 per cent, respectively.

About 7 per cent of children aged 0-14 and 12.4 per cent of youth adults aged 15-24 were HIV positive in 2017 (Kenya HIV estimates report 2018). However, the annual related deaths had decreased by 75.9 per cent from 17,891 in 2007 to 4,312 in 2017.

The national budget allocation to health increased from Ksh 36 billion in 2013/14 to Ksh 62 billion in 2017/18. This accounts for an increase in allocation as a share of the total government budget (TGB) of 2.7 per cent from 5.5 per cent in 2013/14 to 8.2 per cent in 2017/18. In 2017/18, 49 per cent of the allocation went to recurrent activities while 51 per cent went to development activities.

Less than half of the counties, 23 out of 47 counties, in the period between 2013/14 and 2017/18 had complied with the PFM Act, 2012 which requires that the National and County Governments allocate a minimum of 30 per cent of their budgets over the medium to development expenditure (PFM Act, 2012 Section 15 (2)). The share of the health budget varied across counties in 2017/18 and was on average 24.3 per cent of the total county budget allocation. The share comprised of 75.1 per cent recurrent and 24.9 per cent development allocation. Machakos, Lamu, Nakuru, Nyeri, Kericho, Kiambu, Baringo, Trans Nzoia and Embu were the only counties allocation to health as a share of their total budget above 30 per cent. Laikipia, Turkana, Tana River and Kakamega counties are the top counties with the highest development expenditure on health. Kisumu, Mombasa and Bungoma had the highest average share of recurrent expenditure at 94 per cent, 90 per cent and 89 per cent, respectively, under the review period.

Despite the introduction of free maternity and immunization services in most counties, some counties registered decreased access to these services. This could be attributed to socio-cultural and economic barriers in physical access to healthcare services, which in turn limit demand by making it difficult to eliminate harmful practices and promote primary health care.

4.7 Recommendations

4.7.1 Health

There is need for counties to observe the fiscal responsibility principles by containing non-priority and non-productive recurrent expenditure with the principal aim of managing the budget deficit and adhering to the PFM Act 2012 (30% threshold for development expenditure). Besides, the National Treasury is always expected to publish the necessary regulations that define the thresholds for public officers' wages as a percentage of national revenue, public debt borrowing, and reasonable tax in accordance with relevant laws.

Further, there is need to make concerted efforts to eliminate non-financial barriers to access to vital health services. Such initiatives include undertaking sensitization on harmful birthing and child-rearing practices in affected areas. In addition, there is need for a multi-sectoral approach to address key social determinants that affect health outcomes in various counties, for instance, in counties financing some health programmes through other sectors such a school feeding programme, which boosts the health immune system for stunted, underweight and wasted children by providing health diet.

Additionally, to reduce childhood mortality, neonatal, post-neonatal, infant, child and under-5 deaths, the study suggests the need for public health interventions that focus on child spacing and contraceptive use by mothers. This is because they are health-related problems that arise from improper spacing of child-birth, such as lack of full-breastfeeding, which in turn weakens the immune system of the child. Moreover, there is need to fast-track implementation of strategies proposed in the Kenya Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) Investment Framework, 2016, and enhance automation of administrative data for effective monitoring and evaluation.

The linkages between health financing and health outcomes remain weak. Both National and County governments need to develop strategies for institutionalizing a results-based financing framework as recommended in Kenya's RMNCAH Investment Framework, 2016. Also, both the National and County Government could couple supply-side interventions with innovative demand-side approaches to scale up coverage and enhance adherence to KQMH in health facilities.

There is also need to optimize existing public and private sector investments in the health sector to address vital gaps and support the effective and efficient delivery of high impact interventions. Further, there is need to promote community engagement, which is key to generating demand for healthcare services, promote behaviour change and enhance social accountability.

There are disparities in equitable access to both maternal and child health and nutrition services across counties. There will be need for targeted investments to prioritize high burden counties to address current inequities while incorporating evidence-based interventions for children, adolescents, and women in county integrated and annual development plans.

4.7.2 Nutrition

Although Kenya has made significant progress in reducing stunting from 2009 and 2014, the vulnerability to undernutrition is still high. The 2017 drought has put a high number of children at risk, particularly in the arid and semi-arid counties. In this respect, implementation of the MTP III, which is meant to support the development and implementation policies, legal and institutional reforms on nutrition, will address the gaps still witnessed in the counties. The nutrition policy and legal instrument focuses on fast-tracking the implementation of the National Food and Nutrition Security Policy 2012; National Nutrition Plan of Action; Breast Milk Substitutes (Regulation and Control) Act (2012); mandatory fortification of cereals and oils; and Maternity Act, and fast-tracking the approval of proposed policy, legal and institutional reforms, including the enactment of the Food and Nutrition Security Bill 2014.

The MTP III also calls for the need to expedite the finalization and adoption of the National Food and Nutrition Security Policy Implementation Framework, allocating sufficient resources at national and county levels for proposed nutrition-related policy, legal and institutional reforms and enhancing multi-sectoral engagement, coordination, and planning for nutrition. The plan further outlines the need to mainstream nutrition in all relevant/applicable sectors, and ensure the realization of nutrition-related articles in the Constitution of Kenya (2010), specifically Article 43 - every person has the right to be free from hunger, and Article 53 - every child has the right to basic nutrition. In addition, there is need to fast-track the realization of the Scaling Up Nutrition (SUN) commitments and facilitate the rollout of SDG 2 “End Hunger, Achieve Food Security and Improve Nutrition and Promote Sustainable Agriculture” to achieve the related targets below.

The MTP III also calls for the development of a Physical Development Act in relation to learning institutions in urban areas to help ensure there are designated areas for play and recreation for children; and that all learning institutions provide healthy snacks and meals to their learners. In addition, it proposes the development a policy on taxation of high sugar and calorie commodities to

mitigate the growing obesity challenge and deepening investments in supporting resilience in nutrition.

5. Children and Education

5.1 Overview

This section reviews the status of children's education in Kenya with a key focus on education budget and school enrolment. The legal and policy frameworks that support education and their implications on children are discussed. The section further discusses the progress of key education indicators, both at the national and county level. The child education indicators include net enrolment ratio and gender parity index for pre-primary, net enrolment ratio and gender parity index for primary and net enrolment and gender parity index for secondary education. This section covers a review of the situation of children in Kenya under the education sector planning context, budgeting, and performance. The sector's most commonly used indicators are the number of schools and corresponding school sizes for each level; enrolments and enrolment rates for each education level; comparative schooling profiles for selected years; promotion, repetition, and dropout rates selected for internal efficiency indicators; teachers and pupil-teacher ratios; deployment/distribution of teachers; textbooks and pupil textbook ratios; classrooms and class sizes; a proxy for system outputs measured by examination results for each of the relevant levels; and infrastructure[13].

Children access to education is discussed under access to pre-primary, primary, and secondary education sections. Finally, an education index was computed from the expected target to gauge the education status of children. The section also sought to assess the key findings relating to children's education indicators; review emerging issues in children's education; and make recommendations based on findings of the analysis.

5.2 Education Legal and Policy Framework and Implications on Children

The management of education sector falls under the Ministry of Education in Kenya. The mandate of the Ministry is derived from the Constitution of Kenya 2010, Chapter 4 Articles 43 (1(f)), 53(1(b)), 54, and 56(1(b)), that have provisions on children's right to free and compulsory basic education, including quality education services, and to access educational institutions and facilities for persons with disabilities that are integrated into society, to the extent that is compatible with the interests of the person. This includes the use of sign language, braille, or other appropriate means of communication, and access to materials and devices to overcome constraints arising from the person's disability. There are also

13 Basic Education Statistical Booklet 2016.

provisions on the representation of minorities and marginalized groups in special opportunities in educational and economic fields.

The functions of the National Government as contained in Schedule 4 of the Kenyan Constitution 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, village polytechnics, home-craft centres, farmers training centres, and childcare facilities. Development partners play a key role in contributing to the social development of a nation because of better education outcomes. This is achieved through budgetary support, projects/programmes, and technical assistance by the partners[14].

Further, the Basic Education Act, Cap 14 of 2013, governs the provision of basic education in Kenya. The Act gives guidelines for the establishment of education governance structures at all levels; and the development of learning institutions, their management, administration, curriculum development, and teacher education. The Children Act of 2001 provides for education as a right to all children.

Parliament, over the years, has also enacted a series of complementary Acts to improve the sector, such as: Teachers Service Commission (TSC) Act Cap 212 of 1967; Kenya National Examinations Council (KNEC) Act Cap 225A of 1980; Kenya Institute of Curriculum Development (KICD) Act No.4 of 2013; and Local Government Act Cap 265 of 2010. Moreover, the executive further provided guidance of the management of the sector under Executive Order No. 2/2013 on the Organization of the Government of the Republic of Kenya.

The government is also a signatory of international declarations, protocols, and conventions committed to providing education for all citizens while providing a framework for enhancing social inclusion. Under Agenda 2030, SDG Target 4.1 to ensure that all girls and boys complete free, equitable, and quality primary and secondary education leading to relevant and effective learning outcomes by 2030, and SDG Target 4.2 to ensure that all girls and boys have access to quality early childhood development, care, and pre-primary education so that they are ready for primary education by 2030. Both ACRWC Article 11 and UNCRC Article 28 require that member States implement no less than the following as a means to achieving the right: make primary education compulsory and available free to all; encourage the development of different forms of secondary education; take measures to encourage regular attendance at schools and the reduction of drop-

14 Role of Development Partners in Adaptation Planning by Philip M. Gwage: World Resource Report.

out rates; and make higher education accessible to all based on capacity and ability by every appropriate means. ACRWC further requires that States take special measures in respect of female, gifted, and disadvantaged children, to ensure equal access to education for all sections of the community. Government commitments to the UNCRC and the Constitution (2010) obligate the country to implement children's rights to the maximum extent of their available resources and where necessary seek international co-operation.

Despite all these laws put in place to enhance child education, the country still faces a number of challenges that prevent children from accessing education. There are still reported cases of sexual abuse among school going children. Some rural areas still report cases of early and forced marriages resulting to teenage pregnancies. There has also been concerns on cost of education despite primary and secondary education being free and compulsory.

5.3 Education and Vocational Training Budget and Expenditure

Early childhood development and education (ECDE) and TVETs are devolved functions to county governments under Schedule IV of the Constitution of Kenya 2010. Therefore, under MTP III, the following projects were to be implemented in line with Early Childhood Development and Education (ECDE): reviewing of ECDE policy frameworks; establishment of ECDE resource centres in the 47 counties including three feeder schools in each of the nine pastoral counties; provision of capitation grants at Ksh 1,020 (with adjustment for children with special needs for education) per child enrolled in public ECDE centres; and recruitment of 48,000 trained ECDE teachers (24,000 in the first year and 6,000 in each of the four subsequent years). With regard to vocational training, the government sought to implement no less than the following: establishing of technical training institutions in nine counties without public TVET institutions; raising awareness about TVETs to ensure increased enrolment; and providing TVET institutions with engineering and science equipment, and laboratories. The government also sought to review the curriculum in response to the Constitution while focusing on national values, talent nurturing, and any other emerging issues in education.

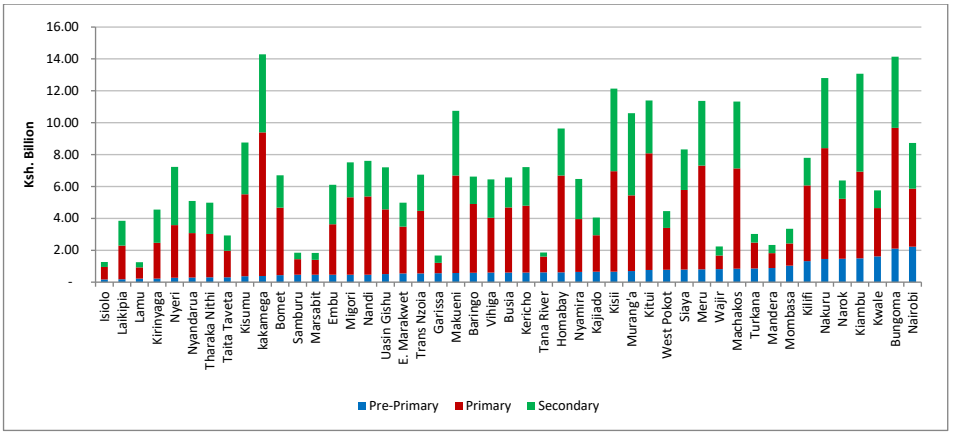
5.3.1 National education allocation and expenditure

As provided for in Article 53 of the Constitution of Kenya, every child has basic rights that include the right to education among other basic needs. Further, this has been stressed both in the Convention on the Rights of the Child and the Africa Charter on the Rights and Welfare of the Child, of which Kenya is a signatory. According to the Education Parliamentary Committee report, 2020, the status

of daycare facilities in the country were not child-friendly and habitable for pupils. To bridge this gap, the committee recommended additional funds from both National and County Governments. Since devolution, the allocation to the education sector has been increasing; however, it is not sufficient according to the recommended allocation of Ksh 2,292 per learner annually.

The overall budget for basic education increased from Ksh 269.1 billion in 2016/17 to Ksh 315 billion in 2017/18. Allocation to ECDE as a share of the education budget was highest in Mandera County at 38 per cent and lowest in Kakamega County at 3 per cent. Allocation to primary education as a share of the education budget was highest in Baringo and Nandi at 65 per cent and lowest in Mandera County at 40 per cent. Allocation to secondary education as a share of the education budget was highest in Nyeri County at 50 per cent and lowest in Mandera and Samburu at 22 per cent (Figure 30). The increased spending has contributed to the increasing access to ECDE opportunities across counties, which is critical in achieving children's development to full potential.

Figure 30: National overall basic education allocation in 2014-18 (Ksh billion)



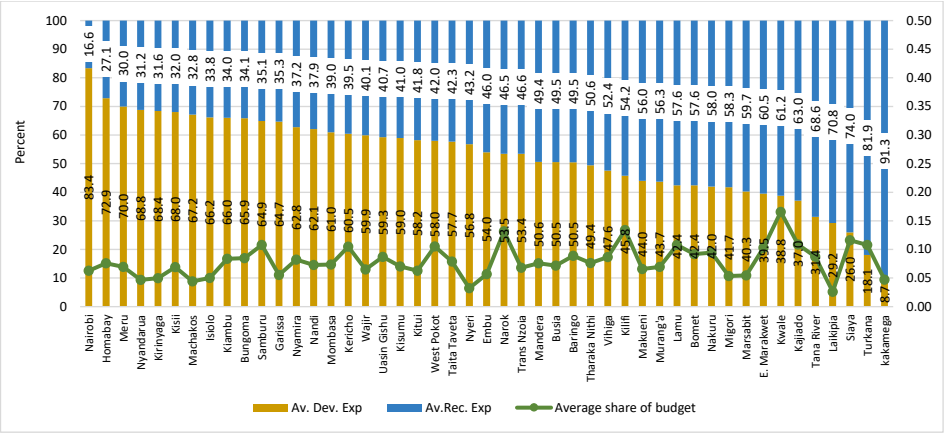
Source: National Treasury IFMIS (various)

5.3.2 County education allocation and expenditure

Following the devolution of ECDE, counties have continued to allocate more resources to the sector. Total expenditure on ECDE constituted 62.6 per cent development and 37.4 per cent recurrent during the review period. Kakamega County had the largest development expenditure share of ECDE at 91 per cent followed by Elgeyo Marakwet at 62 per cent while Kirinyaga and Kiambu had the highest recurrent expenditure share of ECDE of 93 per cent and 86 per cent,

respectively in 2014-18 (Figure 31). From the findings, it is evident that counties continue to record variation in the standards and implementation of ECDE policy across the different counties, including underfunding and mis-prioritization[15]. Further, there is a bias towards capital expenditure items, including physical infrastructure with operating expenditure such as teacher training and quality assurance receiving the lowest allocation. In addition, the share of ECDE budget was barely 10 per cent of the total county budget, hence confirming the findings that ECDE has been underfunded despite that its benefits largely accumulate in the future[16]. This puts it at a disadvantage in budget discussions involving trade-offs with other sectors that offer more immediate economic payoffs.

Figure 31: Share of ECDE budget and spending by economic classification, 2014-18



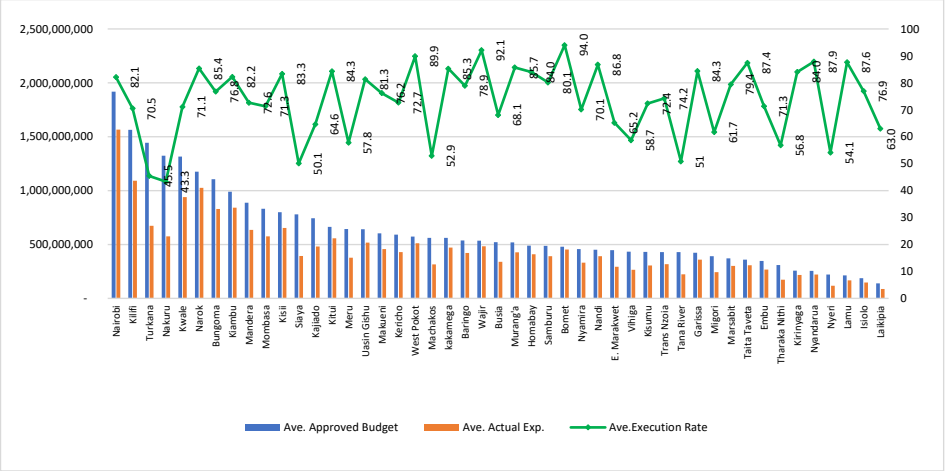
Source: Office of the Controller of Budget (Various) reports, 2014-2018

The ECDE share of the total county budget increased from 7.4 per cent in 2014/15 to 8.1 per cent in 2015/16 before decreasing to 7.5 per cent in 2017/18. As a share of the total county budget, the highest increments of 5.9, 4.6, and 4.5 per cent were observed in Narok, Wajir, and Nyamira counties during the period. Kwale, Narok, and Kiambu counties had the highest allocation to ECDE as a share of total county revenue while Kirinyaga, Kakamega, and Kisumu counties had the lowest in 2014-18.

15 https://globaldevincubator.org/strengthening-early-childhood-development-ecd-delivery-in-kenyan-counties/.

16 UNICEF global resource guide on public finance for children in Early Childhood Development, Partners Edition, UNICEF 2020.

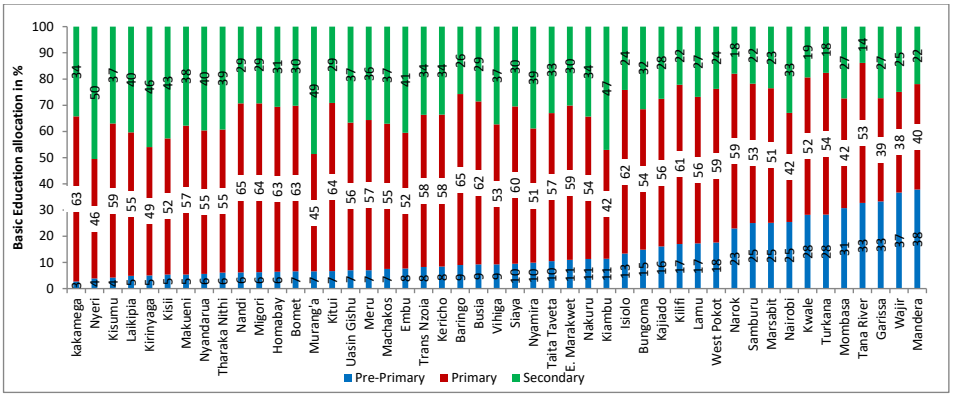
Figure 32: ECDE budget allocation, expenditure and execution rates, 2014-18



Source: Office of the Controller of Budget (Various) reports, 2014-2018

In nominal terms, the total budget increased from Ksh 23.89 billion in 2014/15 to Ksh 33.77 billion in 2017/18 while expenditure increased from Ksh 16.9 billion in 2014/15 to Ksh 24 billion in 2017/18. This accounts for an increase in the overall absorption rate from 70.7 per cent in 2014/15 to 71.2 per cent in 2017/18. The counties with the highest allocation in nominal terms in 2017/18 were Nairobi, Bungoma and Kwale at Ksh 2.2 billion, Ksh 2.1 billion, and Ksh 1.6 billion. Lamu Laikipia and Isiolo recorded the lowest allocation in nominal terms at Ksh 217 million, Ksh 186 million, and Ksh 169 million. Majority of the counties increased allocation in nominal terms during the period, except Isiolo, Mandera, Kilifi, Tharaka Nithi, Kakamega, Uasin Gishu, Kisumu, Turkana, and Bomet. Absorption rates in counties range from a maximum of 132.9 per cent in Nandi to a minimum of 33.8 per cent in Siaya. The allocation and expenditure vary across the counties depending on the number of schools in the counties (Figure 33).

Figure 33: Share of basic education allocation by level, 2014-18

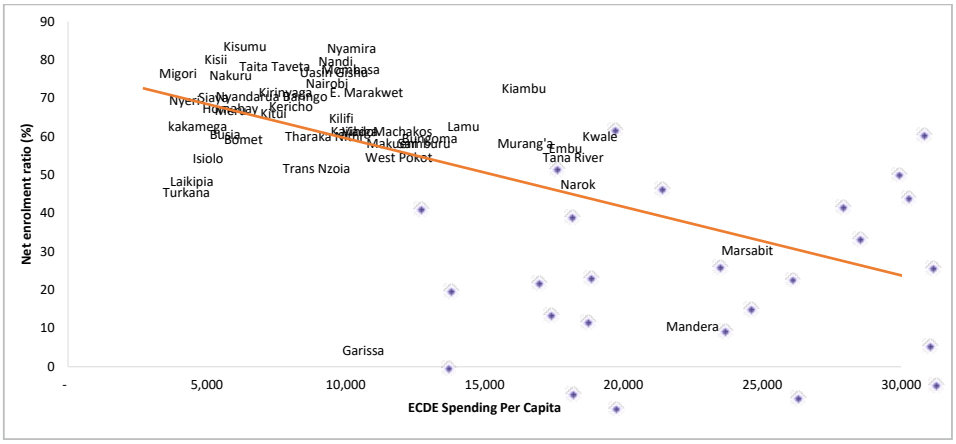


Source: Office of the Controller of Budget (Various) reports, 2014-2018

Investment in infrastructure, human resources, and provision of basic needs such as enhancing the school feeding programme will be critical for all the county governments to achieve a desired level of development. Partnerships will be key to bridge the existing financial gaps.

There was a significant variation of the indicators for Marsabit, Wajir and Mandera that have comparatively the highest ECDE spending per capita but have the lowest ECDE net enrolment rates relative to other counties. Notably, the counties of Laikipia, Turkana, and Garissa had a relatively lower ECDE spending per capita, which partially contributes to the comparatively lower ECDE net enrolment rates. Kisumu, Kisii, Migori, and Nyeri counties have, however, recorded higher net enrolment rates at a comparatively lower spending per capita, suggesting that while higher budget allocation is important, identifying creative approaches such as school health, feeding and nutrition programmes that would ensure pupil retention is key.

Figure 34: ECDE average spending per capita (2014-18) and net enrolment rates



Source: Counties spending frameworks

5.4 Children and Access to Education

The human capital development of children through education is vital to future social and economic development outcomes. Kenya envisions to be a newly industrialized, middle-income country that provides a high quality of life to all its citizens by 2030 in a clean and secure environment. Moreover, the country is currently implementing the 'Big Four' agenda, which requires skilled human resources to actualize the foreseen outcome of the initiatives. Cognizant of this, the Government has incorporated SDG 4 that focuses on ensuring inclusive and equitable quality education and the promotion of lifelong learning opportunities for all in the education sector. As aforementioned, the sector plays a key role in providing the required skilled human resources, research, and development towards the attainment of the national and county goals.

In Kenya, three levels constitute basic education, which is free and compulsory; and a right to every citizen. Pre-primary education targets children aged 4-5 years; primary education targets children aged 6-13 years; and secondary education targets those aged 14-17 years. The pre-primary population increased from 2.95 million in 2015 children to 3.18 million in 2018; the primary-aged population increased from 10.22 million in 2015 to 11.27 million in 2018; and secondary-aged population increased from 3.63 million in 2015 to 3.9 million in 2018. Although developmental support for 0-3 years is contextually covered under health support and social protection for marginalized groups, investment in this early stage of child development has long-term effects on both education outcomes and labour productivity.

Under MTP III for the period 2013-2017, the following projects were to be implemented in line with Early Childhood Development and Education (ECDE): reviewing of ECDE policy frameworks; establishment of ECDE resource centres in the 47 counties, including three feeder schools in each of the nine pastoral counties; provision of capitation grants at Ksh 1,020 (with adjustment for children with special needs for education) per child enrolled in public ECDE centres; and recruitment of 48,000 trained ECDE teachers (24,000 in the first year and 6,000 in each of the four subsequent years). The National and County Governments also sought to improve basic education infrastructure. In particular, they sought to rehabilitate classrooms, construct and equip classrooms, Multipurpose Development Training Institute (MDTI), and Alternative Basic Education (ABE)/Non-Formal Education (NFE) secondary centres. To enhance transparency and accountability at all levels of education, Education Management Information System (EMIS) Centres are to be established in all counties.

Though Kenya has generally made considerable progress in improving overall outcomes for basic education, there remains opportunities for improvement. Gross enrolment rates (GER) for pre-primary education (ECDE), which is a devolved function, have improved from 73.6 per cent in 2014 to 94.4 per cent in 2018; however, net enrolment rates (NER) have decreased from 71.8 per cent in 2014 to 63.5 per cent in 2018. Primary Education and Secondary Education remain functions of the National Government and, like ECDE, GER for both levels increased during the period. However, NER for primary education decreased from 88 per cent in 2014 to 82.4 per cent in 2018, implying an increase in number of over-age children at primary education level, while NER for secondary education improved from 47.4 per cent in 2014 to 53.2 per cent in 2018. Female net enrolment rate was higher than male net enrolment rates by 2.5 per cent for ECDE, 2.3 per cent for primary level, and 6.3 per cent for secondary level. Nevertheless, there are marked disparities across levels of education and regions.

The country's enrolment rates are relatively lower than selected comparator countries in Asia and Africa. In 2010, Kenya's tertiary gross enrolment rate (4.1%) was lower than for Korea (96.1%), Egypt (31.2%), Ghana (6.2%), and Sub-Saharan Africa (5.5%). This scenario can be attributed to low progression levels within and between education levels. As an example, the transition from secondary education to university education increased from 4.5 per cent in 2002 to 6.5 per cent, the university education GER remained low at 4.1 per cent compared to the national target of over 10 per cent. At the secondary education level, Kenya's NER (32%) was slightly higher than the Sub-Saharan Africa (29.5%) but lower than for Egypt (71.2%), Ghana (46.4%), and South Africa (71.9%). Primary school NER for Kenya (91.4%) was higher than that of South Africa (87.5%) and close to that of Egypt

(93.6%) and Korea (98.6%)[17]. It would therefore be important to continually invest in early childhood education for enhanced education attainment at tertiary education levels.

5.5 Access to Pre-Primary Education

The National Gross ECDE enrolment rate increased from 73.6 per cent in 2014 to 94.4 per cent in 2018 while net enrolment rate (NER) declined from 71.8 per cent to 63.5 per cent during the same period. The NER indicates that there was a decline in the number of children who joined ECDE after the implementation of devolution among children who had attained school-going age. Moreover, more boys had enrolled in EDCE than girls in 2014 by 3.2 per cent while girls' enrolment exceeded boys by 2.5 per cent in 2018. This can be partly attributed to the campaigns advocating for girl child education in the recent past by several lobby groups in the country.

Table 6: Status of enrolment indicators

	2015	2016	2017	2018	2019	2020
School-age population						
Pre-primary (4-5 years) (million)	2.95	3.02	3.10	3.18	3.26	3.34
Primary (6-13 Years) (million)	10.22	10.7	10.98	11.27	11.56	11.86
Secondary (14-17 Years) (million)	3.63	3.73	3.82	3.90	4.00	4.10
Enrolment 3-17 years						
Pre-primary actual (3-5 years) (million)	3.17	3.19				
Pre-primary enrolment (million) (assuming over 80% GER) (4-5 Years)	2.56	2.63	2.70	2.77	2.84	2.92
Primary enrolment						
Primary enrolment (million) (actual)	10.09	10.26				
Primary enrolment (million) (assuming over 100% GER)	10.09	10.26	12.08	12.39	12.71	13.04
Total primary enrolment (million)	10.09	10.26	12.08	12.39	12.71	13.04
Enrolment in public schools (million)	9.38	9.54	11.23	11.52	11.82	12.13
Enrolment in private schools (million)	0.71	0.72	0.85	0.87	0.89	0.91
Secondary enrolment						
Secondary enrolment (million) (actual)	2.56	2.70	2.75	2.78	3.20	3.70
Secondary enrolment (million) (assuming over 85% GER)	2.80	3.00	3.10	3.30	3.40	3.50
Total secondary enrolment (million)	2.56	2.70	2.71	2.74	2.76	2.77
Enrolment in public schools (million)	2.22	2.28	2.33	2.40	2.46	2.52

17 UNDP (2011)

Enrolment in private schools (million)	0.34	0.42	0.38	0.34	0.30	0.25
Special needs (secondary) enrolment ('000)	14.00	14.00	15.00	15.00	15.00	15.00

Source: GOK (Economic Survey, Various)

Notably, there was a 1.5 per cent improvement in private schools' enrollment in 2018 while public-school average increased by 10.0 per cent. The expansion in private sector provision can be attributed to the increased private sector provision of education at pre-primary education level.

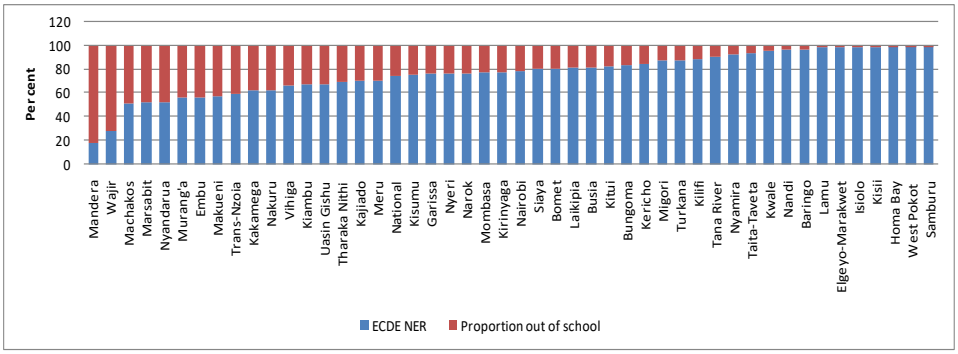
Table 7: National selected pre-primary education sector performance indicators

Pre-primary School	2014	2018
Gross enrolment ratio (%)	73.6	94.4
Net enrolment ratio (%)	71.8	78.4
Male %	73.4	79.5
Female %	70.2	75.0
School size (public) (pupils) (average)	75.0	85.0
Gender parity index (value)	1.0	1.0
Pupil teacher ratio (No.) (public)	31.0	31.0
Proportion of enrolment in private schools (%)	31.5	33.0

Source: Ministry of Education

Figure 35 shows that in 2014/15, Mandera, Wajir and Machakos recorded the largest proportion of out-of-school children. However, counties have in the last three years invested substantially in pre-primary education by building more pre-primary schools, hiring more ECDE teachers and launching school feeding programmes, thus indicators are expected to improve over time.

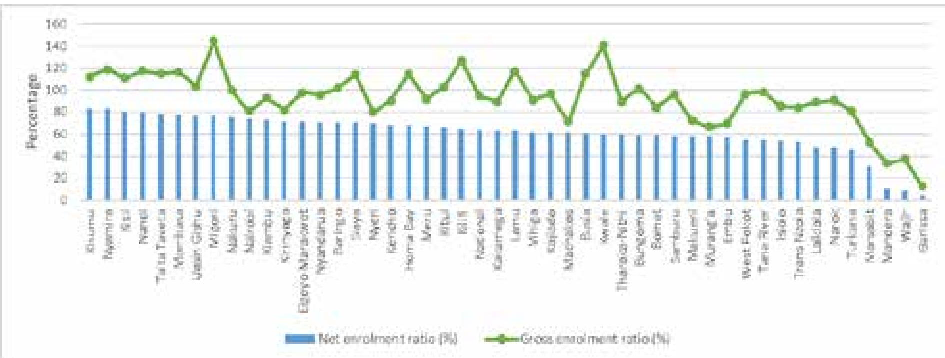
Figure 35: ECDE NER and out of school children, 2014/15



Source: Ministry of Education

Considering GER and NER across the counties in 2018, Mandera, Wajir, and Garissa counties recorded the lowest rates in the country, suggesting that more children ought to have enrolled in ECDE but were yet to do so. GER in these counties was less than 40 per cent while NER was less than 12 per cent. Other ASAL counties did better than the aforementioned counties. The best recorded NER for ECDE in the country was at 83.5 per cent for Kisumu County against the national average of 63.5 per cent. Only 22 out of 47 counties were able to record a better NER than the national average while only 7 counties registered a NER of less than 50 per cent. Nationally, therefore, 36.5 per cent of children who had attained the age of joining EDCE were yet to join as of 2018. Kwale (140.9%) and Migori (144.7) counties recorded the highest GERs, surpassing the national average of 94.4 per cent in 2018 (Figure 36).

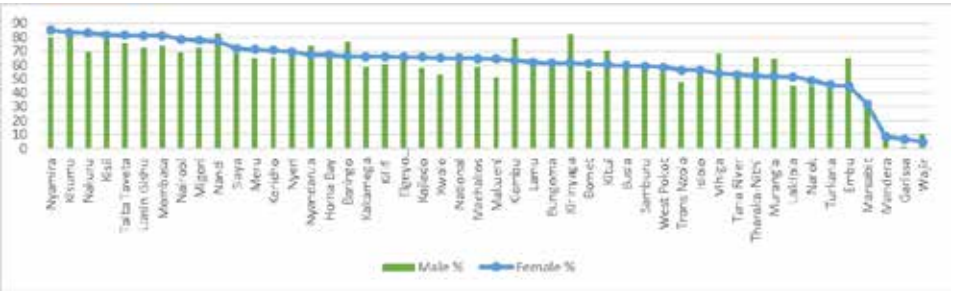
Figure 36: Pre-primary education GER and NER across counties 2018 (%)



Source: Ministry of Education

Nationally, there were more girls (65%) compared to boys (62.5%) enrolled in ECDE as of 2018. Nyamira County recorded the highest number of enrolled girls at 84.9 per cent while Wajir County recorded the poorest rate at 4.9 per cent. Besides, less than half of the counties were able to record a better NER than the national average (Figure 37). Nandi, Kirinyaga, Kisumu and Nyamira counties recorded over 80 per cent net enrolment for boys, slightly followed by Kiambu County that recorded 79.2 per cent. Garissa County recorded the lowest enrolment rate of 1.9 per cent for boys. Contrary to girl's enrolment rates, more than half of the counties were able to record a better boys' enrolment rate than the national average (Figure 37). Considering gender equality in accessing ECDE education, 64 per cent of counties had more girls enrolled in ECDE. It is only Homa Bay county that had the same net enrolment for boys and girls. In Kirinyaga County, boy's net enrolment was 20.8 per cent higher than that of girls while girl's net enrolment in Nakuru County was 13.5 per cent higher than that of boys (Figure 37).

Figure 37: Pre-primary NER and GER by sex and county, 2018 (%)



Source: Ministry of Education

5.6 Access to Primary Education

The gross primary enrolment rate improved from 104 per cent to 107.2 per cent while the net enrolment rate (NER) decreased by 5.6 per cent between 2014 and 2018. There was inequality in access to primary education between male and female school-going children at primary schooling in favour of girls as shown in Table 8 as of 2018. The drop in NER indicates that 17.6 per cent of children who ought to have joined primary education are yet to access it. The average number of pupils in public primary schools increased from 338 to 375 students, indicating that there was more enrolment in public schools in the review period while enrolment in private schools remained constant. Besides, the pupil-teacher ratio improved from 42 to 40 in the same period. This can be attributed to the government's campaigns on the recruitment of more teachers in the education sector to improve learning outcomes.

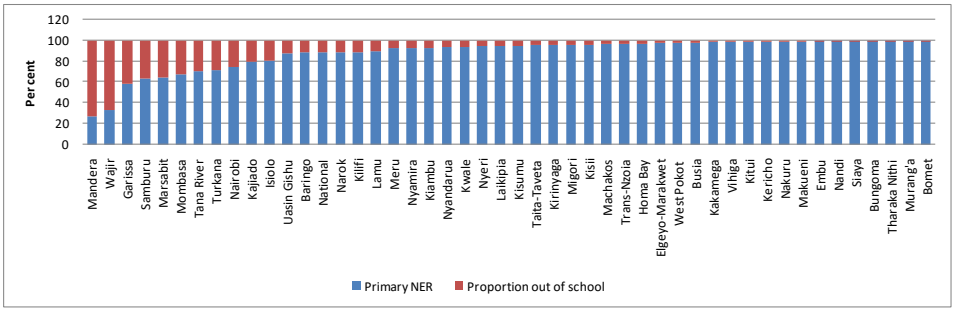
Table 8: National primary education selected education sector performance indicators

Primary School	2014	2018
Gross enrolment ratio (%)	103.0	104.8
Net enrolment ratio (%)	88.0	92.4
Male %	86.0	91.7
Female %	90.0	93.0
School size (public) average No. of pupils	338.0	375.0
Gender parity index (value)	1.0	1.0
Pupil-teacher ratio (No.)	42.0	40.0
Proportion of enrolment in private schools (%)	16.0	16.0

Source: Ministry of Education

Although primary school gross enrolment rate (NER) increased from 88.4 per cent in 2014 to 92.4 percent in 2018, regional disparities in access to education are evident, with counties in arid and semi-arid areas recording low enrolments. In 2015, Mandera County recorded the lowest primary NER of 25 per cent while Bomet County recorded the highest primary NER of 92 per cent.

Figure 38: Primary education enrolment rates (%), 2015

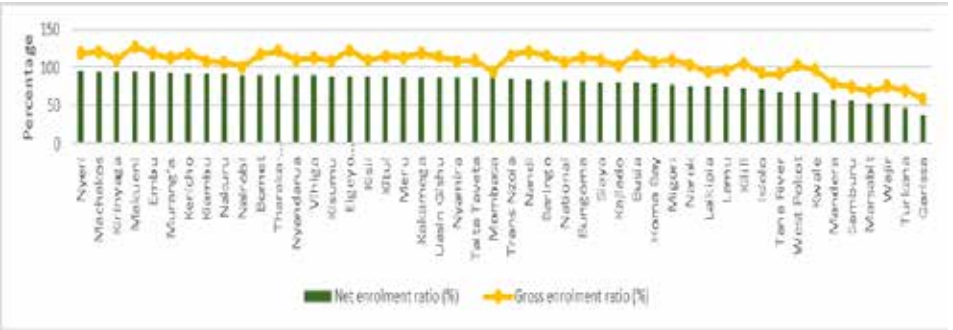


Data Source: Ministry of Education

Figure 38 shows that the 11 counties with relatively low primary NER (below 80%) are in arid and semi-arid parts of Kenya and Nairobi County. The majority (36 counties) have NER of between 80 per cent and 90 per cent. Thus, although the national NER was 88.6 per cent, most counties will not meet the target unless targeted interventions are put in place, both in the medium and long-term.

Nyeri County recorded the best NER in the country at 95.9 per cent compared to the national average of 82.4 per cent. Garissa County had the lowest NER, which was 37.8 per cent. In terms of GER, Makueni County recorded the highest rate of 127.2 per cent countrywide while Garissa County had the lowest rate of 59.1 per cent. Ranking the counties in terms of NER, the bottom 9 are ASAL counties, which indicates that access to education could be a challenge in the regions given their socio-economic conditions. However, there is need for the counties to learn from other ASAL counties such as Machakos County that ranked second, and Makueni County that ranked fourth countrywide on how to improve their NER in the future. More than half of the counties had a NER that exceeded the national average (Figure 39).

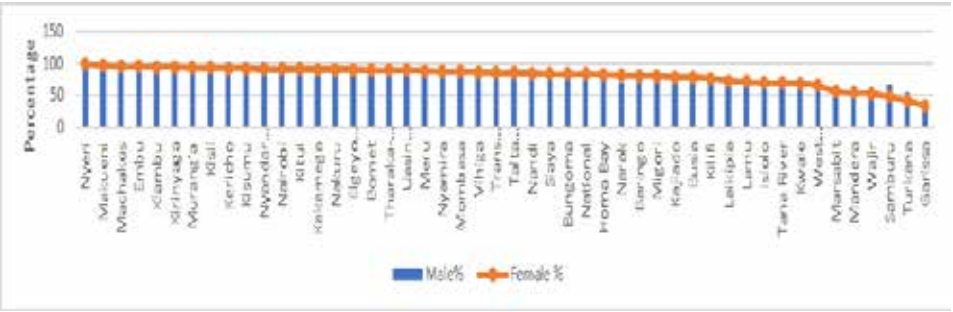
Figure 39: Primary education GER and NER across counties, 2018 (%)



Source: Ministry of Education

Nyeri County recorded the highest number of girls enrolled in primary education countrywide at 98.9 per cent against the national average of 83 per cent. Garissa County recorded the lowest rate of 33.5 per cent. More than half of the counties' girls net enrolment rates were better than the national average (Figure 40). Machakos County had the highest rate of enrolled boys in the education level at 92.9 per cent while Garissa County had the lowest rate of 41.8 per cent. Moreover, 62 per cent of the county's boys enrolment was better than the national average. Generally, counties that recorded low enrolment rates were from ASALs. Considering gender equality in accessing primary education, Machakos County had an equal rate for both girls and boys. Besides, 60 per cent of the counties had more girls in schools compared to boys. Samburu and Narok counties exhibited the most disparities in terms of boys and girls NER for primary education. For instance, Samburu County had 17.4 per cent more boys in primary school than girls while Narok County had 10 per cent more girls enrolled than boys (Figure 40).

Figure 40: Female/male primary enrolment across counties 2018 (%)



Source: Ministry of Education

5.7 Access to Secondary education

GER in secondary school rate improved from 58.7 per cent to 70.3 per cent while the NER increased from 47.4 per cent to 53.2 per cent during the review period. The results indicate that there are more over-aged students who did not access secondary education and 46.8 per cent of students who had attained the age to join secondary education did not access secondary education in 2018. The situation has been addressed in the current government's policy commitment to achieve 100 per cent transition to secondary school education policy in 2020. In addition, there were more female students at the secondary school level of education than boys by 4.4 per cent in 2018. Previously in 2014, boys were more than girls at a similar rate of 4.4 per cent, highlighting inequality in access to education. An interesting observation was the significant decline in the proportion of enrolment in private schools from 30.7 per cent in 2014 to 5.8 per cent in 2018 (Table 9).

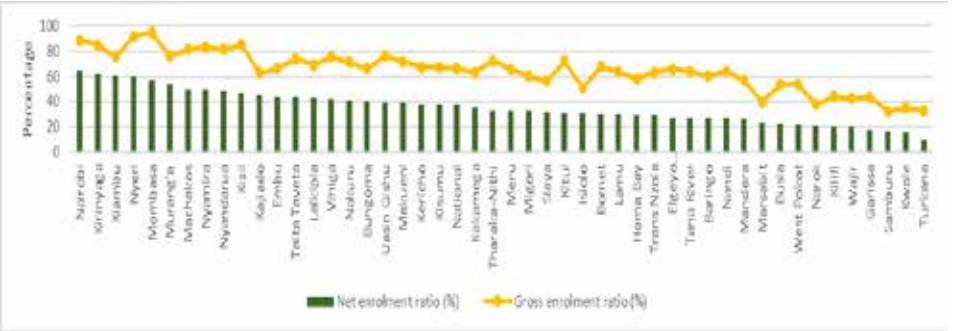
Table 9: National selected secondary education sector performance indicators

Secondary school	2014	2018
Gross enrolment ratio (%)	58.7	66.2
Net enrolment ratio (%)	47.4	53.2
Male%	49.6	55.4
Female %	45.2	54.8
School size (public)	-	392.0
Gender parity index (value)	0.9	0.91
Pupil teacher ratio (No.) (TSC)	30.0	32.0
Pupil-teacher ratio (No.) (TSC and BOM)	20.2	20.0
Proportion of enrolment in private schools (%)	30.7	5.8

Source: Ministry of Education (Various), Education statistical booklets 2014-2018

Nairobi County recorded the highest NER in secondary education of 65 per cent against the national average of 37.5 per cent. Besides, there were only 4 counties (Nairobi, Kirinyaga, Kiambu and Nyeri) that recorded a minimum of 60 per cent NER. Less than half of the counties had a better NER than the national average in 2018. Turkana County had the lowest NER of 9.3 per cent with several ASAL counties performing poorly in this category. Mombasa County recorded the highest GER at 94.9 per cent followed by Nyeri County, which recorded 91.8 per cent while Samburu County recorded the lowest rate at 32.1 per cent (Figure 41).

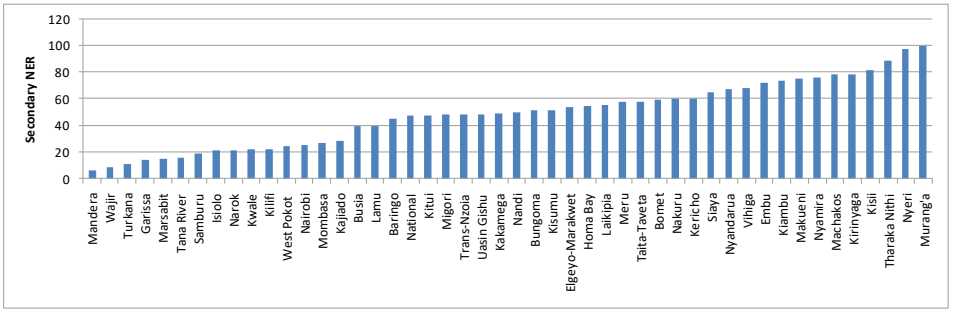
Figure 41: Secondary education GER and NER across counties, 2018 (%)



Source: Ministry of Education

Secondary education NER was relatively low and there are regional disparities (see Figure 42) in access to secondary education. In 2015, the lowest secondary NER (3.5%) was recorded in Mandera County while Murang'a County recorded the highest NER (over 80%). Thirteen (13) counties recorded a NER greater than 80 per cent, with a national average of 51.5 per cent in 2018.

Figure 42: Secondary education enrolment rates (%) (2018)



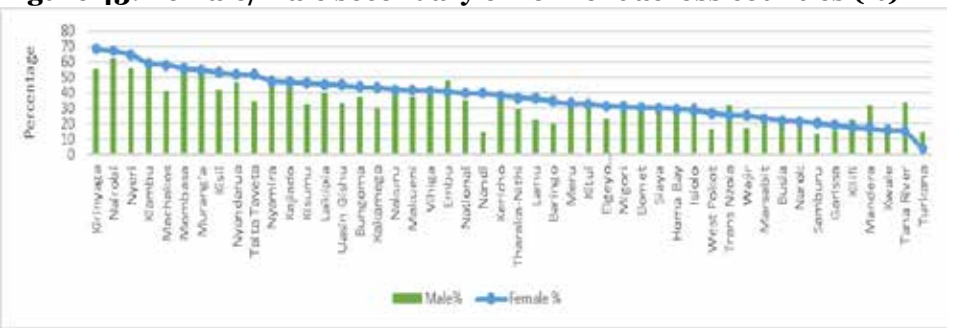
Data Source: Ministry of Education

According to the Kenya National Bureau of Statistics, the number of private primary schools grew substantially between 2003 and 2017, compared to a growth of only 33 per cent for public primary schools. As of 2019, 33 per cent of Kenya's primary schools were private, and so are 15 per cent of all secondary schools. This has boosted the enrolment rates across schools in Kenya. However, enrolment in private schools as a percentage of total enrolment was relatively low. For instance, in 2016, about 7 per cent of primary school pupils and 9 per cent of secondary school students were enrolled in private schools, respectively.

Kirinyaga County recorded the highest rate of girls' enrolment in secondary schools, which was 68.4 per cent against the national average of 39.8 per cent.

Turkana County recorded the lowest rate of 3.6 per cent. 45 per cent of all the counties managed to record a better NER for girls than the national average. For the boys, Kiambu and Nairobi had the best enrolment rates of 62.5 per cent and 62.4 per cent, respectively. Samburu County performed the poorest in terms of boy's enrolment, which was recorded at 13.1 per cent. Only 40 per cent of the counties were able to exceed the national NER for boys in the review year. Generally, most of the counties that recorded a low enrolment rate came from the ASALs. Considering gender equality in access to secondary education, Kericho County had an equal distribution, although at a low rate of 38.1 per cent for either gender. In addition, more than 60 per cent of the counties had more girls enrolled in schools than boys. Tana River county's boy's enrolment rate was 18.7 per cent more compared to girl's enrolment while Nandi County's girl's enrolment was 25.1 per cent higher than that of boy's enrolment (Figure 43).

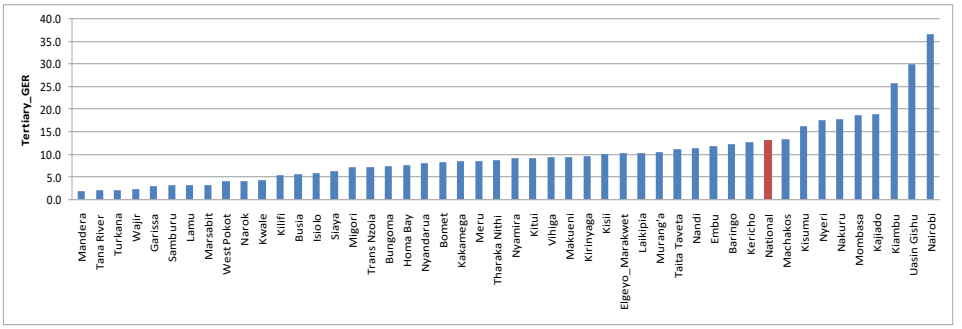
Figure 43: Female/male secondary enrolment across counties (%)



Data Source: Ministry of Education

At the tertiary level, most counties (29) had GER of less than 10 per cent while 10 counties had a GER of between 10 per cent and 15 per cent. Only 1 county had GER above 35 per cent while 7 counties recorded GER of between 15 per cent and 30 per cent.

Figure 44: Tertiary education enrolment rates (%) in 2018



Data Source: Ministry of Education, EMIS section

Regional disparities in the primary, secondary and tertiary enrolment levels may be explained by various factors, including long distances that children have to cover to get to school, especially in Arid and Semi-Arid Lands (ASALs), inadequate school infrastructure in informal settlements in urban areas, direct and indirect costs of schooling and retrogressive socio-cultural practices. Despite the establishment of boarding primary schools in ASALs, enrolment rates were still unsatisfactory. The proposals for consideration in the medium-term are presented in the next section.

5.8 Children and education index

5.8.1 Education Index Findings

The analysis factored in six key education indicators in the computation of the education index. All the indicators included in the computation of the index had Eigenvalues greater than 1 and were significant after running PCA (see Annex Table 2). The indicators are pre-primary net enrolment ratio, pre-primary gender parity index, primary net enrolment ratio, primary gender parity index, secondary net enrolment ratio, and secondary gender parity index. Using the stated approach in (section 2.3.3), the education index for all counties was computed and is presented in the table below. A county was considered to achieve 100 per cent index score if it has attained the national target for the specific indicators; if not, it was awarded accordingly using the scientific formula presented in the methodology. The total education index score was arrived at by taking the average scores for the education indicators for the respective counties.

Table 10: Selected education indicators index scores (%)

County /National	Net enrolment ratio (%) Pre-primary	Gender parity index (value) Pre-primary	Net enrolment ratio (%)_Pry	Gender parity index (Value) - Pry	Net enrolment ratio (%)_Sec.	Gender parity index (value)_ Sec.	Total Index score
Kirinyaga	71.6	93.0	94.6	99.7	62.1	100.0	86.8
Kiambu	72.5	98.0	91.3	98.6	60.5	97.9	86.5
Nyeri	69.5	97.0	95.9	95.3	59.9	100.0	86.3
Nyamira	83.0	100.0	87.0	100.0	49.2	93.0	85.4
Kisumu	83.5	98.0	88.1	100.0	38.1	95.3	83.8
Taita Taveta	78.4	97.0	86.7	96.5	43.6	100.0	83.7
Nairobi	74.0	90.0	90.6	100.0	65.0	79.9	83.2
Nyandarua	70.6	92.0	89.8	96.8	49.1	100.0	83.1
Uasin Gishu	76.8	94.0	87.1	100.0	39.6	100.0	82.9
Nakuru	75.9	100.0	91.3	98.0	41.2	88.7	82.5
Kisii	80.1	97.0	87.9	100.0	46.9	81.8	82.3

Murang'a	58.2	93.0	93.4	95.6	53.4	100.0	82.3
Machakos	61.3	93.0	95.3	95.7	49.6	97.7	82.1
Vihiga	61.4	97.0	89.7	100.0	42.3	100.0	81.7
Mombasa	77.6	91.0	86.3	100.0	56.8	74.3	81.0
Nandi	79.6	96.0	84.5	99.0	26.9	98.8	80.8
Elgeyo Marakwet	71.5	97.0	88.0	99.4	27.2	100.0	80.5
Meru	66.8	95.0	87.4	100.0	32.8	100.0	80.3
Kericho	67.9	98.0	92.2	97.7	38.1	88.0	80.3
Makueni	58.3	95.0	94.6	96.5	39.4	96.3	80.0
Tharaka Nithi	60.2	94.0	90.0	100.0	33.0	100.0	79.5
Kitui	66.0	94.0	87.9	97.6	31.4	100.0	79.5
Embu	57.0	92.0	94.2	99.2	44.0	87.6	79.0
Kakamega	62.8	100.0	87.1	92.8	35.5	92.9	78.5
Siaya	70.2	100.0	81.5	100.0	31.6	84.2	77.9
Kajiado	61.3	92.0	80.6	94.5	45.6	91.8	77.6
Baringo	70.5	98.0	82.9	94.9	26.9	91.4	77.4
Bomet	59.3	98.0	90.1	97.3	30.5	85.4	76.8
Migori	76.6	100.0	77.3	97.2	32.7	72.9	76.1
Trans Nzoia	52.9	98.0	85.1	100.0	29.1	87.6	75.5
Bungoma	59.5	100.0	82.1	84.0	40.5	84.7	75.1
Laikipia	48.3	94.0	75.9	96.8	42.6	90.7	74.7
Busia	60.5	100.0	80.3	100.0	22.9	81.8	74.2
Homa Bay	67.4	100.0	79.5	96.7	29.7	72.0	74.2
Kilifi	64.7	97.0	72.9	97.7	20.4	78.2	71.8
Kwale	60.2	96.0	67.0	96.4	15.5	92.2	71.2
Lamu	62.8	96.0	75.1	95.1	30.1	67.1	71.0
West Pokot	54.7	95.0	67.9	94.0	21.5	89.4	70.4
Isiolo	54.3	96.0	72.2	97.4	30.9	59.7	68.4
Narok	47.7	91.0	76.1	91.9	20.9	69.0	66.1
Tana River	54.6	92.0	69.1	91.5	27.0	53.7	64.6
Samburu	58.4	89.0	56.6	82.7	16.5	54.9	59.7
Marsabit	30.4	88.0	53.2	90.3	23.7	72.1	59.6
Turkana	45.4	85.0	47.5	76.9	9.3	60.0	54.0
Wajir	8.5	78.0	53.1	66.6	20.3	42.5	44.8
Garissa	4.4	81.3	37.8	82.0	17.2	45.6	44.7
Mandera	10.5	47.0	58.2	57.5	25.9	41.2	40.1
National	61.0	93.7	80.5	94.5	35.7	83.8	74.9
Maximum score	100.0	100.0	100.0	100.0	100.0	100.0	
Target	100.00	1.00	100.00	1.00	100.00	1.00	

The findings indicate that Kirinyaga County attained the highest cumulative education score index of 86.8 per cent out of the possible 10.0 per cent. This is partly contributed by some indicators where the county has achieved or nearly

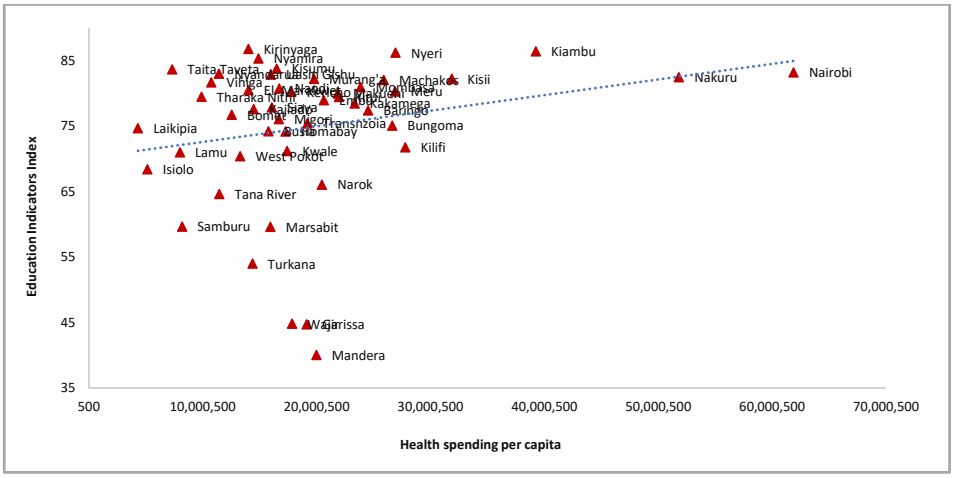
achieved the national target, for instance the gender parity index for primary and secondary education. The county has also done well in net enrolment in primary school. Kiambu, Nyeri, Nyamira, Kisumu, Taita Taveta, and Nairobi are among the top counties with higher education index scores (Table 10).

In terms of the preprimary net enrolment ratio, Kisumu County had the highest index score of 83.5 per cent against the position score 100 (recall, 100% score is achieved when the county attains the national target of 100 per cent pre-primary enrolment rate). Other counties that had relatively high pre-primary net enrolment index scores are Nyamira, Kisii, Nandi, Taita Taveta and Mombasa (Table 10).

Conversely, Mandera County scored the least total education index score amongst all the 47 counties with a score of 40.1 per cent against the possible 100 per cent. This implies that the county is still far from achieving the national target compared to other counties, considering the listed indicators. Some of the indicators that contributed to this low index score in Mandera were low pre-primary net enrolment index and low pre-primary gender parity index. Other counties that had a low education index and low per capita spending include Garissa, Wajir, Turkana, and Marsabit (Table 10). It would therefore be important to enhance per capita spending for counties with low performance indicators.

Figure 45 showss the correlation between the indicators used in estimating the education index and the amount spent between 2014 and 2018. Mandera, which was ranked list as per the index, is among the counties that have spent expenditure on education during the period. The benefits of allocation monies to the education sector can be observed in Nakuru, Kiambu, Nairobi, and Nyeri.

Figure 45: Correlation of education spending and education index



Source: Authors' computations

5.9 Conclusion

Early childhood development and education (ECDE) and vocational training are devolved functions to County Governments. Total expenditure on ECDE constituted 62.6 per cent development and 37.4 per cent recurrent. Kakamega County had the largest development expenditure share of ECDE at 91 per cent followed by Elgeyo Marakwet at 62 per cent while Kirinyaga and Kiambu had the highest recurrent expenditure share of ECDE of 93 per cent and 86 per cent, respectively, in 2017/18. The ECDE share of total county budget increased from 7.4 per cent in 2014/15 to 8.1 per cent in 2015/16 before decreasing to 7.5 per cent in 2017/18.

In nominal terms, the total budget increased from Ksh 23.89 billion in 2014/15 to Ksh 33.77 billion in 2017/18 while expenditure increased from Ksh 16.9 billion in 2014/15 to Ksh 24 billion in 2017/18. This accounts for an increase in overall absorption rate from 70.7 in 2014/15 to 71.2 in 2017/18.

The overall budget for basic education increased from Ksh 269.11 billion in 2016/17 to Ksh 315 billion in 2017/18. Allocation to ECDE as a share of the education budget was highest in Mandera County at 38 per cent and lowest in Kakamega County at 3 per cent. Allocation to primary education as a share of the education budget was highest in Baringo and Nandi at 65 per cent and lowest in Mandera County at 40 per cent. Allocation to secondary education as a share of the education budget was highest in Nyeri County at 50 per cent and lowest in Mandera and Samburu at 22 per cent.

The National Gross ECDE enrolment rate increased from 73.6 per cent in 2014 to 94.4 per cent in 2018 while the net enrolment rate (NER) declined from 71.8 per cent to 63.5 per cent during the same period. The NER indicates that there was a decline in the number of children who joined ECDE after the implementation of devolution among children who had attained school-going age.

The gross primary enrolment rate improved from 104.0 per cent to 107.2 per cent while the net enrolment rate (NER) decreased by 5.6 per cent between 2014 and 2018. There was inequality in access to primary education between male and female school-going children at primary schooling in favour of girls.

GER in secondary school rate improved from 58.7 per cent to 66.2 per cent while the NER declined by 9.9 per cent during the review period. The results indicate that there are more over-aged students who did not access secondary education while 62.5 per cent of students who had attained the age to join secondary education did not in 2018.

There was a significant variation of the indicators for Marsabit, Wajir, and Mandera that have comparatively the highest ECDE spending per capita but have the lowest ECDE net enrolment rates relative to other counties. Notably, the counties of Laikipia, Turkana, and Garissa have a relatively lower ECDE spending per capita, which partially contributes to the comparatively lower ECDE net enrolment rates. Kisumu, Kisii, Migori, and Nyeri counties have, however, recorded higher net enrolment rates at a comparatively lower spending per capita.

5.10 Recommendations

There is need to strengthen equity in the education sector. The Medium-Term Plans could focus on strengthening equity in access to education with specific regard to girls in ASALs. The current situation indicates low gross enrollment rates for ASAL counties of Garissa, Mandera, Wajir, West Pokot, and Turkana. Net enrolment rate (NER) for select counties - 27 per cent for Mandera with 18.2 per cent for girls; 32.9 per cent in Wajir with 23.3 per cent for girls. The third interest area on equity in education is the informal urban settlements where enrolment rates stood at 53 per cent (EMIS data). The fourth interest area under equity is children with disabilities. The entry point is to strengthen policy enforcement to support enhanced access. Fifth is the issue of indirect costs of education and targeting regarding access by the poor sections of the society despite the free primary and secondary education.

National and County governments need to provide policy and per capita guidelines for ECDE free schooling and allocate adequate resources to counties for pre-primary education grants. Even though pre-primary education is part of basic education and hence will be free and compulsory, learners at this level do not benefit from capitation grants as is the case for primary and secondary education.

The MTEF will need to support the formulation of national guidelines and standards on teacher training, curriculum, capacity building, teacher training, and guidance to improve access to schooling. The current situation has some lacuna arising from the devolved functions under the pre-primary and early education. While provision of primary and secondary education is a National Government function, County Governments can play a key role to eradicate inequalities.

The Medium-Term Plans will need to ensure strong focus on improving the quality of education by making education more relevant to the 21st century needs. This can be achieved through full implementation of the new curriculum policy, which aims to achieve outcomes in the areas of knowledge, attitudes, and capacities to make skills more relevant to society.

There is need to improve governance, accountability, and efficiency in the sector. The education sector receives the highest budget allocation. Therefore, strengthening the efficiency and effectiveness in resource use to achieve better outcomes in the sector is imperative. One of the areas of interest is improved school management, monitoring, evaluation, and impact assessment of education sector interventions.

Promote the use of technology and innovation: The education budget will need to strengthen investment in technology in education and the use of innovative strategies in the sector for enhanced access. Therefore, continued, well-coordinated and sustained support for the digitization of schools and education management is essential.

Deepen coordination of expansion of facilities for secondary schools: The Government started implementation of Free Day Secondary Education in 2008 and targets to increase the transition rate from 75 per cent to 100 per cent. The facilities available limit higher transition rates. MTP III seeks to enhance facilities expansion to respond to this gap. This issue also relates to equity with transition rates for girls and ASALs being lower than the national average.

Drought and resilience-targeted investment to support resilience and make education more responsive to emerging issues including drought and floods will be important. Other areas of intervention include addressing insecurity, radicalization especially in arid and semi-arid counties, which could be contributing to low enrolments.

6. Child Protection

6.1 Overview

This section documents the status of children in relation to child protection, the overarching policy, and legal framework is child protection, the budgeting mechanisms both at the National and County Governments, the indicators used to assess the status of child protection, an index from some of the indicators, key findings from the study and proposed recommendations.

Child protection refers to the protection of children and adolescents from children's rights violations. Children's rights violations include violence against children, which includes: sexual violence and exploitation, physical violence, and emotional violence; child neglect; child labour; drug and substance abuse; child trafficking; sexual exploitation of children; and retrogressive cultural practices such as Female Genital Mutilation (FGM) and Cutting (FGM/C). According to the National Council for Children Services, 2014 the top three causes of child rights violations are poverty, cultural beliefs, and ignorance, while the least common causes were tribal clashes, alcoholism, and weak enforcement of the FGM Act.

The Framework for the National Child Protection System takes a multi-sectoral approach, which brings together various government ministries and departments, non-State actors, the private sector, and other stakeholders. Child protection is not a devolved function and is coordinated by the Ministry of Labour and Social Protection and the Ministry of Public Service, Youth and Gender Affairs. The priority areas of the Ministry of Labour and Social Protection relevant departments include managing child protection centres, deploying and coordinating children officers including volunteers, managing childcare protection officers, and supporting the running of the Kenya Children Assembly and the Presidential Bursary, among other functions.

This chapter reviews the progress in child protection using the proportion of monetary poor children aged 0-17 years; the proportion of multi-dimensionally poor children between 0-17 years; the total number of children who have been sexually abused; total number of children who have been neglected and abandoned; total number of children who have been trafficked, abducted and kidnapped; total number of children in child labour; total number of children who have been emotionally abused; and total number of children who have been physically abused as indicators during the period under review. A caveat to the budget analysis is the intricate nature in which budget allocation across various programmes takes place. This therefore makes it impossible to isolate allocations to children programmes.

6.2 Child Protection Legal and Policy Framework and Implications on Children

To promote the welfare of children in Kenya, the Government has subscribed to various international conventions and treaties to realize child protection. For instance, on 30th July 1990, Kenya ratified the United Nations (UN) Convention on the Rights of the Child (CRC), earlier adopted by the United Nations General Assembly on 20th November 1989. The CRC as a legally binding international instrument incorporates civil and political rights and economic, social, and cultural rights that apply to all children in the globe under the age of 18 years. It builds on four general principles: non-discrimination, best interests of the child, the child's right to survival and development, and the child's opinion. Moreover, governments that have ratified the convention are obliged to submit regular, detailed reports to the UN Committee on the Rights of the Child on their progress in implementing the convention (Palmqvist, 2006).

Kenya also ratified the African Charter on the Rights and Welfare of the Child (ACRWC) on 25th July 2000. The charter in its various articles articulates the rights of the children and defining the responsibilities of the various duty bearers (African Union, 2019). The provisions in these instruments have significant implications on children's welfare. Besides, Kenya ratified the International Labour Organization (ILO) Convention 138 minimum age on 9th April 1979; ILO Convention 182 Worst Forms of Child Labour on 7th May 2001; UNCRC Optional Protocol on Armed Conflict on 28th January 2002; and Protocol to prevent, suppress and punish trafficking in persons, especially women and children on 5th May 2005. It is, however, worth noting that the ILO Convention 189 on Domestic Workers and UNCRC Protocol on the Sale of Children, Child Prostitution and Child Pornography are yet to be ratified and domesticated in Kenya (The African Network for the Prevention and Protection Against Child Abuse and Neglect (ANPPCAN), 2018).

Under the SDGs, which are aligned to Kenya's development programmes, the protection of children from all forms of violence as enshrined in the UNCRC is included in the specific target SDG 16.2. Other SDG targets addressing specific forms of violence and harm towards children are SDG target 5.3, which targets elimination of child marriage and female genital mutilation and SDG target 8.7 that targets the eradication of child labour, including the recruitment and use of child soldiers. SDG 4 also has targets that ensure the children enjoy their right to be educated (United Nations, 2019).

The 2010 Constitution of Kenya (Article 53) recognizes the need for all children to be protected from abuse, neglect, harmful cultural practices, all forms of violence, inhumane treatment and punishment, and hazardous or exploitative labour. It

affirms that children have basic rights, including the right to education, nutrition, shelter (including water and sanitation), health care, and parental care. These provisions are aligned with those cited in both the Convention on the Rights of the Child and the Africa Charter on the Rights and Welfare of the Child, to which Kenya is a signatory (Government of Kenya, UNICEF and Global Affairs Canada, 2015). Section 29 part (e) also stipulates that every person has the right to freedom and security, which includes the right not to be subjected to corporal punishment.

Furthermore, the domestication of the ratified Conventions is evidenced by several Acts of Parliament. The Children Act (2001), which was later revised in 2016, protects children from child labour and all forms of violence. Under this Act, children are guaranteed free and compulsory basic education, which includes preschool (age 4-5 years), primary education (6-13 years), and secondary education (14-17 years). To protect children from being trafficked within and outside Kenya, there is the Counter-Trafficking in Persons Act (2010). The Constitution of Kenya 2010 prohibits marriages of persons under the age of 18. To supplement this, all marriage laws are consolidated in the Marriage Bill (2011), which prohibits any discrimination concerning boys and girls, such as different ages for marriage.

In promoting gender equality, there is a National Gender and Equality Commission (NGEC) Act (2011), which also promotes gender equality in access to opportunities among children. On matters of education, the Education Act 2013, provides for free and compulsory basic education for all Kenyans. However, pre-primary education has no provision for capitation grants. Issues on sexual abuse on children are comprehensively covered in the Sexual Offences Act (2006) that instilled tough penalties for perpetrators of child sexual abuse. Besides, the FGM Act was signed into law in the year 2011, criminalizing Female Genital Mutilation/ Cutting. Finally, the Employment Act (2007) prohibits child labour before age 18 years. However, it allows for children to undertake light work.

To improve the welfare of children in the country and in addition to the laws, several policies and programmes have been developed by the government. To begin with, there was a National Action Plan for Elimination of Child Labour (2004-2015), which aimed at eliminating the Worst Forms of Child Labour by 2015. The root causes of child labour, such as poverty and access to basic education, were effectively dealt with while raising awareness. Since its expiry, no action plan has been developed. Its implementation also faced several challenges, mainly from inadequate resource provision. The National Plan of Action against Sexual Exploitation of Children in Kenya (2013-2017) was also implemented to prevent, protect, and reintegrate child victims of commercial sexual exploitation, and raising awareness during the period. In the implementation of the Kenya Vision 2030, the third Medium Term Plan (2018-2022) has incorporated the

SDGs to promote the welfare of children. During the Second Medium-Term Plan (2013-2017), there was a goal to finalize and implement the National Policy on Child Labour, which was a major challenge in the country. In the devolved system of governance, all counties have integrated policies that will address child labour into their County Integrated Development Plans (CIDPs).

To protect children from exploitative labour, human trafficking, and commercial sexual exploitation, a National Children's Policy (2010) was developed. It sought to protect children from the aforementioned issues through the enforcement of laws and the provision of services. From studies conducted in Kenya regarding violence against Kenyan children, a National Plan of Action for Children in Kenya (2015-2022) was developed based on the findings of the studies. A framework was developed for the National Child Protection System for Kenya (2011), describing laws and policies that protect children from violence and exploitation. Besides, the role and responsibilities of the Government to protect children were also outlined in the framework. However, there remains gaps in the implementation and enforcement of the provisions. To address these gaps and firm up children protection, during the implementation of the MTP III (2018-2022), the Government intends to review the National Children Policy, the Children Act 2011 and the Counter-Trafficking Persons Act 2010. Despite these provisions, children continue to face various deprivations, perhaps due to weak enforcement of the Commitments.

The Ministry of Public Service, Youth and Gender Affairs in collaboration with the Ministry of Labour and Social Protection are charged with the mandate of protecting children in the country. The Kenyan Government has enacted laws, policies, and regulations to ensure the protection of its children from all forms of abuse, neglect, violence, and abandonment. The Kenya Constitution 2010 spells out the importance of strengthening the interests of children from abuse, harmful practices, and all forms of violence. Notably, there are various Acts and statutes, which provide guidelines and mandates in protecting children from neglect and abuse. These include the Prohibition against Female Genital Mutilation Act, the Employment Act, the Sexual Offences Act, among others.

Child protection is at the core of the socio-economic development of any nation. Despite moving from a low-income country to a lower-middle-income country, about 41.5 of the country's children are monetary poor and live below the poverty line. Understanding the proportion of monetary poor children and in combination with understanding the high levels (52%) of multi-dimensionally poor children is critical for informed decision-making both at the National and County Government levels. The high levels of poverty deny children living in these households a majority of their basic rights, including access to education, health,

and good nutrition, among others. The SDGs explicitly emphasize the reduction of poverty, which is in line with the over-arching Kenya Vision 2030 development goals.

In protecting children from harmful practices, the Prohibition against Female Genital Mutilation Act 2011 not only bans FGM but also criminalizes any individual found to take part in the practice. Female Genital Mutilation not only causes bodily harm (child physical abuse), but it is also a form of child emotional abuse. A survey by UNICEF 2020 shows that about 4 million young girls and women in Kenya have undergone FGM. However, through a robust legal framework, Kenya in comparison with other countries in the region has made considerable progress in the abandonment of FGM[18].

Child labour is prevalent in practices such as commercial agriculture, street hawking, domestic workers, and commercial sex workers. A survey by the US Department of Labour[19] indicates that the majority of the child labourers are aged between 5 and 14 years and young girls make up the largest proportion. Child labour can be linked to the status of education in Kenya. With that realization, the Kenyan Government has made efforts towards implementation of free primary education, a step geared towards reducing the prevalence of this practice in the country. Child labour is not only harmful to the child directly, but it also indirectly has an impact on the country's economic growth and development especially in human development because children labourers do not complete their education.

Almost a quarter of young girls are married off before reaching a legal age, which is 18 years, and about 4 per cent are married before 15 years[20]. Early marriages are driven by gender inequality, teenage pregnancies, female genital mutilation, retrogressive cultural practices and poverty, among others. In recognition of this, the Marriage Act 2014 was put in place to prevent all forms of child marriages, including customary and Islamic marriages unless one has attained the legal age. Child marriages are a manifestation of deeply rooted gender inequalities in the society, which are further exacerbated by FGM and teenage pregnancies. Apart from constituting violations of human rights, child marriages also hinder the socio-economic development of a country, which manifests in high dropout rates of school-going children and high HIV-AIDS rates as a result of engaging in sexual activities.

Other forms of child protection against child neglect and abandonment and child trafficking, abduction, and kidnapping are clearly stated in the Children Act

18 https://data.unicef.org/resources/a-profile-of-female-genital-mutilation-in-kenya/

19 https://borgenproject.org/facts-about-child-labor-in-kenya/

20 https://www.girlsnotbrides.org/child-marriage/kenya/#:~:text=23%25%20of%20Kenyan%20girls%20are,18%20in%20the%20world%20%E2%80%93%20580%2C000.

of 2001. The enactment of the legal framework to protect its children from all forms of child abuse still poses a challenge. The National Council for Children Services was formed with a mandate to ensure institutionalization of all forms of child protection services by various stakeholders, including but not limited to the government, civil society, non-governmental organizations, and community-based organizations. These formal channels of child protection are to ensure that cases against child abuse do not go through an informal process of arbitration, which is the norm in most cases.

6.3 Child protection budget and expenditure

6.3.1 National child protection budget allocation and expenditure

The country's allocation to child protection declined between 2016/17 and 2017/18 from Ksh 8.994 billion to Ksh 8.497 billion. This is despite children forming over 50 per cent of total population in the country, thus raising a major concern on the prioritization of children needs. With devolution, social protection is a devolved function, which in turn has an effect on national government spending. This increase in spending on social protection has presented challenges in terms of national planning and public financial management while at the same time it has provided an opportunity to expand its coverage. The child protection budget is supposed to tackle issues such as violence against children; sexual violence and exploitation; physical violence, and emotional violence; child neglect; child labour; drug and substance abuse; child trafficking; sexual exploitation of children; and retrogressive cultural practices such as Female Genital Mutilation and Cutting (FGM).

This decline in budget allocation is reflected in the overall increases in the prevalence against vulnerable children in the country. For instance, the Neglect, Defilement, Physical abuse/violence, Emotional Abuse and child pregnancy had the highest rates at 91.2%, 2.8%, 2.5%, 1.2% and 0.9%, respectively, which cumulatively constituted 98.5% of all cases as shown in Table 11 below. Overall, there has been an increase in violence against children across all categories between 2016/17 and 2018/19/. An only exception was observed in female genital mutilation were there was a decrease from 68 to 33 cases in 2017/18, which later increased to 42 in 2018/19.

Table 11: Trends in violence against children over the years

	2016/17	2017/18	2018/19	Total	Proportion
Neglect	43,964	74,526	95,096	213,586	91.2
Defilement	978	2,222	3,272	6,472	2.8
Physical abuse	1,205	2,272	2,400	5,877	2.5
Emotional abuse	648	925	1,175	2,748	1.2
Child pregnancy	498	697	910	2,105	0.9
Child marriage	447	704	845	1,996	0.9
Sexual abuse	70	195	161	426	0.2
Incest	49	95	152	296	0.1
Sodomy	47	104	132	283	0.1
FGM	68	33	42	143	0.1
Total	**48,077**	**81,837**	**104,316**	**234,230**	

Source: Department of Children Services (2019)

6.3.2 County child protection budget allocation and expenditure

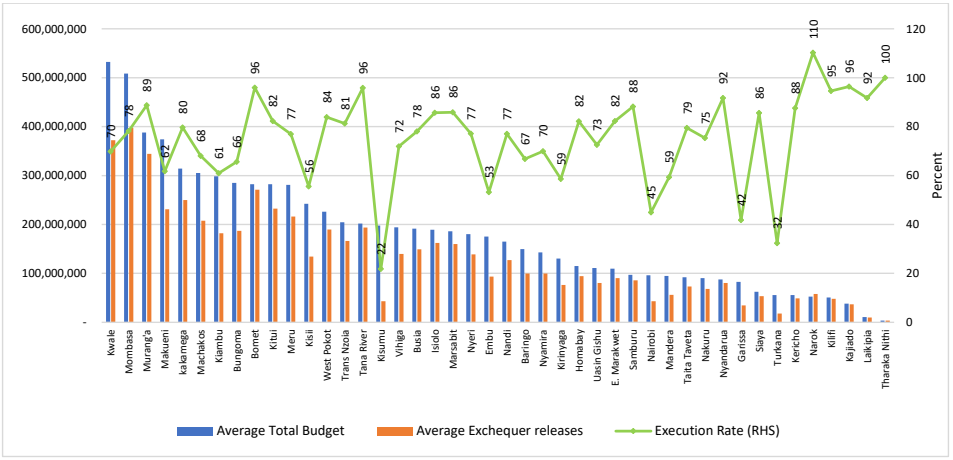
Expenditure related to child protection takes two forms: direct expenditure and indirect expenditure. Direct child protection budget and expenditure involves budget and expenditures that are deliberately set for the primary objective of addressing specific child protection risks, for example grants to children in residential care, rehabilitation of children involved in drug and substance abuse, family tracing and reunification, tracking and reporting on grave violations against children in armed conflict, case management, violence against children surveys, training and recruitment of the child protection work force (salaried), child protection management information systems, child protection-related committees and commissions, among others (UNICEF, 2020). Indirect budget and expenditures on child protection include contributions that are not directly meant to finance the activities related to responding to abuse, neglect and other forms of violence against children. For example, social cash transfers, education assistance programmrs, economic empowerment and livelihood programmes, sexual and reproductive health and HIV services, humanitarian assistance, such as food and shelter, and so on[21].

However, for this study, the budget and expenditures related to child protection could be classified as either direct or indirect because of data constraint, hence the budgets and expenditures for child protection across the counties is as presented

21 UNICEF (2020). Guidelines for Developing Child Protection Budget Briefs.

in Figure 46 below. From the analysis, it is evident that the absorption rate is still low in some counties, while some counties had no budget allocation for the sector during the review period. Kisumu County had the lowest average absorption rate in between 2014 and 2018 relative to other counties at 22 per cent followed by Turkana with 32 per cent (see Figure 46). This is attributable to the exchequer's failure to release the full amount approved in the social protection budget. However, some counties recorded high absorption rates, for instance Narok and Tharaka Nithi recorded 110 per cent and 100 per cent absorption rate, respectively. Social protection actual expenditure for all the counties increased from about Ksh 4.8 billion to Ksh 6.0 billion between 2014/15 and 2017/18. This translates to an average absorption rate of 75.2 per cent in between 2014 and 2018.

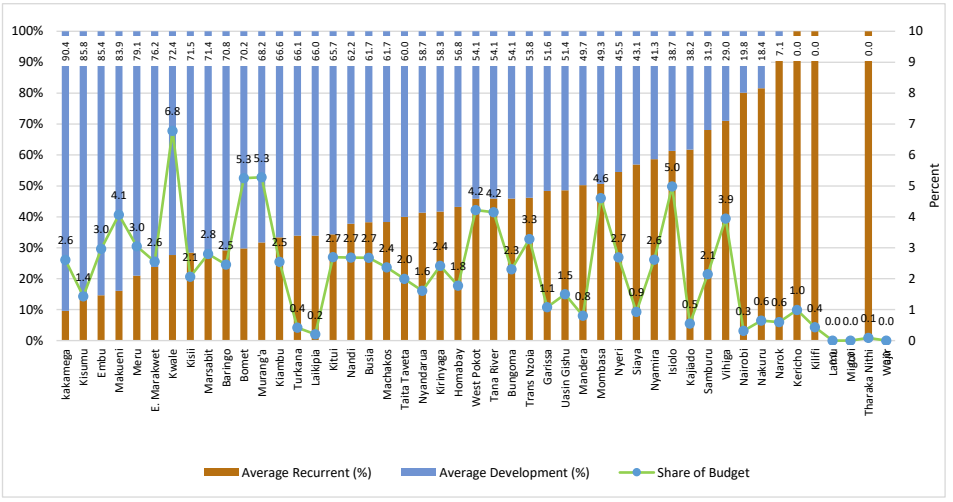
Figure 46: Child protection budget, spending, and execution rate 2014-18



Source: Office of the Controller of Budget (Various) reports, 2014-2018

Child protection received, on average, annually a budget of about Ksh 7.9 billion from all the 47 counties, which translate to an average of 2.2 per cent of the total county budget between 2014 and 2018. This comprised of an average of 45 per cent development and 55 per cent recurrent spending in the counties. The share of social protection budget to county budget allocation varied across the counties with a low of 0.2 per cent in Laikipia, with other counties having zero budget such as Lamu, Wajir and Migori. However, some counties recorded a higher share of county of 6.8 per cent in Kwale County. Kakamega County had the largest development expenditure share of social protection of 90.4 per cent followed by Kisumu at 85.8 per cent while Tharaka Nithi, Kilifi, Narok, and Kericho all had the highest recurrent expenditure share of social protection of 100 per cent for the period between 2014 and 2018 (Figure 47).

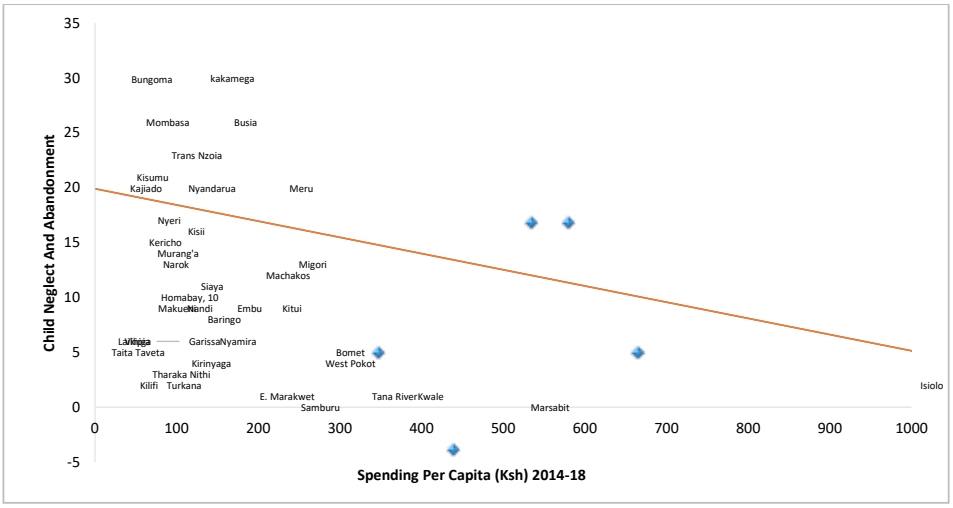
Figure 47: Share of social protection budget and spending by economic classification, 2014-18



Source: Office of the Controller of Budget (Various) reports, 2014-2018

While the per capita income of Isiolo, Marsabit, Kwale, and Tana River is significantly lower than the national average, the counties have a higher per capita spending for social protection, youth and gender spending. Low reported cases of child neglect and abuse in Isiolo, Marsabit, Kwale, and Tana River could be commendable but may also indicate the need for extensive awareness-raising and advocacy for reporting of cases of child neglect and abandonment. There is need for the counties of Bungoma, Kakamega, Busia to adopt both budgetary and non-budgetary measures that will ensure a decline in the prevalence of child abuse and child neglect.

Figure 48: Social protection, youth and gender spending, and child neglect and abandonment



Source: Office of the Controller of Budget (Various) reports, 2014-2018

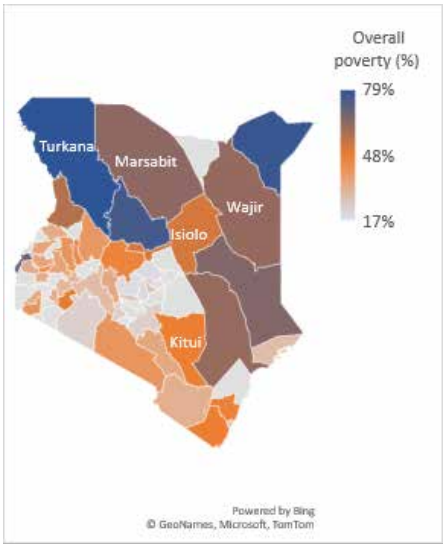
Between the plan period 2018 and 2022, the counties aimed to provide care, support, and build capacities of individuals, vulnerable groups, and communities for equity and self-reliance. With an increasing demand for social protection in programmes such as cash transfers, there is need to align the County Governments social protection programmes with the National Government to avoid duplication of the activities while ensuring that the available resources are focused on the relevant beneficiaries.

6.3.3 Child Poverty and population dynamics

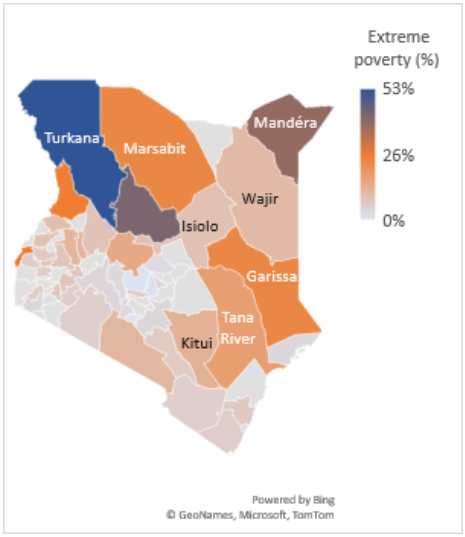
Addis Ababa Action Agenda (AAAA) recognizes that 'investing in children and youth is critical to achieving inclusive, equitable and sustainable development for present and future generations(UN, 2015). However, poverty, which is multidimensional in nature, remains a key challenge for the country. In 2015/2016, the overall poverty rate of the country was 36.1 per cent with 8.6 per cent living in extreme poverty. The counties with the highest overall and extreme poverty are Turkana at 79 per cent and 52.7 per cent, respectively, and Samburu at 76 per cent and 42.2 per cent (Figure 49a and 49b).

Figure 49: County overall and extreme poverty levels

a) Overall poverty by county



b) Extreme poverty by county



Among children, more than one in four were affected by monetary poverty,[22] which amounted to 28.9 per cent for youth and 34.1 per cent for women. Additionally, 48.2 per cent of children were living in multidimensional poverty,[23] with youth and women recording 47.1 and 60.8 per cent, respectively (Table 12).

The overall high rates of poverty especially among younger populations means that planning and budgeting processes will better consider human capital sectors so that the country can maximize the productive and innovative potential of its future workforce and initiate a fast and sustainable growth trajectory.

22 Monetary poor people are considered at risk of monetary poverty when their equivalized disposable income (after social transfers) is below the at-risk-of-poverty threshold, which is set at 60 per cent of the national median value.

23 Multidimensional poverty captures different deprivations experienced by poor people in their daily lives, such as lack of access to basic education, health or WASH services, inadequate nutritional intake, experiencing physical or emotional violence or abuse, etc.

Table 12: National government administrative, poverty and demographic profile (2018)

Administrative profile						Latest Available
Area (km²)						580,609
Number of sub-counties						290
Number of wards						1,450
Overall poverty (%)						36.10%
Extreme poverty (%)						8.60%
Population (2019)						47,564,296
Group	Children	National Children	Youths	National Youths	Wo/men	National Wo/men
Monetary Poor						
Male	42.1%	42.1%	29.1%	29.1%	30.5%	30.5%
Female	41.0%	41.0%	28.8%	28.8%	34.1%	34.1%
Total	41.6%	41.6%	28.9%	28.9%	32.4%	32.4%
Population	20,742,290	20,742,290	13,443,268	13,443,268	7,847,350	7,847,350
Multi-dimensionally Poor						
Male	49.3%	49.3%	44.7%	44.7%	51.0%	51.0%
Female	47.1%	47.1%	49.4%	49.4%	60.8%	60.8%
Total	48.2%	48.2%	47.1%	47.1%	56.1%	56.1%
Population	20,742,290	20,742,290	13,443,268	13,443,268	7,847,350	7,847,350

*Source: Kenya National Bureau of Statistics (Various) *Projections. The actual population was estimated at 47.6 million people in 2019*

6.4 Key Child Protection Indicators

The integrated development plans for the counties highlighted coordinating and development of communities through social welfare; empowerment of youth through training; management of sports activities; enhancing; promotion and regulation of responsible gaming; promotion of cultural development activities and coordination of gender mainstreaming as key areas of focus for the social services, youth, gender, and culture department.

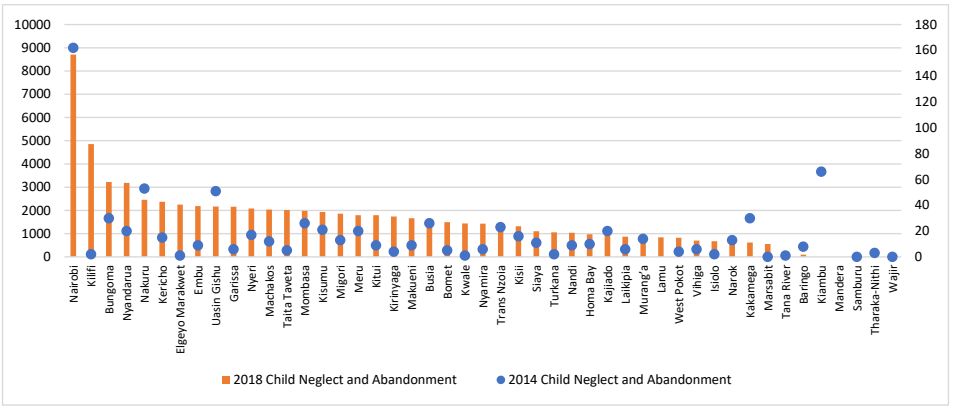
Table 13: National selected social protection performance indicators

Indicators	2014-National	2018-National
Child Neglect and Abandonment	767	73245
Child Sexual Abuse	636	172
Child Trafficking, Abduction, and Kidnapping	32	1022
Child Labour	168	378
Child Emotional Abuse	58	853
Child Physical Abuse	583	2031
Female Genital Mutilation	9	40

6.4.1 Child neglect and abandonment

Child neglect and abandonment refer to the "failure of a parent to provide for the development of the child where the parent is in a position to do so in one or more of the following areas: health, education, emotional development, nutrition, shelter, and safe living conditions". In Kenya, child neglect and abandonment nationally has increased from 767 in 2014 to 73245 in 2018 due to improved reporting. The counties with the highest level of child neglect and abandonment were Nairobi, Kilifi, and Bungoma at 8,705, 4,856, and 3,222. Kiambu, Samburu, Tharaka Nithi, and Wajir did not have data on cases of child neglect and abandonment in 2014 and 2018 (Figure 50). Despite recording such high child neglect and abandonment cases, Nairobi county had a budget execution rate of 58 per cent against an approved budget of about 80 million towards social protection. Bungoma County had a high budget of over Ksh 300 million with a low execution rate (47%).

Figure 50: Status of child neglect and abandonment, 2014 and 2018



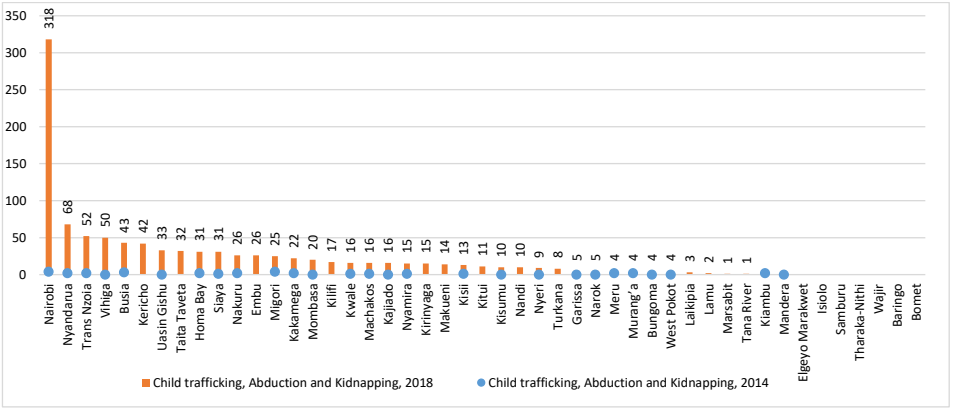
Data Source: KNBS (2014), Kenya Demographic Health Survey 2014

6.4.2 Child trafficking, abduction, and kidnapping

According to the United Nations, child trafficking is defined as "The recruitment, transportation, transfer, harbouring, and/or receipt" kidnapping of a child for slavery, forced labour, and exploitation." Child trafficking, abduction, and kidnapping cases increased from 32 in 2014 to 1,022 in 2018. The counties with the highest level of cases reported were Nairobi, Nyandarua, and Trans Nzoia at 318, 68, and 52, respectively (9 counties did not report any cases).

A closer look at budget implementation and the status of child trafficking, abduction and across counties shows that, in 2018, despite not being in the top five allocations towards child protection, Narok County had the highest budget execution rate (100%). During the same period, the number child trafficking cases increased from 0 in 2014 to 22 in 2018. Overall, counties such as Nyandarua, Kakamega, Kitui and West Pokot recorded an increase in child trafficking, abduction and kidnapping cases between 2014 and 2018, which was accompanied by higher budget execution rates. Despite recording high numbers of child trafficking cases, Nairobi County had a budget execution rate of 58 per cent (Figure 51).

Figure 51: Status of child trafficking, abduction and kidnapping, 2014 and 2018



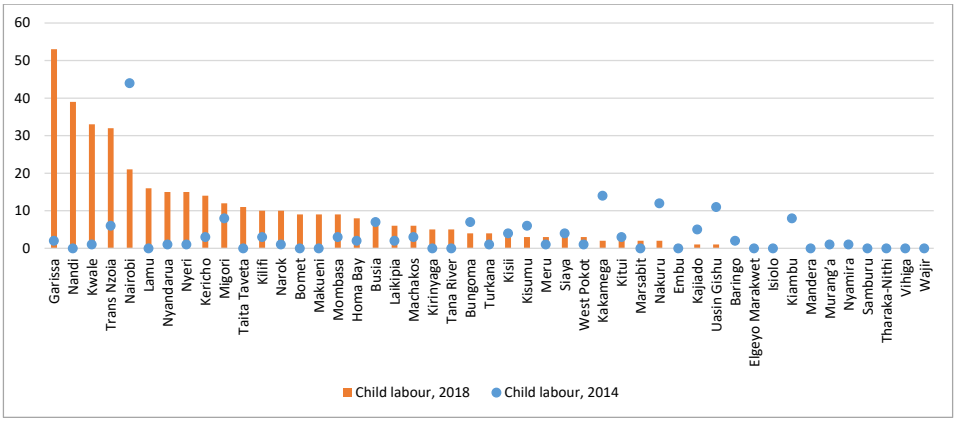
Data Source: KNBS (2014), Kenya Demographic Health Survey 2014

6.4.3 Child labour

The International Labour Organization (ILO) defines child labour as "Work that deprives children of their childhood, their potential, and their dignity, and that is harmful to their physical and mental development." Child labour cases increased from 168 in 2014 to 378 in 2018. The counties with the highest level of cases reported were Garissa, Nandi and Kwale at 53, 39, and 33. About 7 counties did

not have data on cases of child labour (Figure 52). From the budget analysis, Nandi and Garissa counties had some of the lowest social protection budget execution rate (24 and 34 per cent, respectively). This reflects on the high number of child labour cases in these respective counties. Kwale County with an approved budget of about 350 million still had a 47 per cent execution rate and recorded relatively higher child labour cases than other county counties.

Figure 52: Total number of children in child labour, 2014 and 2018



Data Source: Kenya Demographic Health Survey 2014

The general observation is that data on each of the identified indicators is available from dispersed sources and for certain years. The National Gender and Equality Commission estimated that about 10 per cent of the over 15 million children aged 5 to 17 years were engaged in child labour in 2015 (NGEC, 2016) (Table 14).

Table 14: Proportion of children engaged in child labour in Kenya by age group and sex

Age and hours of work	Male	Female	Total
5 to 12 years (1 or more hours)	11.9	9.2	10.6
13 to 15 years (14 or more hours)	8.1	10.4	9.2
16 to 17 (42 hours or more)	9.7	7.2	8.4

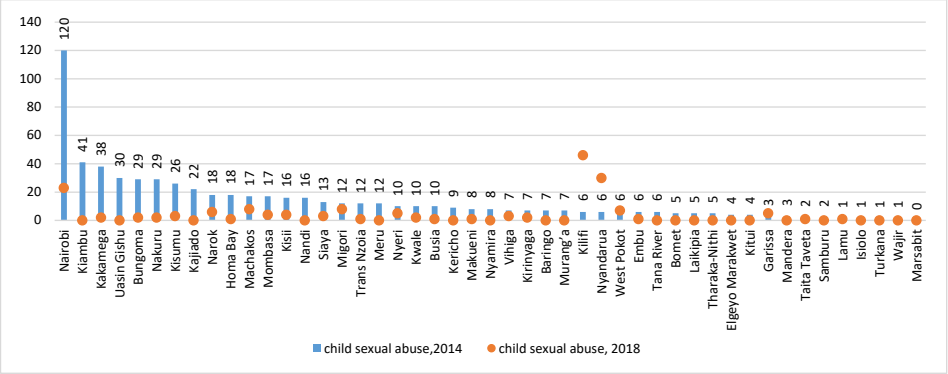
Source: NGEC (2016)

6.4.4 Child violence

Child sexual abuse

Child sexual abuse is "the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared and cannot give consent, or that violates the laws or social taboos of society." Nationally, the number of reported cases concerning child sexual abuse decreased from 636 in 2014 to 172 in 2018. The counties with the highest rate of child sexual abuse in 2018 were Kilifi, Nyandarua, and Nairobi at 46, 30, and 23 (Figure 53). At the same time, budget decisions in these particular counties point towards a relatively low budget execution rates with the exception of Nyandarua County which has a 93 per cent execution rate.

Figure 53: Status of child sexual abuse 2014 and 2018

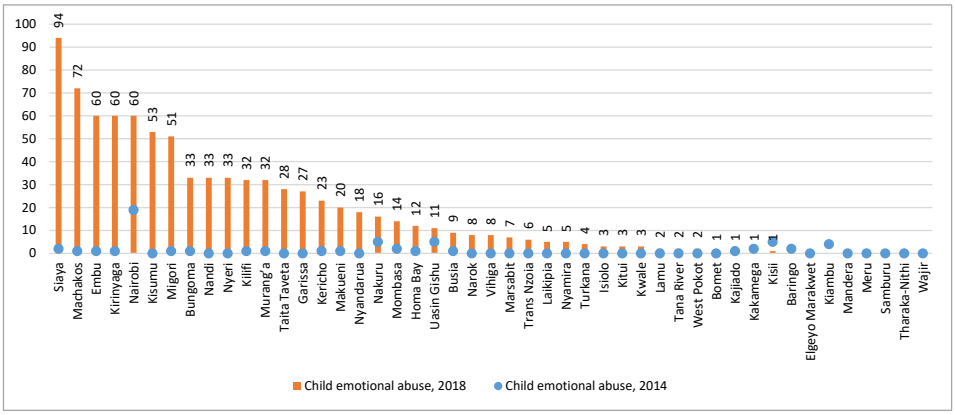


Source: KNBS (2014), Kenya Demographic Health Survey 2014

Child emotional abuse

With regard to child emotional abuse, the number of cases reported increased from 58 in 2014 to 859 in 2018. The counties with the highest level of child emotional abuse were Siaya, Machakos, Embu, Kirinyaga, and Nairobi at 94, 72, 60, 60, and 60, respectively (Figure 54). In relation to child emotional abuse, majority of the counties did not have data. The approved budgets in these counties in 2018 were 48, 362, 168, 203 and 81 million, respectively. In all the counties with high emotional abuse cases, their budget execution rates were below 60 per cent. Tackling issues to do with child protection does not only depend on budget allocation but also takes into account implementation activities, strategies and plans to reduces the occurrence of such incidents.

Figure 54: Status of child emotional abuse 2014 and 2018

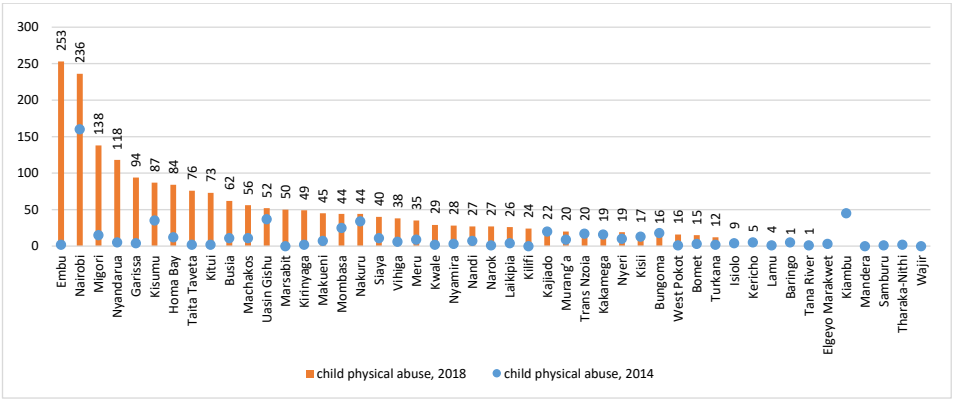


Source: KNBS (2014), Kenya Demographic Health Survey 2014

Child physical abuse

The number of child physical abuse increased from 583 in 2014 to 2031 in 2018. The counties with the highest number of physical abuse cases were Embu, Nairobi, and Migori at 253, 236, and 138. Majority of the counties did not have data on cases of child physical abuse, which in turn curtails informed decision making on budget allocation towards social protection. Despite having an approved budget of 168 million, Embu County had an execution rate of 34 per cent.

Figure 55: Status of child physical abuse 2014 and 2018



Source: KNBS (2014), Kenya Demographic Health Survey 2018 and 2014

6.4.5 Female Genital Mutilation/Cutting

The World Health Organization defines FGM as "A traditional harmful practice that involves the partial or total removal of external female genitalia or other injury to female genital organs for non-medical reasons." The number of FGM/C cases increased from 9 in 2014 to 40 in 2018. The counties with the highest number of FGM/C cases reported were West Pokot, Embu, and Kisii at 12, 6, and 6. Most counties did not record any FGM/C cases. Eradication of FGM requires deliberate efforts in budget allocation and financial resource towards cost-effective programmes and policies that can prevent FGM by 2030. However, these only constitutes reported cases, and it is possible that some cases could be unreported.

6.5 Child Protection Index

6.5.1 Child protection index findings

From the index, Meru County scored highest in terms of monetary non-poor children aged between the ages of 0-17 with a score of about 80 against a possible 100 as shown in Table 15 below. This implies that the county has the least number of children who are monetary poor in comparison with the rest of the counties. Other top five best performing counties include Nairobi, Nyeri, and Kirinyaga. This is against a national index score of 56 and about 20 counties are below the national index. Turkana County has the highest level of monetary poor children in the country with a score of 17. This could be attributed to several reasons, ranging from low to no food production, high levels of illiteracy, and low levels of household income-generating activities, among others.

Findings from the analysis indicate that multidimensional poverty at the national level stands at 50. Counties with the lowest levels of multidimensional poverty for children aged 0-17 years include Nairobi (92), Kiambu (90), Nyeri (89), Nyandarua (87), and Mombasa (86), respectively. This implies that children living in these counties have better access to water and sanitation, education, health and nutrition, and electricity compared to children in other counties. Child multidimensional poverty is highest in Mandera (10), Wajir (12), Turkana (13), Marsabit (15), and Samburu (16) counties, respectively. This implies that children in these counties have low or no access to the basic needs, including education, health and nutrition, and WASH facilities in comparison to national access (Table 15).

Table 15: Child protection index, 2018

County National	Monetary poor children aged 0-17	Multi dimension-ally poor children aged 0-17	Child sexual abuse	Child neglect and abandon-ment	Child trafficking, abduction and kid-napping	Child labour	Child emo-tional abuse	Child physical abuse	Total index score (1-100)
Kirinyaga	77.6	81.0	94.2	80.1	95.3	90.6	63.8	80.6	82.9
Siaya	62.7	48.2	89.2	87.4	90.3	94.3	100.0	84.2	82.0
Murang'a	72.7	72.7	94.2	90.1	98.7	98.1	34.0	92.1	81.6
Machakos	76.2	72.4	85.8	76.6	95.0	88.7	76.6	77.9	81.1
Nyeri	77.7	88.8	91.7	76.0	97.2	71.7	35.1	92.5	78.8
T/Nithi	73.8	47.6	95.8	100.0	100.0	100.0	0.0	99.2	77.1
Kisumu	60.7	75.1	78.3	77.8	96.9	94.3	56.4	65.6	75.6
Kiambu	71.2	90.6	65.8	99.2	100.0	84.9	4.3	82.2	74.8
Lamu	67.8	65.1	99.2	90.4	99.4	69.8	2.1	98.4	74.0
T/Taveta	65.4	81.5	98.3	76.8	89.9	79.2	29.8	70.0	73.9
Baringo	56.0	43.4	94.2	98.9	100.0	96.2	2.1	99.6	73.8
E/Marakwet	53.3	64.4	96.7	74.2	100.0	100.0	0.0	98.8	73.4
Mombasa	63.2	86.8	85.8	77.2	93.7	83.0	14.9	82.6	73.4
Meru	79.7	58.0	90.0	79.3	98.7	94.3	0.0	86.2	73.3
Isiolo	44.2	47.3	99.2	92.2	100.0	100.0	3.2	96.4	72.8
Kisii	53.7	65.2	86.7	84.8	95.9	94.3	1.1	93.3	71.9
Kericho	68.8	55.2	92.5	72.8	86.8	73.6	24.5	98.0	71.5
Makueni	59.7	55.2	93.3	80.9	95.6	83.0	21.3	82.2	71.4
Kajiado	50.9	62.9	81.7	89.3	95.0	98.1	1.1	91.3	71.3
Tana River	39.1	45.0	95.0	97.1	99.7	90.6	2.1	99.6	71.0
Nyamira	66.1	34.3	93.3	83.5	95.3	98.1	5.3	88.9	70.6
Embu	66.0	73.9	95.0	74.9	91.8	98.1	63.8	0.0	70.4
Nakuru	66.5	61.4	75.8	71.8	91.8	96.2	17.0	82.6	70.4
Laikipia	48.4	44.5	95.8	90.0	99.1	88.7	5.3	89.7	70.2
Vihiga	53.5	41.6	94.2	91.9	84.3	100.0	8.5	85.0	69.9
Narok	75.3	22.4	85.0	92.6	98.4	81.1	8.5	89.3	69.1
Bungoma	60.6	31.7	75.8	63.0	98.7	92.5	35.1	93.7	68.9
Wajir	38.0	12.5	99.2	100.0	100.0	100.0	0.0	100.0	68.7
U/Gishu	53.5	64.7	75.0	75.1	89.6	98.1	11.7	79.4	68.4
Nandi	62.6	55.4	86.7	88.1	96.9	26.4	35.1	89.3	67.6
Kakamega	61.6	33.1	68.3	92.9	93.1	96.2	1.1	92.5	67.3
West Pokot	41.4	19.3	95.0	90.5	98.7	94.3	2.1	93.7	66.9
Samburu	19.8	16.4	98.3	100.0	100.0	100.0	0.0	99.6	66.8
Kilifi	46.6	47.5	95.0	44.2	94.7	81.1	34.0	90.5	66.7

Bomet	45.6	28.6	95.8	82.8	100.0	83.0	1.1	94.1	66.4
Mandera	21.4	10.0	97.5	100.0	100.0	100.0	0.0	100.0	66.1
Nyandarua	60.2	87.3	95.0	63.5	78.6	71.7	19.1	53.4	66.1
Homa Bay	65.1	33.3	85.0	88.8	90.3	84.9	12.8	66.8	65.9
Marsabit	33.4	15.7	100.0	93.7	99.7	96.2	7.4	80.2	65.8
Migori	56.9	30.3	90.0	78.6	92.1	77.4	54.3	45.5	65.6
Kitui	50.9	24.5	96.7	79.4	96.5	96.2	3.2	71.1	64.8
T/Nzoia	60.4	56.6	90.0	83.8	83.6	39.6	6.4	92.1	64.1
Turkana	17.3	13.3	99.2	87.9	97.5	92.5	4.3	95.3	63.4
Busia	26.9	37.3	91.7	81.2	86.5	88.7	9.6	75.5	62.2
Kwale	48.7	34.1	91.7	83.4	95.0	37.7	3.2	88.5	60.3
Garissa	32.4	37.3	97.5	75.2	98.4	0.0	28.7	62.8	54.0
Nairobi	77.8	92.2	0.0	0.0	0.0	60.4	63.8	6.7	37.6
National	56.0	50.3	88.7	82.1	93.2	84.3	19.4	82.5	69.6
Target	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	
Max Index score	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

Source: KNBS (2014), Kenya Demographic Health Survey 2014

Concerning child sexual abuse, Nairobi County has the lowest score and which is an indication of high levels of abuse in the county. Marsabit County, on the other hand, attained a maximum score of 100, showing that cases of child sexual abuse in the county are non-existent. Of the 47 counties, only 11 are below the national average score of 89. In terms of child neglect and abandonment, Tharaka Nithi and Tana River county have the highest score of 100 and 97, respectively, against the maximum index score. This implies that Tana River county has few to no cases of child neglect in comparison to Nairobi county, which has the least score.

From the findings, cases of child trafficking, abduction, and kidnapping are few. Most counties scored highly on this indicator with counties such as Baringo, Isiolo, Tharaka Nithi, Kiambu, Elgeyo Marakwet, Wajir, Samburu, Bomet, and Mandera attaining the highest score. Nairobi County has the least, an indication that cases of child trafficking, abduction, and kidnapping are prevalent in the county.

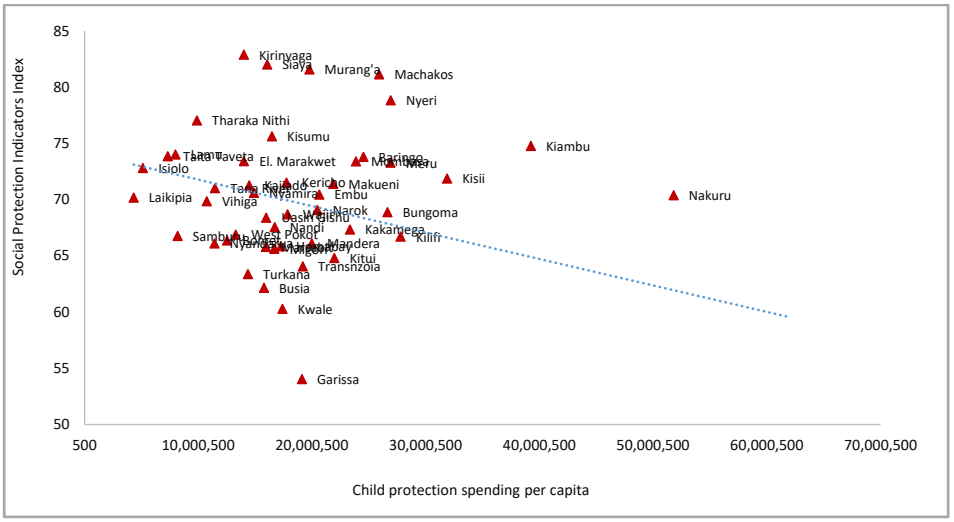
Tharaka Nithi, Isiolo, Vihiga, Wajir, Samburu, Mandera, and Elgeyo Marakwet counties scored the highest in terms of child labour, an indication of child labour. Child labour was found to be prevalent in Garissa, Nandi, Kwale, and Trans Nzoia counties. Child emotional and physical abuse were lowest in Siaya and Mandera, Wajir, and Tana River counties, respectively. In terms of child emotional abuse, Mandera, West Pokot, Tharaka Nithi, Egeyo Marakwet, Meru, and Bungoma counties scored the lowest on the indicator. Cases of physical account were prevalent in Embu and Nairobi counties.

The total child protection index at the national level stands at 69.6 where about 25 of the counties were above the national score. Kirinyaga county is the leading county in terms of child protection, which could be attributed to the overall high indicator score. At 82. 9, the county's score was above the national score on all indicators. This implies that the county has made efforts towards social protection and most aspects of the child be it in enactment of child protection laws, setting up of rescue centres, provision of child counselling, among others. Nairobi County, on the other hand, performed poorly with a low score of 37.6, an indication that there is little effort made towards all forms of child protection.

6.5.2 Correlation of child protection spending per capita and child protection index

While Kirinyaga, Siaya, and Murang'a counties have a higher index on children protection indicators, this does not reflect in their per capita spending on social protection services. Notably, the per capita income of Isiolo, Marsabit, Kwale, and Tana River is significantly lower than the national average, yet the counties have a higher per capita spending for the social protection, youth and gender spending. Low reported cases of child neglect and abuse in Isiolo, Marsabit, Kwale, and Tana River could be commendable but may also indicate the need for extensive awareness-raising and advocacy for reporting of cases of child neglect and abandonment.

Figure 56: The correlation between per capita spending and child protection index



Source: Kenya Demographic Health Survey 2014

6.6 Conclusion

Child labour is complex and its causes are both internal and external to the household. Household decisions regarding how children's time will be allocated between leisure, schooling, household activities, and employment are influenced by factors such as: the schooling environment, the demand for child labour, the legal and cultural context, and international factors. Some of the specific factors affecting child labour are household income and wealth, income volatility, family size, family structure, migration; parental perceptions, attitudes, and aspirations; access, relevance, quality, cost of formal education; and demand for labour.

We find that the country's allocation to child protection declined between 2016/17 and 2017/18 from Ksh 8.994 billion and Ksh 8.497 billion. The absorption rate is still low in some counties, while some counties had no budget allocation for the sector during the review period. Low reported cases of child neglect and abuse in Isiolo, Marsabit, Kwale, and Tana River could be commendable but may also indicate the need for extensive awareness-raising and advocacy for reporting of cases of child neglect and abandonment.

With an increasing demand for social protection in programmes such as cash transfers, there is need to align the counties government social protection programmes with the National Government to avoid duplication of the activities while ensuring that the available resources are focused on the relevant beneficiaries.

There was inadequate data, including micro-level data on child issues such as child labour. Strategies need to be put in place to have much more data to support the design of programmes and implement the monitoring processes. One of the evident challenges is inadequate human resources to implement the surveys planned for by MDAs. This is evidenced by the carrying forward of some surveys from MTP II to MTP III.

6.7 Recommendations

Despite the legislation and institutional framework in place, Kenya's child rights have continued to be violated. There is need to strengthen the focus on the implementation of Violence Against Children Response Plan for Kenya including response to FGM, child marriage, corporal punishment, and defilements and physical and emotional violence to children.

Conduct the costing of child protection services: MTP III will focus on costing of child protection services rendered by the National and County Governments. This is a clear entry point of knowing the exact child protection service available, who provides, at what cost, outcome results, and its value for money. Finding such

critical data and information against expected services delivery for children by the National or County Governments.

Enactment of Children Act and its regulations to consolidate and make substantive reforms on matters related to children, including the minimum for criminal responsibility, paternity, custody, child support, child-friendly children's courts, family alternative care, child protection centres, birth registration, violence against children and vulnerable children.

Expansion of the social protection and inclusion of vulnerable children: With the high poverty rates and child poverty in Kenya (45%), and increased expansion of the social protection will be instrumental to address the key sources of vulnerabilities faced by children. Currently, the Government is spending 0.4 per cent of GDP on the social safety nets programme. An increase of the budget to 1 per cent of GDP will be necessary over the medium term to achieve adequate coverage of programmes. The development and implementation of a child grant programme to replace the CT-OVC and the implementation of the universal 70+ programme will strengthen the inclusiveness of all vulnerable categories including children.

7. Water, Sanitation and Hygiene

7.1 Overview

This section documents the status of children in relation to access to Water, Sanitation, and Hygiene (WASH), the over-arching policy and legal framework in child protection, the budgeting mechanisms both at the National and County Governments, the indicators used to assess the status of child protection, an index from some of the indicators, key findings from the study and proposed recommendations.

Water, sanitation, and hygiene are critical concerns in the discourse of public health. Safe water and adequate sanitation are among the social determinants of good health (Ministry of Health, 2016). Besides exposing the population to socio-economic constraints, inadequate access to water also introduces costs related to gender discrimination since water collection for the household is predominantly assumed by the society to be the role of women and the girl child. In other words, the pain of lack of water is predominantly bone by women and girls. Poor sanitation and hygiene standards are also positively associated with the rise in diseases such as cholera, typhoid, among others. Access to clean water is key to good health and prevention of waterborne diseases such as cholera and diarrhea, which are core causes of under-5 mortalities (Ministry of Health, 2016).

Therefore, the child agenda in the water, sanitation, and hygiene (WASH) sector become central in ensuring social and economic justice. In Kenya, this agenda has not been fully mainstreamed in the planning and budgeting processes. Nevertheless, it is important to note that there are sector initiatives that have been put in place to ensure that the child agenda is progressively entrenched in the sector, regardless of whether they are intentional or accidental. In this light, this chapter reviews the progress in child protection using: the proportion of households with access to improved water; the proportion of households with access to improved sanitation; and the proportion of households with toilet facilities as indicators during the period under review.

7.2 Water Sanitation and Hygiene (WASH) Policy Framework and Implications on Children

At the global scene, water, sanitation, and hygiene (WASH) forms part of the priority areas of the global development agenda, Sustainable Development Goals (SDGs), adopted in 2015 by the UN Member states and commits the states to adapt interventions to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. SDG 6 on “clean water and sanitation” seeks to

ensure available and sustainable management of water and sanitation for all seek to build a just and cohesive society. At the national level, the vision 2030 vision for water and sanitation is to ensure that improved water and sanitation are available and accessible to all. Universal access to WASH contributes to improved health of the citizenry, reduction of communicable diseases, and reduction of health care expenditure, hence a gain to the economy at large.

Absence of improved water services increases the vulnerability of children particularly the girl child. The long distances covered by girls to fetch water increase their exposure and risk to sexual and gender-based violence (SGBV) (Huggett et al., 2019;Sommer et al., 2015). WASH is critical for the development of children, and those under five are the most vulnerable to water and excreta-related diseases (Save the Children, 2019).

Lack of improved sanitation poses a risk of physical abuse and sexual violence to girls and women. Amnesty International in 2010 identified that girls risk being raped when accessing toilets at night after dark in Kenya's slums. Fear of violence or rape restricts girls from going out at night to use latrines or change menstrual items, which have health consequences(Huggett et al., 2019).

Water Sanitation and Hygiene (WASH) services are integral in the provision of Universal Health Care (UHC) and an essential foundation for averting communicable diseases[24]. Delivery of WASH services acts as a primary barrier to disease transmission. It has been identified as the most cost-effective intervention for high-burden diseases in low- and middle-income countries. Evidence demonstrates that safe and accessible water and sanitation facilities limit the presence of pathogens that prevent diseases such as diarrhea, and malaria that result in negative health outcomes such as stunting (Save the Children, 2019). The Global Action Plan on Pneumonia and Diarrhea (GAPPD) reports that expected positive outcomes of preventive measures such as children immunization programmes could be curtailed by WASH-related infections. Effective hand hygiene in health care facilities have been identified as the primary measures for preventing healthcare-associated infections and controlling the spread of antimicrobial resistance.

7.3 Water and Sanitation Budget and Expenditure

7.3.1 National WASH budget allocation and expenditure

Despite the expansion in total counties' WASH budget allocation from Ksh 20.5 billion in 2014/15 to the highest of Ksh 28.3 billion in 2016/17, the absorption rate is still low in some counties. Under the Medium-Term Plan II for the period

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2013-2017 spending was directed to the following sector priorities: expansion of the water and sanitation infrastructure in urban areas, building of water kiosks and yard taps, and development of water supply pipeline systems and sewers in informal settlements. Besides, counties directed their resources on constructing and rehabilitating rural water schemes, drilling boreholes, constructing small water dams/pans. Some of the key milestones at the National and County Government level included: construction of three (3) medium-sized dams (Chemususu Kiserian, and Theta dams), construction of new sewerage schemes at Ruiru, Bomet, Othaya, Garissa, Isiolo, Siaya, Bondo, and Kitui, and implementation of the rural water supply programme, which entailed 276 new boreholes drilled and equipped, constructed 199 new water and sanitation projects and, 410 existing rural water supplies rehabilitated.

7.3.2 County WASH budget allocation and expenditure

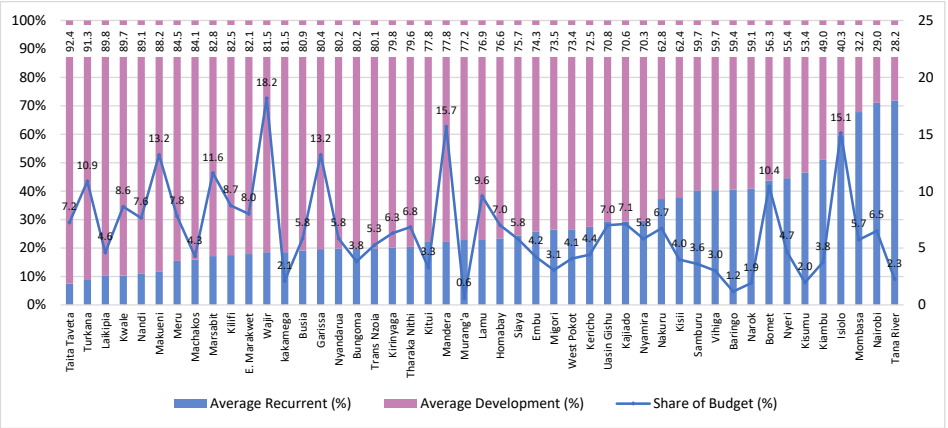
The overall counties' budget allocations to WASH increased from Ksh 20.5 billion in 2014/15 to the highest of Ksh 28.3 billion in 2016/17, but declined to Ksh 27 billion in 2017/18. The budget allocation averaged 7 per cent of the overall county budget spending between 2014/15 and 2016/17 but declined to 6 per cent in 2017/18. This has dire implications on WASH indicators such as access to improved sanitation, elimination of open defecation, access to improved sanitation.

Overall, counties' budget spending to WASH increased from Ksh 14.5 billion in 2014/15 to the highest of Ksh 20.5 billion in 2016/17, but declined to Ksh 16 billion in 2017/18. The spending averaged 6 per cent of the overall county budget spending between 2014/15 to 2016/17, but declined to 4 per cent in 2017/18. The WASH spending averaged Ksh 340 million in 2017/18, with Nairobi and Mandera County recording the highest spending of Ksh 1.63 million and 1.39 million, respectively, while Murang'a County recorded the least budget allocation of Ksh 4 million.

The WASH budget expenditure on average for the period between 2014 and 2018 comprised of 71.4 per cent development and 28.6 per cent recurrent spending in the counties. This high investment in development can be attributed to the need by counties to improve on-water access by their residents. The share of water and sanitation budget to county budget allocation varied across the counties, with a low of 0.6 per cent in Murang'a and a high of 18.2 per cent in Wajir County, averaging 6.6 per cent during the period. Taita Taveta County had the largest development expenditure share of WASH of 92.4 per cent followed by Turkana at 91.3 per cent while Nairobi and Tana River had the highest recurrent expenditure

share of WASH of 71.0 per cent and 71.8 per cent on average, respectively, in the period between 2014 and 2018 (Figure 57).

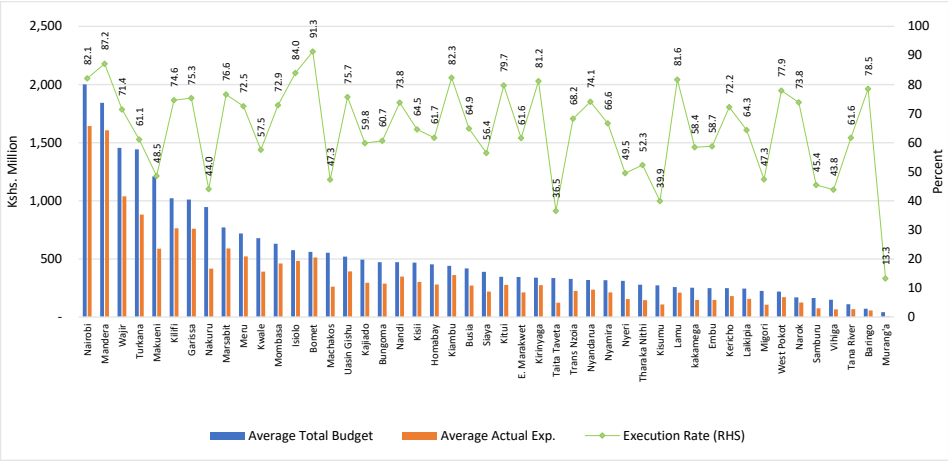
Figure 57: Share of WASH budget by economic classification, 2014-18 (%)



Source: Office of the Controller of Budget (Various) reports, 2014-2018

Murang'a County had the lowest absorption rate, on average between 2014 and 2018 relative to other counties with 13.3 per cent followed by Taita Taveta County with 36.5 per cent. This is attributable to the National Government exchequer's failure to release the full amount approved in the WASH budget, and long process in project planning preliminary activities such as feasibility studies, designs, and eventual tendering and implementation. However, some counties recorded the highest absorption rates, for instance Bomet County recording 91.3 per cent absorption rate and Mandera County at 87.2 per cent. WASH actual expenditure for all the counties decreased from about Ksh 20.5 billion to Ksh 15.9 billion between 2016/17 and 2017/18; however it was an increase from 14.3 billion in 2014/15. This translated to an average absorption rate of 64.5 per cent in 2014-18.

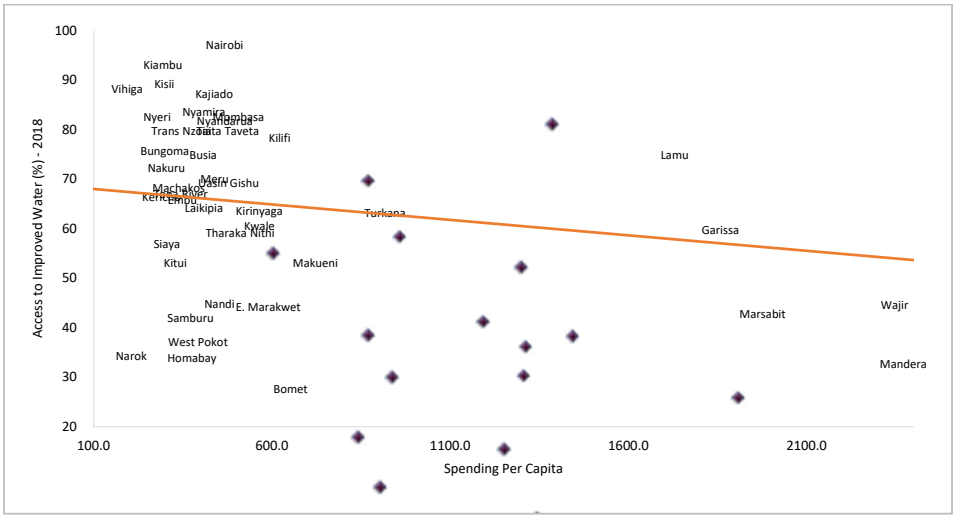
Figure 58: WASH budget, spending, and execution rate, 2014-18



Source: Office of the Controller of Budget (Various) reports, 2014-2018

In cross-county comparisons, North Eastern counties spent more per capita on WASH, which does not translate to higher access to WASH services. The counties with the largest population living in urban areas have considerably higher rates of access to improved water, while they record relatively lower per capita expenditure. Such statistics demonstrate the sizeable gaps in universal access to improved water and sanitation.

Figure 59: WASH spending per capita and access to improved water (%)



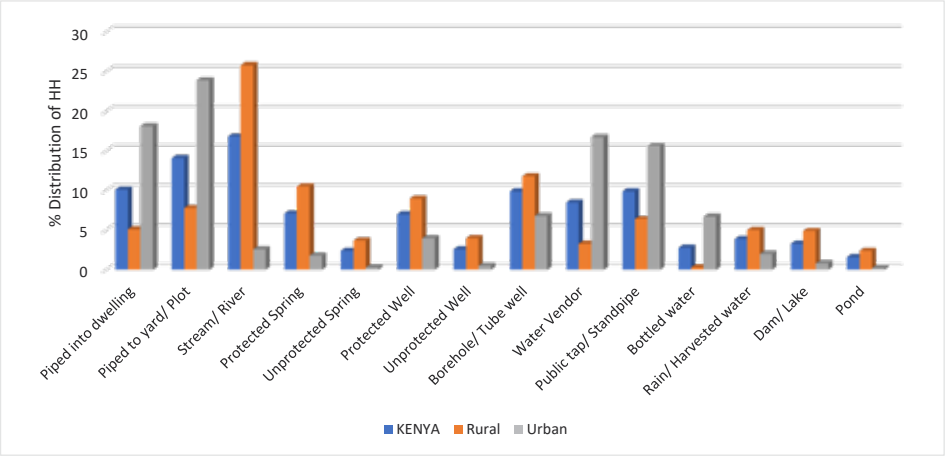
Source: Authors' computations

In most of the 2018 to 2022 County Development Plans, the counties aim to continue with the provision of clean water and solid waste management, and as increasing access to decent sanitation. With a declining percentage of population under sewer coverage, few technical staff in the water sector, high breakage of water pumps compounded by a declining share of recurrent spending in WASH, more focus needs to be given to operations and maintenance for the counties to realize the outlined milestones. There is need to strengthen the governance structures in the management of water and sanitation services. There is need to harmonize the operations of the water and sanitation companies, water service agencies, and the County departments of water to increase efficiency and effectiveness in the provision of water and sanitation services. The establishment of rural water and sanitation companies will enhance access to water and sanitation services.

7.4 Key Performance Indicators and Standards

Access to WASH services remains unequal in rural and urban areas in Kenya. Urban residents mainly relying on piped water while rural households primarily rely on untreated wells and surface water. The 2019 KPHC results indicate that only 24.2 per cent of Kenya households have access to piped water. The census indicates that only 42 per cent of the urban households have access to piped water while only 12.9 per cent of rural households have access to piped water. The low access rates of piped water imply that a significant population of Kenyans rely on untreated water, which creates health risks and household participation in economic activities and children's attendance to schooling.

Figure 60: Percentage distribution of conventional households by main source of drinking water, area of residence, 2019

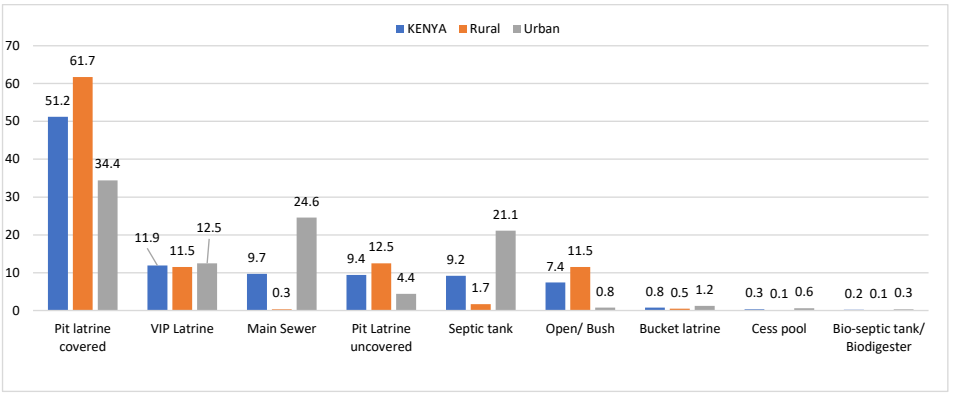


Source: KNBS (2019), Kenya Population and Housing Census), 2019

The World Health Organization and UNICEF estimate that only 32 per cent of the world's population still lacks improved sanitation facilities and approximately 13 per cent of the world population practicing open defecation by 2015. The population without improved sanitation facilities is higher in Sub-Saharan Africa and Southeast Asia with over 53 per cent and over 70 per cent of the population lacking improved sanitation facilities, respectively (WHO-UNICEF, 2015).

According to the Kenya KPHC 2019, 51.2 per cent of households use covered pit latrine as their mode of human waste disposal. Open defecation remains a challenge in Kenya with 11.5 per cent of the rural population and 0.8 per cent of the urban households adopting open/bush defecation. Also, 12.5 per cent of the rural population and 4.4 per cent of the urban population use uncovered pit latrines for human waste disposal. The persistence of open defecation in Kenya implies that school-aged children are exposed to the infestation of intestinal worms, which contributes to reduced physical growth and impaired cognitive functions.

Figure 61: Percentage distribution of conventional households by main mode of human waste disposal, area of residence, 2019 KPHC



Source: KNBS (2019), Kenya Population and Housing Census

Counties' integrated development plans outlined investment in the expansion of water and sanitation infrastructure as the main sector priority. Additionally, the sector would prioritize the creation of awareness on the importance of handwashing facilities and management of human waste disposal in rural and informal settlements in the county urban setups.

Access to improved water was estimated at 65 per cent of the population between 2014 and 2018. The population within the service area of water utility (company) increased from 33 per cent to 38 per cent between 2014 and 2018. The proportion of population covered or served by the utility improved from 53 per cent in 2014 to 55 per cent in 2018. These improvements are attributed to increased investment in water service provision by counties with the introduction of devolution. The

Community-Led Total Sanitation (CLTS) propagated by counties has reduced the percentage of potential open defecation from 19 per cent to 8 per cent.

Overall, the country did not record an increase in the population accessing improved water and sanitation in Kenya. This can be attributed to the weak governance structures in the management of water sources at the county level, leading to non-operationalization of the water projects as shown in Table 15 below.

Table 16: National selected WASH sector performance indicators

Indicators	2014-National	2018-National
County population within service areas of WSPs (%)	33	38
Water coverage by utilities (%)	53	55
Non-revenue water (NRW) (%)	42	45
Sanitation coverage within utility area (%)	69	*
Sewerage coverage (%)	*	10
Access to improved water (%)	65	65
Access to improved sanitation (%)	59	59
No toilet facility – Potential open defecation county-wide (%)	19	8

Source: KNBS (20140, KDHS 2014; and CIDP 2018

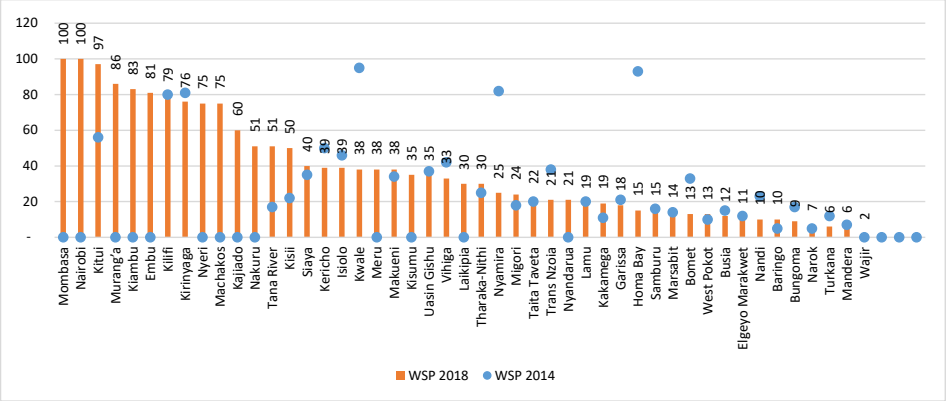
The water sector experienced the problem of non-revenue water[25] at about 45 per cent as of 2018, deteriorating from 42 per cent in 2014 with the largest water losses being through illegal connections, leaks due to dilapidated infrastructure, and commercial losses (flat-rate supply). Small water schemes had inadequate capacity to manage non-revenue water. High non-revenue water denies the water utility revenue to enhance water service delivery and in meeting operations and maintenance costs. Having devolved water services, the ministry will need to support counties through capacity building to develop policies and increase investment in the reduction of non-revenue water.

7.4.1 County population within service areas of water safety plans

Results from the KDHS 2014 data indicate that residents in Nairobi and Mombasa had access to WSPs in 2018. There was a decline in the proportion of residents with access to WSPs in Kwale County from 95 per cent in 2014 to 38 per cent in 2018. Similarly, Homa Bay county experienced a decline on the same from 93 per cent to 15 per cent between 2014 and 2018. Improved access was observed in Kitui county with an increase from 56 per cent to 97 per cent in 2018.

25 Non-revenue water (NRW) is water that has been produced and is "lost" before it reaches the customer. Losses can be real losses (through leaks, sometimes also referred to as physical losses) or apparent losses (for example through theft or metering inaccuracies).

Figure 62: County population within service areas of water safety plans

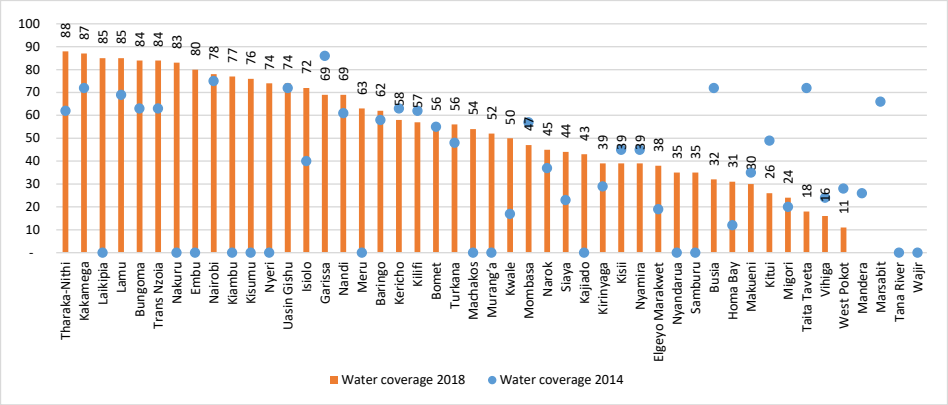


Source: KNBS (2014), KDHS 2014

7.4.2 County water coverage by utilities

The population within the service area of water utility (company) increased from 33 per cent to 38 per cent between 2014 and 2018 at the national level. The proportion of population covered or served by the utility improved from 53 per cent in 2014 to 55 per cent in 2018. These improvements can be attributed to increased investment in water service provision by counties, with the introduction of devolution. Tharaka Nithi, Trans Nzoia, and Bungoma counties had the highest population served by utilities in 2018. Taita Taveta County experienced a sharp decline in areas served from 72 per cent to 18 per cent between 2014 and 2018.

Figure 63: Proportion of water coverage by utilities

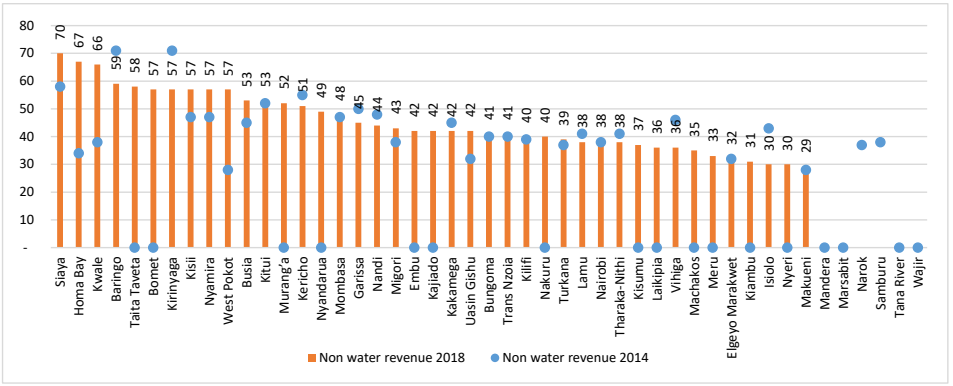


Source: KNBS (2014), KDHS 2014

7.4.3 County non-revenue water

Non-revenue water (NRW) is water that has been produced and is "lost" before it reaches the customer. Losses can be real losses (through leaks, sometimes also referred to as physical losses) or apparent losses (for example through theft or metering inaccuracies). In 2014, Kirinyaga, Baringo, and Vihiga counties had the highest NRW losses, which declined in 2018. In 2018, Siaya, Homa Bay, and Kwale county observed the highest losses whereas Mandera, Marsabit, and Tana River did not have any data on NRW. High non-revenue water denies the water utility revenue to enhance water service delivery and in meeting operations and maintenance costs.

Figure 64: Proportion of county non-revenue water



Source: KNBS (2014), KDHS 2014

7.4.4 Sanitation coverage within utility area

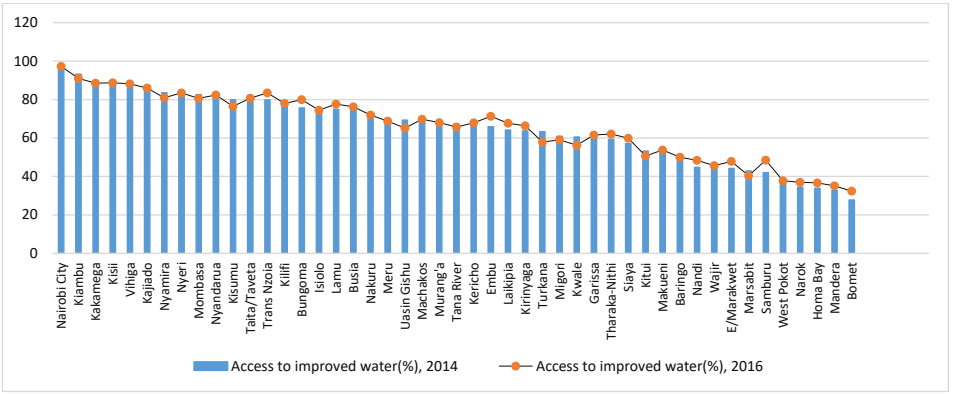
The population within the service area of water utility (company) increased from 33 per cent to 38 per cent between 2014 and 2018. The proportion of population covered or served by the utility improved from 53 per cent in 2014 to 55 per cent in 2018. This improvement was attributed to increased investment in water service provision by counties, with the introduction of devolution. However, this low sanitation coverage within utility area has adverse effects because of diarrhoea caused by poor sanitation and unsafe water. In Kenya, diarrhoea is the second leading cause of morbidity, accounting for 21 per cent of under-5 child deaths apart from also being a large contributor to malnutrition.

7.4.5 Access to improved water

An improved water source is defined as "A water source that by the nature of its construction adequately protects the source from outside contamination, in particular from fecal matter." Access to improved water is estimated to be at about 60 per cent, being the proportion of the population with access to the services (MWI, 2016). There are also differentials in access to improved water and sanitation services between urban and rural population, with the rural being lower. There are also differences in access by gender. The implication of such limited access to water and sanitation is the prevalence of diseases such as diarrhoea, typhoid, cholera, and dysentery. In Africa, more than 315,000 children die every year from diarrheal diseases caused by unsafe water and poor sanitation. Globally, deaths from diarrhoea caused by unclean drinking water are estimated at 502,000 each year, most of them of young children.

In the survey conducted in 2014, KNBS (2014) found that majority of households in Kenya (71%) obtain drinking water from an improved source. The use of improved sources is more common among households in urban areas (88%) than among those in rural areas (59%). The most common source of drinking water in urban areas is water piped into the dwelling/yard/plot, with almost half (46%) of households using this source. In rural areas, the most common source of drinking water is surface water (24%), followed by water piped into the dwelling/ yard/plot (15%). Counties such as Nairobi, Kiambu, Kakamega and Kisii had the highest proportion of residents with access to improved water. This is described by the proportion of residents with access to piped water, a protected borehole, a protected well, rain water collection and bottled water. Bomet, Mandera, Homa Bay and Narok counties have the least access to improved water.

Figure 65: Household access to improved water (%) across counties



Source: Government of Kenya (Various) reports

7.4.6 Access to improved sanitation

Access to improved sanitation is measured as a proportion of the total population that has access to improved sanitation facilities. The national estimates indicate that only 30 per cent of the Kenyan population have access to improved sanitation facilities, which include connection to a public sewer, simple pit latrine, poor/ flush latrine, connection to a septic system, and ventilated improved pit latrine. Table 17 shows that about 37 per cent of the population has access to a pit latrine with a slab, 25 per cent use a pit latrine without a slab and 12 per cent use a ventilated improved pit latrine. Findings from the KIHBS 2015.2016 survey shows that about 51 per cent of households share a toilet facility with other households whereas 49 per cent have their own toilet facility. On average, 8 households share a toilet facility.

Table 17: Type of toilet facility in a household (%)

Type of toilet facility	Proportion
Flush to piped sewer system	3.9
Flush to septic tank	4.6
Flush to pit (latrine)	2.7
Flush to somewhere else	0.1
Flush to unknown place	0.2
Ventilated improved pit latrine	11.9
Pit latrine with slab	36.6
Pit latrine without slab/open pit	25.3
Composting toilet	0.2
Bucket toilet	0.5
Hanging toilet/hanging latrine	0.1
No facility/bush/field	13.8
Other	0.1

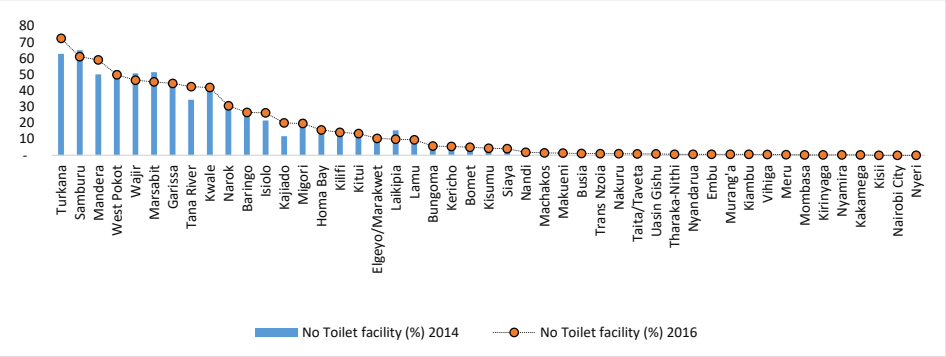
Source: KNBS (2015), KIHBS 2015/16

7.4.7 No toilet facility – Potential open defecation county-wide

According to the World Health Organization (WHO) “Open defecation is when human faeces are disposed of in the fields, forests, bushes, open bodies of water, beaches, and other open spaces”. Open defecation (ODF) is classified as the most common form of sanitation among the poor in the country. At the national level, ODF stands at 8 per cent and is most prevalent in pastoralist communities in counties such as Turkana, Samburu, Mandera, Marsabit, and Garissa. The

Community-Led Total Sanitation (CLTS) propagated by counties has reduced the percentage of potential open defecation from 19 per cent to 8 per cent. Open defecation is highest in rural areas compared to urban centres and this is because a large proportion of urban households can afford sanitation facilities. ODF is difficult to perform in urban centres and enforcement of sanitation related laws is high in towns.

Figure 66: Potential open defecation by county 2014-2016



Source: Government of Kenya (Various) reports

7.5 Children and Water Sanitation and Hygiene index

7.5.1 WASH index findings

At the national level, access to improved water stands at 65 whereas Nairobi, Kiambu, Kakamega, and Kisii counties scored the highest with 97, 93,90 and 89, respectively. This implies that residents in these counties have access to improved water, a reflection of deliberate efforts towards water availability, accessibility, and affordability. Bomet County has the least score (27), an indication that access to improved water is a major challenge in the county. Characteristically, Northern Eastern counties and Eastern region scored below the national average as shown in Table 16 below.

Table 18: WASH Index, 2018

County National	Access to improved water (%)	Access to improved sanitation (%)	With toilet facility – No open defecation county-wide (%)	Total Index Score
Nairobi	97.1	91.9	95.0	94.7
Kiambu	93.2	90.3	99.8	94.4
Kisumu	79.9	96.3	97.1	91.1
Uasin Gishu	69.3	83.4	98.6	83.8

Mombasa	82.6	86.3	99.7	89.5
Nyeri	82.7	55.2	98.0	78.6
Nakuru	72.3	62.1	99.3	77.9
Machakos	68.4	83.5	99.0	83.6
Laikipia	64.2	42.3	84.6	63.7
Embu	65.9	98.4	99.2	87.8
Kirinyaga	63.7	85.0	99.8	82.8
Tharaka Nithi	59.3	96.3	99.6	85.1
Isiolo	75.0	70.7	78.4	74.7
Trans Nzoia	79.8	36.1	98.4	71.4
Murang'a	67.8	65.6	99.3	77.6
Bungoma	75.7	39.3	93.0	69.3
Kajiado	87.3	84.3	88.2	86.6
Kericho	66.4	79.0	95.1	80.2
Kakamega	89.9	32.4	99.8	74.0
Lamu	75.0	70.0	90.6	78.5
Meru	70.2	48.7	99.8	72.9
Kilifi	78.4	70.0	85.3	77.9
Kisii	89.4	41.3	100.0	76.9
Kitui	53.2	56.8	86.3	65.4
Makueni	53.1	88.0	98.3	79.8
Nandi	44.8	71.0	98.0	71.3
Nyandarua	81.9	81.1	99.8	87.6
Nyamira	83.6	40.4	99.7	74.6
Taita Taveta	79.9	98.8	99.2	92.6
Elgeyo Marakwet	44.2	72.9	88.0	68.4
Busia	74.9	61.6	98.7	78.4
Garissa	59.8	45.1	57.0	54.0
Vihiga	88.3	43.2	99.5	77.0
Baringo	48.4	71.3	72.3	64.0
Siaya	57.1	43.7	95.9	65.6
Migori	60.9	37.9	77.4	58.7
Bomet	27.8	30.6	94.4	50.9
Kwale	60.6	33.7	56.7	50.3
Narok	34.5	42.1	69.2	48.6
Turkana	63.3	31.9	37.2	44.1
Homa Bay	33.9	25.1	82.3	47.1
Mandera	32.8	40.9	49.9	41.2
West Pokot	37.2	27.3	47.5	37.3
Tana River	67.2	60.3	65.6	64.4

Marsabit	42.9	26.0	48.5	39.1
Samburu	42.0	31.5	34.9	36.1
Wajir	44.7	6.2	49.2	33.4
National	65.3	59.1	85.2	69.9
Target	100	100	-	
Max Index score	33	33	33	

Source: KNBS (2014), Kenya Demographic and Health Survey 2014

Children living in Embu (33%), Taita Taveta (33%), Tharaka Nithi (32%), Kisumu (32%), Nairobi (31%) and Kiambu (3%) counties have better access to improved sanitation compared to those living in West Pokot (27%), Marsabit (26%), Homa Bay (25%) and Wajir (6%). This score is below the national score of 20 per cent. From the index, a total of 23 counties had a score that is lower than the national average of 59 per cent. This implies that children in 23 counties across the country have poor access to improved sanitation, which has an impact on their overall well-being.

In terms of access to toilet facilities, the majority of the children in the counties have access to toilets. From the scores, 21 out of the 47 counties have no open defection whereas an additional 12 are above the national score. This is an indication of efforts made towards elimination of open defection, even though zero defection has not been achieved at the national level. Counties still practicing open defection include Wajir, Samburu, Marsabit, Turkana, Kwale, and West Pokot, among others. This could be attributed to the nomadic nature of these counties, thus making it difficult to completely eliminate open defecation.

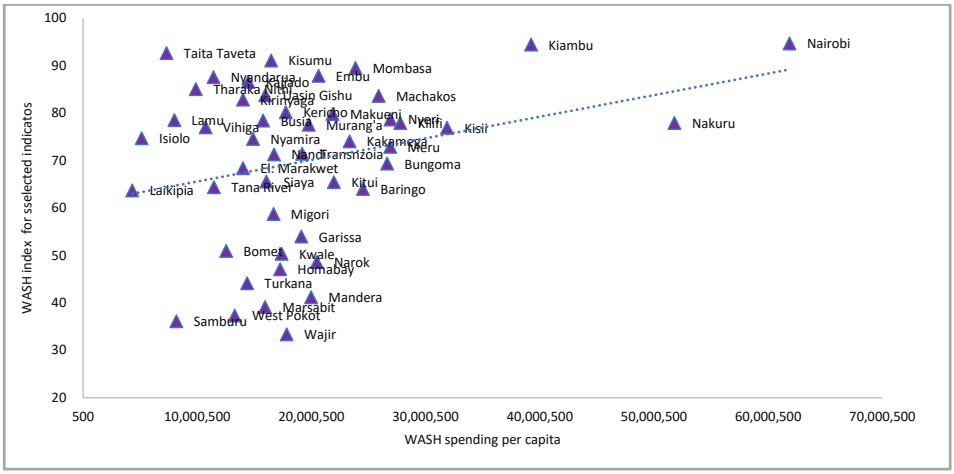
At the national level, the WASH index has a score of 70 out of the possible 100 with 14 counties scoring below the national average. The absence of open defecation contributed highly among the three indicators. In total, Nairobi County is performing well in terms of the execution of WASH-related activities. This is followed by Kiambu and Kisumu counties. Wajir, Samburu, and Marsabit counties need to increase efforts towards WASH-related initiatives.

7.5.2 Correlation of Child WASH Per Capita spending and the WASH Index

Counties with a high per capita expenditure on WASH facilities correlated highly with better WASH services. From the correlation Matrix, Nairobi, Nakuru, and Kiambu counties scored highly on the matrix. However, other counties such as Laikipia, despite having a better score than Wajir have a low expenditure on WASH. This distribution across counties is not aligned to the needs of the water sector and

their implications on other WASH indicators. This could be attributed to other interventions such as community involvement. Further, most of 2013-2017 County integrated development plans outlined investment in the expansion of water and sanitation infrastructure as the main sector priority. The sector should prioritize the creation of awareness on the importance of handwashing facilities and management of human waste disposal in rural and informal settlements in the county urban setups. There is also a stark contrast between per capita spending in rural and urban areas. This begs the question whether per capita spending adequately responds to the needs of people living in specific counties.

Figure 67: The correlation between per capita spending and WASH index



Source: KNBS (2014), Kenya Demographic Health Survey 2014

7.6 Conclusion

The WASH budget expenditure comprised of 66 per cent development and 34 per cent recurrent spending in the counties. This high investment in development can be attributed to the need by counties to improve water access by their residents. Yet, findings show that only 42.0 per cent of the urban households have access to piped water while only 12.9 per cent of the rural households have access to piped water. The low access rates of piped water imply that a significant population of Kenyans rely on untreated water, which creates health risks that imply low household's participation in economic activities and children's attendance to schooling. The WASH budget absorption rate is still low in majority of the counties. This is attributed to the national government exchequer's failure to release the full amount approved in the WASH budget, and the long process in project planning preliminary activities such

as feasibility studies, designs, and eventual tendering and implementation.

High non-water revenue loss was observed in Siaya, Homa Bay, and Kwale which consequently denies the water utility revenue to enhance water service delivery and in meeting operations and maintenance costs. This has implications on the water sanitation and hygiene status of the children both at the counties and national level. One of the challenges limiting the entrenchment of the child agenda in the sector is low awareness of the conventions that the country has signed. Most facilities in the hospitals, markets, and hotels do not differentiate specific facilities with specialized facilities for children to access water and sanitation services.

7.7 Recommendations

There is need to expand and nationally roll out the community-led total sanitation seen to improve ODF at a low cost. This can be done through establishment of rural water and sanitation companies to manage rural water projects, since the existing companies are concentrated in urban areas.

There is a need to engage in capacity building among public and private institutions to mainstream the child agenda on WASH matters. This can be done by creating an enabling environment for public-private sector collaboration in water and sanitation infrastructure. Public-private partnerships, in particular, could be encouraged in the development and management of water supply and clustering of viable water supplies and sewerage systems, as the Government and its international development partners may not have all the financial resources this will require.

Planning for infrastructure development and differentiation per category of children: Public-private partnerships, in particular, will be encouraged in the development and management of water supply and clustering of viable water supplies and sewerage systems, as the Government and its international development partners may not have all the financial resources. This will require support for local innovations that promote universal access. Some of the local innovation include: Majik Water Ltd, which manufactures a machine that extracts clean drinking water from the atmosphere and Water Milele Ltd, which offers prepaid water points.

8. Summary of Recommendations, and Action areas

In line with the status of children across the sectors reviewed (health, education, nutrition, social protection, and WASH), the summary of findings and action areas are as detailed below.

Table 17: Matrix on Action Areas

Sector	Finding	Recommendation/Action areas	Responsibility
Education	Lack of uniformity across the different policies in provision and financing of ECDE	Ensure there is uniformity of education policies across the 47 counties	All counties
	Most of the ECDE teachers are on contract with different terms across the counties, which is demotivating	Employment on ECDE teachers on P&P with a well-defined scheme of service that is uniform for all the counties	National government COG CPSB
	The function of home craft centres and child care facilities has been partially implemented	Prioritize investment in home craft centres and daycare facilities, e.g. public private partnerships	Counties
	Underfunding	Increase allocation to the ECDE sector	Counties
	High teacher-pupil ratio	Employment of additional ECDE teachers	Counties
	Delayed disbursement of funds from exchequer leading to slow implementation of the programmes	To improve budget absorption rates, there is need for the National and the County Treasury to adhere to disbursement schedules by releasing resources on time	National Treasury and County Governments
	Inadequate adequate infrastructure	Investment in additional infrastructure development	National and County Governments
	Duplication of roles, e.g. issuance of bursaries	Clear guidelines on issuance of bursaries by the different actors	National and County Government
Health	Despite the introduction of free maternity and immunization services in most counties, some counties registered decreased access to these services	This could be accredited to socio-cultural and economic barriers in physical access to healthcare services, which in turn limits the demand by making it difficult to eliminate harmful practices and promote primary health care. There is need to make concerted efforts to eliminate non-financial barriers to access to these vital services. Such initiatives include undertaking sensitization on harmful birthing and child-rearing practices in affected areas. In addition, there is need for a multi-sectoral approach to address key social determinants that affect health outcomes in various counties. Finally, as per the Kenya RMNCAH Investment Framework 2016, there is need to promote community engagement, which is key to generating demand for healthcare services, promote behaviour change and enhance social accountability.	Ministry of Health and County Health Departments

	Maternal mortality and under-5 mortality rates remain higher than not only international requirements but also targets set in MTP II for achievement by the end of the period under review	In response to this, the government has developed the Kenya Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) Investment Framework, 2016. There is need to fast-track the implementation of strategies proposed in the framework and enhance automation of administrative data for effective monitoring and evaluation	Ministry of Health and County Health Departments
	The linkages between health financing and health outcomes remain weak	Both National and County governments need to develop strategies for institutionalizing a results-based financing framework as recommended in Kenya's RMNCAH Investment Framework, 2016	Ministry of Health and County Health Departments
Child Protection	Despite there being a framework for investment in child protection investment in child protection in the country, a few counties seem to lack budget lines specific in the years leading up to 2017/18	Inadequacy in micro-level data for the sector poses challenges to designing and implementing programmes and projects to mitigate the prevalence of children's rights violations. There is a need to enhance the human and capital capacity of County and National Governments implementing agencies to conduct effective monitoring and evaluation	Respective State Departments and Departments within the Ministry of Labour and Social Protection
WASH	The overall counties' budget spending to WASH increased from Ksh 14.5 billion in 2014/15 to the highest of Ksh 20.5 billion in 2016/17, but declined to Ksh 16 billion in 2017/18	Tap into alternative funding streams to address the WASH resource gaps. Potential sources of funding include commercial financing blended finance, official development assistance (ODA) and seek strategic PPP's	National Treasury Counties
	Low absorption of WASH budget	Early planning and procurement of projects	Accounting officers in WASH County Treasuries
		Prompt disbursement of funds to counties	National Treasury Controller of Budget
		Increase collection of local own-source revenue	County Revenue Agencies County Treasury
	County WASH development allocation was 66 per cent against 34 per cent recurrent	Rationalization of expenditure to ensure both Development and Recurrent are balanced since WASH projects/ programmes are driven by both recurrent and development.	County Treasuries WASH Accounting officers
	65% access to improved water of the population between 2014 and 2018	Operationalization of water and sewerage schemes	Accounting officers in WASH Project managers in WASH
	The population within the service area of water utility (company) increased from 33 per cent to 38 per cent between 2014 and 2018	Formation of rural water and sewerage companies Strengthening the management of the companies. Capacity building of Water Users Associations (WUA)	County Governors Accounting officers in WASH

	The proportion of the population covered or served by the utility improved from 53 per cent in 2014 to 55 per cent in 2018	Increased allocation of funds to WASH Provide adequate resources for the maintenance of existing water systems	County Treasuries
	Reduced the percentage of potential open defecation from 19 percent to 8 per cent. Access to improved water and sanitation stagnated at 65 and 59 per cent, respectively	Strengthening of the Community-Led Total Sanitation (CLTS) to expand ODF areas Strengthen the Community Health Strategy	Accounting and Technical Officers in WASH
	The sector experiences the problem of non-revenue water[26] at about 45 per cent as of 2018; deteriorating from 42 per cent in 2014	Provide adequate resources for the maintenance of existing water systems. The entrenchment of water charges in the County Finance Acts	County Treasury Accounting Officers in WASH

26 Non-revenue water (NRW) is water that has been produced and is "lost" before it reaches the customer. Losses can be real losses (through leaks, sometimes also referred to as physical losses) or apparent losses (for example through theft or metering inaccuracies)

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Annex

Annex Table 1: Components of children indices and their PCA weights

Sector	Indicators	Eigen value	PCA weight	Eigenvector
Health	Life expectancy (%)	1.2067	Significant	0.2840
	Skilled delivery (%)	1.3894	Significant	0.4026
	Ever breastfed (%)	1.5192	Significant	0.4021
	Fully immunized child (%)	1.1665	Significant	0.3245
	Infant mortality percent per 1000	1.7086	Significant	0.2038
	Under-5 mortality per cent per 1000	1.2093	Significant	0.3114
	Neo-natal mortality per cent per 1000	1.3383	Significant	0.2197
Nutrition	Stunted children (%)	2.5390	Significant	0.4711
	Wasted children (%)	1.2173	Significant	0.3161
	Underweight children (%)	1.1647	Significant	0.4091
	Proportion of children aged 6 to 59 months-Received Vitamin A supplement (%)	1.0588	Significant	0.3564
	Proportion of children consuming adequately iodized salt (%)	1.2202	Significant	0.2187
Education	Net enrolment ratio (%) -Pre-primary	2.2035	Significant	0.1997
	Gender parity index (value) – Pre-primary (%)	1.0279	Significant	0.5572
	Net enrolment ratio (%)_Primary	1.0172	Significant	0.5435
	Gender parity index (Value) – Primary (%)	1.6069	Significant	0.2314
	Net enrolment ratio (%)_Secondary	1.2304	Significant	0.3684
	Gender parity index (value) _Sec. (%)	1.4741	Significant	0.4691

Social Protection	Monetary poor children aged 0-17	1.9059	Significant	0.6523
	Multidimensionally Poor children aged 0-17	1.08357	Significant	0.6461
	Child sexual abuse	1.00434	Significant	0.1463
	Child neglect and abandonment	1.5139	Significant	0.1077
	Child trafficking, abduction, and kidnapping	1.1018	Significant	0.7041
	Child labour	2.4609	Significant	0.4021
	Child emotional abuse	1.7524	Significant	0.4239
	Child physical abuse	1.6921	Significant	0.3124
WASH	Access to improved water (%)	1.89515	Significant	0.6327
	Access to improved sanitation (%)	1.18086	Significant	0.4384
	With toilet facility – No open defecation county-wide (%)	1.00121	Significant	0.6009

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