



# Landscape report on digital education in Kenya



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# Contents

1 Executive summary .....	2
1.1 Scope of the report .....	3
2 Background.....	3
2.1 Socio-cultural dynamics and challenges.....	3
2.2 Development of formal education .....	4
2.3 Competency Based Curriculum.....	5
2.4 Technical and Vocational Education and Training (TVET) .....	6
2.5 Gender .....	8
2.6 Disability and Inclusion.....	10
3 Digital Education in Kenya .....	11
3.1 Digital Literacy Program by Kenyan Government .....	11
3.2 Companies and startups providing digital education in Kenya .....	14
3.3 Digital content available .....	19
3.4 Internet connections and organizational capacity.....	20
4. Key INGO led education programs .....	22



This report has been produced by Fingo Powerbank project. The aim is to increase the civil society's capacity in three areas: innovations, technology solutions and corporate collaboration. We organize trainings, create partnerships and networks, test and adopt new solutions & provide advisory services and sparring. The focus is on supporting development NGOs and their partners in East Africa. The Fingo Powerbank programme extension is financed by the Foreign Ministry of Finland. The project will last from 2020 to the end of 2021.

# 1 Executive summary

The government of Kenya is a key supporter of education initiatives in the country. The impetus towards digital education peaked at the start of the presidency of the current head of state H.E Uhuru Kenyatta.

Since that period many organizations and institutions have supported this endeavor. As a lower-middle-income country, the scale of this initiative is a strain to the capacities of the central government. However, the support of other significant agencies, INGOs, local organization as well as input from the Ministry of Education, teachers and learners have kept the spirit and momentum of the digital education for all moving.

The new competency-based curriculum (CBC) enhances the effectiveness of the digital education agenda. The “4 C skills” of the CBC, communication, collaboration, creativity and critical thinking, serve to ensure that Kenya becomes a globally competitive nation with a populace that is highly skilled and equipped with the 21<sup>st</sup> century skills. Additionally, the standards and infrastructural investments toward training and vocational skills are geared towards meeting industry demands, therefore increasing the opportunities for work and skilled labor for Kenya’s youthful and innovative population.

While the expectations of parents, teachers and learners by the CBC model are yet to be fulfilled, the prospects and benefits of the digital education and a learner-centric problem-based learning approach, have been welcome. A great deal of policies and national strategies work to improve the efficiency of education spending.

Finally, the growth of internet connections and electricity connectivity provides support for the continued growth and spread of digital education across the country. This sets high priorities for delivering quality education to the previously disenfranchised – poor, rural, vulnerable communities including refugee communities, women and girls and persons living with disabilities.

Ultimately, the dividends of equitable and inclusive digital education have already proved beneficial to Kenya as is evidenced by the growing number of startups, organization and collaborations working toward advancing digital education not only in Kenya but across Africa. As the final decade for achieving the Agenda 2030 for Sustainable Development rolls in, the continued investment in digital education means that Kenya inches closer to preparing its future workforce and contributes to shaping the face of sustainable development in Africa.

## 1.1 Scope of the report

This report is commissioned with the intent to develop a landscape analysis of the current situation of digital education in Kenya:

- i) Mapping companies and startups providing digital education equipment, solutions, platforms and content in Kenya with a specific focus on Primary, secondary, tertiary and TVET levels; and the scale of use in Kenya and East Africa.
- ii) Describing the current policies and government initiatives & programs related to digital education
- iii) Mapping the digital content available from organizations, companies and government bodies and segregating officially approved and unofficial content
- iv) Mapping the availability of internet connections, ICT equipment, electricity and teachers/ organizational capacity of primary, secondary, tertiary, TVET institutions in Kenya
- v) Mapping key largest INGO led education programs currently ongoing in the country.

## 2 Background

### 2.1 Socio-cultural dynamics and challenges

Kenya has a population of 47,564, 296<sup>1</sup>. The country is made up of 42 tribes and 70 ethnic communities<sup>2</sup>. The cultural practices are varied and diverse, as are the impacts that they have on access to education across the country.

Girls have been disproportionately affected by some cultural practices. Examples of harmful cultural practices that have impacted on girls' education in Kenya include Female Genital mutilation, early child marriages and attitudes towards Sexual Reproductive Health and Rights. In response to this, interventions have been aimed at curbing these practices. At present, literacy rates between girls and boys is greatly improving and almost at par.

As a lower-middle-income country, Kenya suffers from shocks ranging from natural resource conflicts and political crises. These incidences have direct impacts on the populations poverty rates. The education sector is no exception to the effects of these shocks. This means that the delivery, quality and access to education has been challenged. Some parts of Kenya have been more affected than others. Arid and

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<sup>1</sup> Results based on the 2019 Kenya Population and Housing Census Results.

<sup>2</sup> Ministry of East Africa Community and Regional Development

Semi-Arid Lands (ASAL) regions in Kenya, predominantly North Eastern Province have experienced fewer allocation of capital and human resources towards the development of their education sector since pre-colonial era.<sup>3</sup>

These have been attributed to strained relations with the central government as well as to human insecurity in these areas. The cases of human insecurity are credited to cattle rustling, infiltration of small arms and light weapons, inter-communal wars and the emergent challenge of radical extremism.

Kenya also plays a host to refugee camps (for example Dadaab and Kakuma) owing to the political instability in the neighboring regions. They add complexity into the education a

delivery in Kenya: questions around education for stateless people and inclusion into the Kenyan education pipeline remains a challenge.

With the aforementioned socio-cultural challenges advocated for by myriads of civil society organization through the years, there has been increased support in these marginalized areas to support education provision and enhanced livelihoods of learners in support of quality education for all. This has been through innovative solutions that span STEM courses, the arts and even culture preservation in Kenya's vulnerable and disenfranchised communities.

## **2.2 Development of formal education**

In January 2003 under the new President Kibaki, Free Primary Education (FPE) was introduced. Not only was this considered fulfillment of a social contract with the electorate, but it was also in line with Millennial Development Goals (MDGs) 2015 in pursuant of Universal Primary Education.

In 2014, the 4<sup>th</sup> and current head of state President Uhuru sparked a national dialogue on digital education by making promise of computers for learners in primary school. The beneficiaries of the "one child – one laptop" project were mostly class one pupils in the primary school. The project was, however, suspended in lieu of a "one computer laboratory per school" due to high costs of the original model.

In 2017, the Ministry of Education launched the Competency Based Curriculum (CBC). This has been developed by the Kenya Institute of Curriculum Development (KICD)<sup>4</sup>. The structure of this new education system is the 2-6-6-3-model. This follows 2 years of pre-primary, 6 years of primary, 6 years of secondary (divided into junior and senior years) and 3 years of University education. The designing and use of the new curriculum are happening in incremental stages. Currently, the curriculum designs from pre-primary to primary's 5th grade have been finished and have already been rolled out country wide.

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<sup>3</sup>Education marginalization in Northern Kenya <https://unesdoc.unesco.org/ark:/48223/pf0000186617>

<sup>4</sup> The Kenya Institute of Curriculum Development is accessible on [www.kicd.ac.ke](http://www.kicd.ac.ke)

## 2.3 Competency Based Curriculum

The onus of CBC is to put the learner at the heart of the engagement. As an integrated learning model, this is a first of its kind in Kenya. The curriculum comes with a shift in pedagogy. In addition to the change in teaching methodology, the terminologies used for referencing the teaching have been modified as well. The table below shows some of the key terminological changes.

Table 1: TERMINOLOGY MODIFICATIONS IN 8:4:4 SYSTEM

Old terminologies	New terminologies
Subject	Learning Area
Sub/Topics	Sub/Strands
Teaching Aid	Learning resources
Syllabus	Curriculum Design

Within the new CBC design, there are 7 key components that every lesson must unlock. They are:

1. Communication and Collaboration
2. Critical Thinking
3. Creativity
4. Self-efficacy/ Self-awareness (e.g. gender)
5. Digital Literacy
6. Learning to learn (peer learning)
7. Citizenship

An overview of the CBC curriculum principles in comparison with that of the 8:4:4 system is shown below.

Table 2: COMPARISON BETWEEN 8:4:4 AND CBC

8:4:4 System	CBC model
Rote learning	Skill based
Knowledge based sans practice	Performing meaningful tasks
Focuses on recall	Equips learner with new knowledge plus what they can do
Rigid source of knowledge	Room for construction of knowledge from all quarters

Graded out of 500 marks	Assessed against EE/AE/ME/BE (Exceeds, Approaching, Meets and Below Expectations)
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The CBC requires a higher engagement between parents, teachers and the learners. During a parent teacher meeting at a school in Kajiado county, parents raised the concern that they lacked adequate information about the bigger picture of the CBC model, for purposes of making future plans for their children. As such, there is a need to introduce awareness and sensitization sessions for parents, teachers and learners to gain clearer understanding of how the new curriculum design measures qualifications for students to determine how they transit to senior secondary school amongst other unknowns.

## **2.4 Technical and Vocational Education and Training (TVET)**

The Technical Vocational and Education Training is now implemented in line with the Competency Based Education and Training (CBET) approach. This approach is curated to ensure that the country is capable to offer a globally competitive highly skilled workforce. The operationalizing of this approach shall see the current mode of training in TVET institutions become less theory oriented. The priority of TVET through the CBET approach shall now be focused on the outcomes of the learners. TVET training will also be oriented to deliver in a manner that is flexible in order to meet with the growing needs locally and globally, as well as demands of the trade. Finally, the delivery of TVET training shall be industry centric. Other policy documents that guide TVET is the National Training Strategy 2005.

Overall, key initiatives within the TVET sector aim to increase the standards of TVET training as a pathway to unlock youth unemployment in Kenya. Major partners engaging in this agenda include the German Federal Ministry for Economic Cooperation and development (BMZ). Otherwise known as GIZ, they are working with Kenya’s Ministry of Education as their lead executing agency. The novel concept framework of the project is to be achieved in 2019-2020 and is co-signed by 15 private companies whose function is to serve as the industry partners providing sponsorship, traineeship and expertise to the TVET centers. It is dubbed the Kenya-German TVET Initiative. Through this project, the TVET institutions and the partner companies cooperate to strengthen TVET curriculum, standardization and the practical training element. As this is a project in pilot phase, it has been marked as introducing a new model for relevant practicum experiences by TVET centers in the country.

The Kenya Association of Manufacturers has noted attitudes towards blue collar jobs as the reason to why TVET institutions have faced low enrollment rates. As such, it has called upon its members to show value upon blue collar jobs by getting involved in the development of occupational standards, investing in TVETs, holding open days to demystify blue collar jobs as well as being directly involved in the skills acquisition of graduates of TVET institutions. This contributes to developing a

thriving industry that invokes young people to engage with entrepreneurship and TVET in ICT related sectors. Additionally, the TVETA 2018-2022 strategic plan<sup>5</sup> which is published by the Kenya Literature Bureau states that skills audit and labor market information systems as financially constraining undertakings, that hold significant value for the future of Kenyan TVET programs if adequately realized.

The Diagram below shows the structure of the national TVET system in Kenya. Adapted from the Competency based Education Policy and Training Framework.<sup>6</sup>

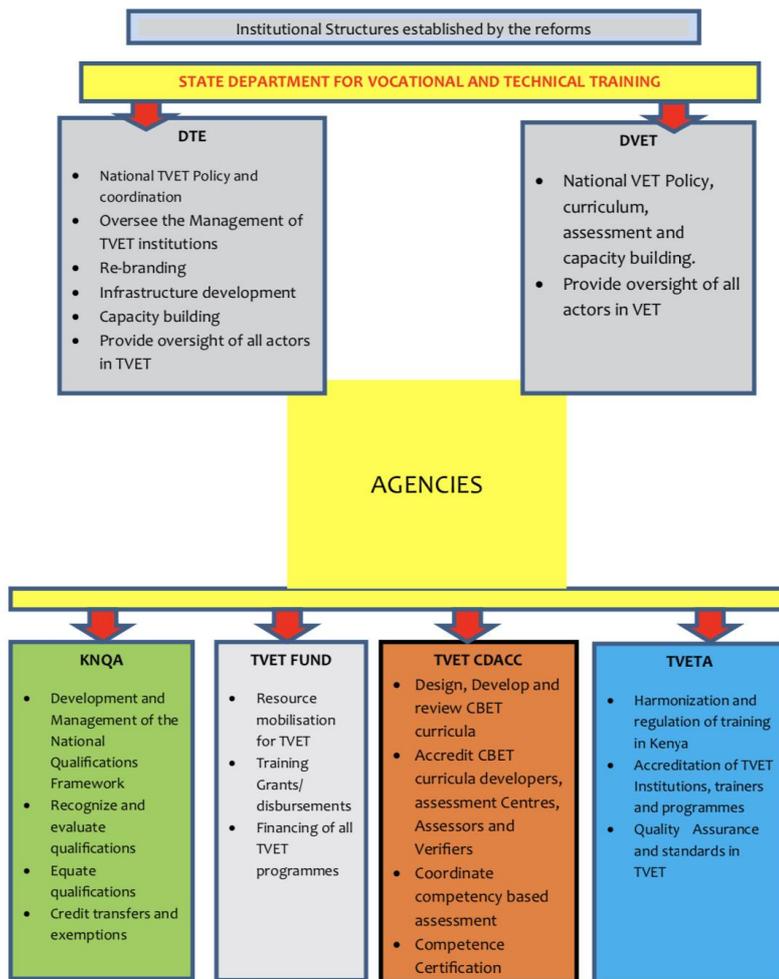


Figure 1 CBET APPROACH ORGANISATION STRUCTURE

Key

1. The Directorate of Technical Education (DTE)
2. Directorate of Vocational Education and Training (DVET)

<sup>5</sup> The whole document can be found on the link: [tveta.go.ke/wp-content/uploads/2019/06/TIVETA-STRATEGIC-PLAN-2-e-pub\\_2-Compressed.pdf](http://tveta.go.ke/wp-content/uploads/2019/06/TIVETA-STRATEGIC-PLAN-2-e-pub_2-Compressed.pdf)

<sup>6</sup> The link to the document can be found on : <http://www.tvetcdacc.go.ke/wp-content/uploads/2019/07/COMPETENCY-BASED-EDUCATION-AND-TRAINING-CBET-POLICY-FRAMEWORK>

3. The Technical and Vocational Education Training Authority (TVETA)
4. TVET Curriculum Development and Assessment and Certification Council (TVET CDACC)
5. The Kenya National Qualifications Authority (KNQA)

## 2.5 Gender

The Education and Training Sector Gender Policy<sup>7</sup> was reviewed in 2015 in line with the constitution of Kenya instituted in 2010. The policy advocates for gender equality and inclusion of women, minorities and persons with disabilities. It also analyses the gender disparities across regions most notably in the ASAL areas.

The policy addresses the issues on:

- Access
- Equity
- Quality Education
- Safety, Security and Gender Based Violence.
- Nurturing and mentoring
- Governance and management

While Kenya has largely achieved gender parity in the enrolment of boys and girls in primary education, a disparity continues to show as the disaggregation of learners is traced higher up the education ladder as well as in STEM courses including TVET institutions, with male representation being higher than that of females. The gender policy seeks to address these challenges. Below are strategies that seek to enforce gender mainstreaming as relates to the curriculum, content and practices. There is, however, no direct mention of digital content and hardware under this gender policy 2015 review.

Table 3: proposed strategies in the gender policy with reference to curriculum and practice

Policy	Goal	Policy Statement	Strategy
Policy No. 4  <b>Quality Education</b>	Eliminate gender inequalities through the provision of quality education and training.	Statement No. 4.1  Institutionalize a gender responsive quality curriculum in the sector	Strategy No. 4.1 (v)  Regularly review primary curriculum, teaching and learning materials to include Science, Technology, Engineering and Mathematics (STEM) concepts and to make them gender-responsive

<sup>7</sup> EDUCATION and TRAINING Sector Gender Policy 2015 FINAL PRINTED VERSION1.pdf

<p>Policy No. 6</p> <p><b>Nurturing and Mentoring</b></p>	<p>Develop gender responsive mentorship and role modelling programs for all learners.</p>	<p>Statement No. 6.3</p> <p>Provide mechanisms to enhance participation in STEM by all learners at all levels of education</p> <p>Statement No. 6.4</p> <p>Facilitate gender-balanced participation in STEM and Innovation in academic programs</p>	<p>Strategy No. 6.3 (I)</p> <p>Institute mentorship programs to enhance participation in STEM courses and research for skills acquisition at all levels of education</p> <p>Strategy No. 6.4 (v)</p> <p>Strengthen public-private-partnerships to develop gender friendly Science, Technology and Innovation centers to encourage female students' participation</p>
<p>Policy No. 7</p> <p><b>Governance and Management</b></p>	<p>To establish structures for good governance practice and management that ensure gender responsiveness at all levels of education.</p>	<p>Statement No. 7.10</p> <p>Improve the management of data and information to ensure gender sensitivity and disaggregation by age and sex at all levels</p>	<p>Strategy 7.10 (ii)</p> <p>Strengthen Education Management and Information Systems (EMIS) to effectively manage gender sensitive sex disaggregated data for information and strategic planning in the education sector</p>

## 2.6 Disability and Inclusion

The Implementing guidelines for Ministry of Educations Policy for learners and Trainees with Disabilities<sup>8</sup> covers 15 policy areas. These guidelines serve the Special Needs Education National Policy of 2009.<sup>9</sup> This document provides guidelines on how State Ministries, Departments and Agencies can collaborate to provide inclusive education for learners and trainers with disabilities. The guidelines by the Ministry of Education gives practical actionable steps that covers the policy areas below:

1. Assessment and early intervention
2. Access to quality and relevant education and training
3. Quality learning environment, health and safety
4. Specialized learning resources, assistive devices and technology
5. Capacity building and human resource development
6. Public participation and engagement
7. Advocacy and awareness creation
8. Equity and gender mainstreaming
9. Curriculum
10. Financing and sustainability
11. Partnership, collaboration and coordination
12. Research, data management and innovation
13. Inclusive Disaster Risk Reduction
14. Mentorship, molding and nurturing of national values

The Ministry of Education has a policy statement on specialized learning, assistive devices and technology. Under section 2.5 of the policy guideline<sup>10</sup>, the Ministry of Education vows to “provide and maintain quality specialized learning resources and assistive devices and adopt new technologies to improve learning and training in the targeted disability categories”.

Key higher learning institutions that have made tremendous inputs in the field of disability and the digisphere include University of Nairobi and Strathmore University. A University of Nairobi student named Roy Allela<sup>11</sup> developed a hand

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<sup>8</sup> Link: <https://www.education.go.ke/index.php/downloads/file/510-sector-policy-for-learners-and-trainees-with-disabilities>

<sup>9</sup> Link:

<http://www.unesco.org/education/edurights/media/docs/446808882707702aafc616d3acec918bfc186fc.pdf>

<sup>10</sup> Implementation guidelines-sector policy for learners and trainees with disabilities.pdf

<sup>11</sup>Link: <http://www.gearbox.co.ke/blogs/2019/4/12/roy-allela-develops-app-to-communicate-with-6-year-old-deaf-niece>

glove which converts sign language into audio. The device is named Sign -IO. The innovation received an award from the American Society of Mechanical Engineers.

Similarly, Strathmore University<sup>12</sup> located in Nairobi, is taking the lead in the advancements of innovations for disabilities. The scope of Strathmore University's engagement on the innovation ecosystem that specifically analyses the realities of persons with disabilities (PWD) in the continent marks a great achievement for PWD. Bernard Chiira, who is a former Afrilabs<sup>13</sup> startup mentor, based at the learning institution now serves as the Director of AT2030. This is a 5-year DFID funded Assistive Technology innovation ecosystem programme, the first of its kind in Africa.<sup>14</sup> The project received funding of 19.8 million euros. These proceeds will be 100% matched by private sector and other partners. The initiative was announced during the annual Nairobi Innovation Week ,2019 convened by the University of Nairobi.

## 3 Digital Education in Kenya

### 3.1 Digital Literacy Program by Kenyan Government

The Digital Literacy Program was initialized in 2013, as a part of a political manifesto by the current President H.E Uhuru on the education system in Kenya. The national project analyses on E-readiness assessment, Teacher capacity, Technology and Infrastructure and Digital content. The Kenya Institution of Curriculum Development (KICD) is in charge of digital content approval and development. There is a future goal of the creation of a cloud strategy that will see the harmonizing and updating of the content nationally, a process that will be easier and accessible to all users across the country.

Overall, the premise of the digital literacy programme is centered on the distribution of digital devices for learners in lower primary schools. The distribution is only done to public institutions across the country. The mission is to give young minds exposure to digital literacy in their formative years of formal education. Phase 2 of the digital literacy programme<sup>15</sup> however, places impetus toward the establishment of computer learning labs especially for senior primary

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<sup>12</sup> Link: [www.strathmore.edu](http://www.strathmore.edu)

<sup>13</sup> Link: [www.afrilabs.com](http://www.afrilabs.com)

<sup>14</sup> More information about the project can be found on their site: [at2030.org](http://at2030.org)

<sup>15</sup> <https://www.kenyanews.go.ke/government-to-roll-our-second-phase-of-digital-learning-process-in-august/>  
Article by Kenyanew.go.ke

and secondary schools across the country. This phase sets the stage for the inclusion of all learners and opens up the DLP project to a more sustainable, cost efficient implementation model. With this plan, there shall be 3 levels of implementation. There are labs in 12000 schools in 2019 and a further 5000 schools by 2020.

As of 2019, the government of Kenya has spent Eur 234 million euros in the Digital Literacy Programme (DLP). At current, the government of Kenya through the ICT Authority has partnered with Jomo Kenyatta University of Agriculture and Technology (JKUAT) and Moi University in Eldoret to produce, repair, service and replace computers. The Rivatex Digital Assembly Plant at Moi University produces 1250 devices daily, which contributes to serve 23,951 primary schools across the country.

The challenges that the project encounters are complex. Monitoring conducted by the ICT Authority on the use of these devices reveals that most of the devices are unused due to lack of trained personnel and lack of electricity in some schools. A 2018 report by the Teacher Service Commission reveals that 80% of teachers have knowledge gaps on IT.

Teacher shortage has also been projected by the Teacher Service commission as a forthcoming challenge worth mitigating. This is indicated in the TSC Strategic Plan 2019 – 2022. The diagram below shows the projected shortage for the period 2019 – 2022 with 2018 as the base year. This shortage has been attributed to upcoming government initiatives that require lower teacher-learner ratio for engagement as well as the expected 100% transition rate of learners from primary to secondary schools.

Projections in Teacher Shortage (2019-2023)			
Year	Primary	Post Primary	Total
2019	37,410	61,671	99,081
2020	36,777	61,671	98,448
2021	36,155	61,671	97,826
2022	35,543	61,671	97,214
2023	34,941	61,671	96,612

Table 4: Projection of teacher shortage in Kenya. Source: TSC Data: 2018

The Digital Literacy Programme (DLP) project grapples with the lack of adequate financial resources and existing infrastructure to effectively run the one laptop – one child model of the DigiSchool implementation. Granted the rural-urban divide, it is important to take note of the attitudes of parents and teachers towards the availability of the digital devices for learners. For example, in ASAL regions where schooling is affected by factors such as drought, acute poverty, terrorist attacks and cattle rustling, the perception that tablets or computers requires more support systems to reap the full benefits of the Digital Literacy Programme in these less developed contexts are not lost.

In early 2020, Absa Bank Kenya, formally Barclays bank Kenya, announced a plan to construct 66 computer laboratories across the country. An amount of KES 25 Million has been set aside for this purpose.

The Information Communication and Technology Authority (ICTA) lists all information regarding the project including the KICD approved textbooks. It also gives information of the model classroom for the DigiSchool programme and the devices. The devices are shown below including actual products<sup>16</sup> offered under the DLP initiative. Most notable is the Learner Digital Device (LDD) which is currently developed at the Rivatex Plant in Eldoret.

### The Devices

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#### Braille embosser

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Braille embosser for visually impaired pupils in the 5 subjects namely, Kiswahili, English, Mathematics, Science and Social studies.



#### Digital Content Server and Wireless Router (DCSWR)

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Server and wireless router that are preloaded with the teacher training curricula on ICT integration, teachers training manual on ICT and a resource kit for teachers.



#### Learner Digital Device (LDD)

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Tablet that is preloaded with content which includes interactive digital content for classes 1 and 2 in 5 subjects namely, Kiswahili, English, Mathematics, Science and Social studies.



#### Teacher Digital Device (TDD)

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Laptop that is preloaded with the teacher training curricula on ICT integration, teachers training manual on ICT and a resource kit for teachers.



#### Projector

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Projector to assist the teacher in the delivery of the lesson plan

Figure 2 : DIGISCHOOL BRAND GUIDE

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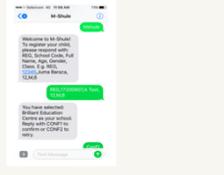
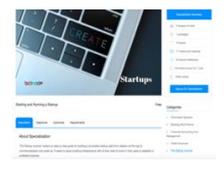
<sup>16</sup> <https://www.kenyanews.go.ke/government-to-roll-our-second-phase-of-digital-learning-process-in-august/>  
Article by Kenyanew.go.ke

### **3.2 Companies and startups providing digital education in Kenya**

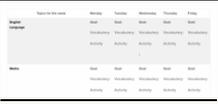
The management and use of Information, Communication and Technologies (ICTs) has been on the rise across the globe. Kenya has enjoyed great benefits and accolades as a result of its robust homegrown innovation driven enterprises. For example, Safaricom, iHub and Nairobi Innovation Week (NIW) stand as the pioneering mobile money technology, start-up incubation center and ecosystem development platforms respectively in Kenya. These players and others have contributed to the dynamics that have shaped the thriving innovation ecosystem in Kenya. Another factor that has contributed to the early adoption and use of digital solutions and ICT's in the country is the mobile penetration rates in the country. At 30<sup>th</sup> September of 2018 the Communications Authority of Kenya reported that Kenya has joined the ranks of Taiwan and Israel, by reaching the 100 percent mark in mobile penetration in the country.

As in most sectors, the diversity and tenacity of innovations developed with a view of driving social change and development have extended into the education sector as well in Kenya. While the capital city of Nairobi remains as the pumping engine for the innovators and investors, a lot of inspiration, testing and use of these innovations occurs in other smaller or rural counties across the country.

The following table show the break-down of companies and start-ups that provide digital equipment solutions and content for Primary, Secondary, Tertiary schools across the country as well as Technical and Vocational Education and Training (TVET) institutions.

	Companies/ Startups	Logo	Digital Education Equipment/ solutions/platforms/Content	Product Preview	Web address	Target demographic	(I)Staff (II) Annual Revenue	Scale	Gov. contract
Based in Nairobi									
1.	M-shule		Adaptive learning <b>platform with content</b> delivered through SMS		<a href="https://m-shule.com">https://m-shule.com</a>	Primary School	(I) 3-7 (II)N/A	N/A	No
2	Bafunde		<b>Platform and content</b> for organization, schools and institutions to provide digital education to complement and boost their face-to-face engagements		<a href="http://Bafunde.com">Bafunde.com</a>	Tertiary	(I) 3 (II) N/A	100 users  Nairobi, Kenya	No
3	KENET		<b>Equipment, Solutions</b> interconnecting campuses with internet, as well as partner institutions. Endorsed as National Research Education Network (NREN) of Kenya	See KENET services brochure <a href="#">here</a>	<a href="https://www.kenet.or.ke/">https://www.kenet.or.ke/</a>	Campuses and partner institutions	(I) 27 (II) 130000 > USD	145 institutions, 260 + campuses connected	Yes
4	BRCK – Kio Kit		<b>Digital solutions &amp; equipment</b> made up of 40 tablets, a supaBRCK (wireless connection), wireless tablet charging and a hard case		<a href="https://www.brck.com/education/">https://www.brck.com/education/</a>	Platform + content	(I) 14-20 (II) 400,000 > USD	1000 + learners, 17 countries globally	No
5	Elimu		<b>Content</b> for children and adult learners in Dadaab on Kiswahili and English literacy.		<a href="http://e-limu.org/abouut-us/">http://e-limu.org/abouut-us/</a>	Primary and Out of School	(I) 12-15 (II) N/A	N/A	No

6	Kytabu		<b>Content</b> for teachers and students onto their mobile devices. Users can rent books on a need's basis. Also serves as a publisher portal.		<a href="https://www.kytabu.com/">https://www.kytabu.com/</a>	Primary	(I) 2-3 (II) 10,000 USD	7,500 + beneficiaries.	No
7	Educartis		<b>Content</b> on course options offered by top institutions in Kenyan higher education learning		<a href="https://www.educartis.co.ke/">https://www.educartis.co.ke/</a>	Tertiary	(I) 10 (II) Estimated 100,000 USD	1500 daily site visits	No
8	Arifu		<b>Content and Platform</b> Chatbot platform. This is provided free of charge to the users. Arifu partners sponsor the learning on diverse skills e.g. nutrition		<a href="https://www.arifu.com/">https://www.arifu.com/</a>	TVET	(I) 31 (II) Estimated 250,000 > USD	20 Million + learning messages sent, 850, 000 users.	No
9	Akirachix		<b>Content for girls</b> using a problem-based learning model whilst equipping them with coding and technical skills training		<a href="https://akirachix.com">https://akirachix.com</a>	TVET	(I) 5 staff, 8 trainers (II) 200,000 USD Estimated	193 graduates 80% job placement rates	No
10	Computers for Schools Kenya		<b>Equipment</b> for school children. These are donated laptops that are distributed across the country.		<a href="http://cfsk.org">http://cfsk.org</a>	Primary & Secondary	(I) 70 - 100 (II) N/A	6 regional centers 30,000 + computers donated to over 700 schools	Yes

11	iMlango		<b>Content and Equipment</b> for schools in marginalized areas of the country.		<a href="https://www.imlango.com">https://www.imlango.com</a>	Primary	(I) 3-10 (II) N/A	240 schools	Yes
12	Making Innovators: Kids edition		<b>Content</b> on Design Thinking and Problem Based Learning		<a href="https://makininnovators.co.ke">https://makininnovators.co.ke</a>	Primary	(I) 4 trainers (II) 5000 USD	200 students trained	No
13	Bridge International academics		<b>Content, Equipment</b> for primary school children		<a href="#">Link</a>	Primary	(I)12 (II)USD 17,000,000	300,000 learners	Yes
14	Computer Aid Kenya		<b>Equipment</b> and learning labs for schools		<a href="https://www.computeraid.org/about-us">https://www.computeraid.org/about-us</a>	Primary and Tertiary	(I) 5 (II) Approximately USD 1,200,000	Over 7000 computers donated	No
Based in Thika									
15	Mpesa Foundation Academy		<b>Content</b> and learning institution for future leaders.		<a href="https://mpesafoundationacademy.ac.ke">https://mpesafoundationacademy.ac.ke</a>	Primary and Secondary	(I) 30-70 (II) USD 6,000,000	684 students enrolled	No

Regional Scale									
16	Eneza Education		<b>Content</b> on Math, English and Teachers reproductive health for underserved learners		<a href="https://enezaeducation.com">https://enezaeducation.com</a>	Primary	(I) 4-8 (II) USD 500,000	6,000,000 learners Operates in Kenya, Ghana and Ivory Coast	No
17	Mosabi		<b>Content</b> in Africa on financial literacy for underserved communities		<a href="https://mosabi.co/">https://mosabi.co/</a>	Tertiary	(I) 5-7 (II) N/A	Present in 10 countries	No
18	Ekitab		<b>Content</b> (E-books) and digital essay competition.		<a href="https://www.ekitabu.com">https://www.ekitabu.com</a>	Reduce price of books	(I) 15 (II) n/a	1500 schools as users	No
19	Ubongo kids		Fun <b>Content</b> for kids on problem solving on Math and STEM, using music and animated animal friends.		<a href="https://ubongokids.com/">https://ubongokids.com/</a>	Primary	(I) 45 (II) 1,326,029 USD	6,400,000 million households weekly	No
20	Endless Solutions		<b>Content, solutions and equipment</b> (Global) Including endless laptops and mini-PC's		<a href="https://www.endlessolutions.com/about">https://www.endlessolutions.com/about</a>	Primary and Tertiary	(I) 3-5 (II) N/A	Shipped 2 million devices in 60 + countries	No
21	Avanti		<b>Solutions</b> and internet connectivity across the country. (Kenya and Tanzania)		<a href="https://www.avantiplc.com">https://www.avantiplc.com</a>	Primary and TVET	(I) 220- 234 (II) USD 1,400,00	Internet connectivity in 118 countries	No
22	Camara education		<b>Equipment</b> (Kenya and Tanzania)		<a href="https://camara.org">https://camara.org</a>	Primary and Secondary	(I) 132 (II) \$1,000,000	Trained 42,500 educators, 7 hubs globally	No

Table 5 : STARTUPS AND COMPANIES PROVIDING TECHNOLOGY, EQUIPMENT, CONTENT, SOLUTIONS

Relevant events and conferences focused on digital education in Kenya include Nairobi Innovation Week. Furthermore, for example, the regional TVET Authorities Technical Meeting for the East Africa Community took place in March 11-13<sup>th</sup> 2020 in Nairobi. Additionally, Kenya will play host to the Next Einstein Forum in 2020.

With the developments in digital content in learning institutions across the country, education management systems have also been developed. This includes the Open Schools Kenya that gathers education data in Kenyan schools in Kibera, Kangemi and part of Mathare with the assistance of the Ministry of Education. The information and details can be found here: (<https://openschoolskenya.org/#map>).

### 3.3 Digital content available

While there exists a lot of content developed on digital education, there are few direct partnerships with the Kenya Institute of Curriculum Development. The following organization are promoting and/or supporting KICD approved materials with direct partnership with the Ministry of Education and other government parastatals:

Table 6: KICD APPROVED CONTENT

	Companies/ Startups	Approval Status	Web address	Level of education
1	Ekitab	Ekitab has secured partnerships with key publishers such as Kenya Literature Bureau amongst others	<a href="https://www.ekitabu.com">https://www.ekitabu.com</a>	Primary and secondary school
2	Educartis	Lists courses offered by learning institutions. Some of these Higher Learning Institutions are parastatals.	<a href="https://www.educartis.co.ke/">https://www.educartis.co.ke/</a>	Tertiary

3	iMlango	DFID funded programme that works with the Ministry of Education to serve rural marginalized areas of Kenya	<a href="https://www.imlango.com">https://www.imlango.com</a>	Primary
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Primarily, a lot of materials by startups and companies providing digital education for learners in the Kenyan curriculum are digital adaptations of the KICD materials. The list above depicts this criterion.

There also exists other organization that provide guidance on various thematic topics nationally. For example, the Kenya Institute of Special Education (KISE)<sup>17</sup> provides courses on disabilities and special needs areas and the Center for Mathematics, Science and Technology Education in Africa (CEMESTE) provides continuing education for STEM professionals<sup>18</sup>. Both KISE and CEMESTE do not have digital material available. However, both institutions are important centers that support the Ministry of Education and its mandate.

### 3.4 Internet connections and organizational capacity

The African Development Bank (AfDB) analyses Africa’s economic growth every year. Overall, the 2020 edition of the AfDB’s African economic Outlook<sup>19</sup> advocates for education and infrastructure investments as mutually beneficial with assured payoffs for African countries.

According to datareportal<sup>20</sup>, Urban dwellers in Kenya account for 26.6% of the population. Kenya has 22.88 million internet users. This makes the internet penetration rates to stand at 43%. Of these, 8.8 million Kenyans use social media sites with WhatsApp, Facebook and Twitter taking precedence. By January 2020, there were 52.06 million mobile connections in the country accounting for 98% of the population.

3G network coverage stands at 85% by 2017, while a 1/3 of the population enjoys access to 4G internet connections. The Jumia mobile report of 2019 shows statistics below on

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<sup>17</sup> The KISE website holds more information at [www.kise.co.ke](http://www.kise.co.ke)

<sup>18</sup> Link: [www.cemastea.ac.ke](http://www.cemastea.ac.ke)

<sup>19</sup> Link: <https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

<sup>20</sup> Link to the data can be found on: <https://datareportal.com/digital-in-kenya>

internet connection in the country.<sup>21</sup>



Figure 3: Mobile subscriptions

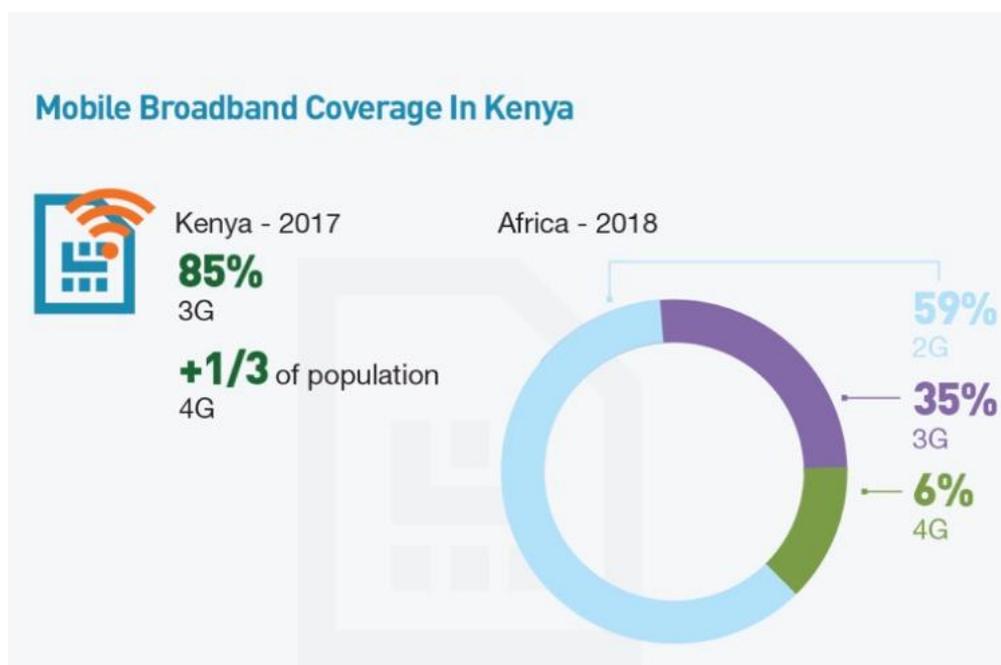


Figure 4: Mobile broadband coverage in Kenya. The two figures above are adopted from the Jumia mobile report 2019.<sup>22</sup>

To support the spread and reach of internet connections in the country, local companies

<sup>21</sup> Jumia mobile report 2019. Link: <https://www.jumia.co.ke/mobile-report/>

<sup>22</sup> Link: <https://www.jumia.co.ke/mobile-report/>

and organizations like KENET, Safaricom, Wananchi Group Limited have been supporting the last mile connectivity contributing to the Government of Kenya project which aims to connect Kenyan households and customers to the Kenya electricity national grid. This project mostly targets Kenyan slum and rural areas that may be void of electrification. The project<sup>23</sup> requires participants to contribute a small amount for this service and the remainder of the amount is subsidized by the government of Kenya in partnership with the Agence Francaise de Developpement (AFD), The European Investment Bank (EIB) and the European Union. The part loan, part grant schema, sees the KES 13.7 billion project assist the government to achieve its goal of universal household and customer electrification by 2020.

## 4. Key INGO led education programs

Kenya is a regional hub for the humanitarian sector with many organizations finding base in the country. Of those working in the education sector, the services and support given by these institutions have been instrumental in allowing education to be accessible to many children.

Organization providing direct education to children country-wide for local study programs are:

	Organization	Project Name	Education offered to/for	Link	Implementation years	Areas
1	USAID	Generation Kenya, Initiative,	Youth,	<a href="https://www.usaid.gov/documents/1860/generation-kenya">https://www.usaid.gov/documents/1860/generation-kenya</a>	2019-2020	Busia, Eldoret, Kajiado, Eldoret, Kericho, Kilifi, Malindi, Migori, Mombasa, Nakuru, Voi
		Tusome	Teacher Training project	<a href="https://www.usaid.gov/documents/1860/tusome-early-grade-reading-activity">https://www.usaid.gov/documents/1860/tusome-early-grade-reading-activity</a>	2014-2020	Public schools nationwide  Employed the use of tablets to monitor literacy of learners
2	<a href="https://www.britishcouncil.org">British council</a>	Skill center professional Training course	Professionals	<a href="https://www.britishcouncil.org/programmes/education/business-english">https://www.britishcouncil.org/programmes/education/business-english</a>	Annual	Open to Kenyan nationals  Consists of use of an e-learning platform /webinars

<sup>23</sup> Link: <https://www.kplc.co.ke/content/item/1120/last-mile-connectivity>

3	DFID	Girls Education Challenge	Marginalized Girls	<a href="https://girlseducationchallenge.org/#/">https://girlseducationchallenge.org/#/</a>	2012-2024	Delivery of Digital devices through projects such as iMlango
4	Mastercard Foundation	Young Africa Works	SME growth	<a href="https://mastercardfdn.org/young-africa-works-in-kenya-five-views/">https://mastercardfdn.org/young-africa-works-in-kenya-five-views/</a>	2018-2030	Uses the Ajira digital platform
5	World Bank	Kenya Secondary Education Quality Improvement Project	Improve teaching in targeted areas	<a href="https://projects.worldbank.org/en/projects-operations/project-detail/P160083">https://projects.worldbank.org/en/projects-operations/project-detail/P160083</a>	2017- 2023	Focuses on enhancing quality education and addresses teacher shortage
		EASTRIP	TVET Skills	<a href="https://projects.worldbank.org/en/projects-operations/project-detail/P163399">https://projects.worldbank.org/en/projects-operations/project-detail/P163399</a>	2018- 2024	Student enrollment in TVET institutions

Table 7: INGO led initiatives in Kenya

Organization providing education opportunities for refugees:

	Organization	Project Name	Education offered to/for	Link	Implementation years	Areas
1	Educate a child in local partnership with UNHCR and Girl Child Network	Enabling, Encouraging, Exceling	Refugee children in asylum countries	<a href="https://educateachild.org/our-partners-projects/country/kenya">https://educateachild.org/our-partners-projects/country/kenya</a>	2015-2019	Country-wide

Other international organization run study abroad programs such as the Mastercard foundation and the Newton Utafiti Fund, hosted by the British Council. Organization such as the Japan International Corporation Agency<sup>24</sup> has been instrumental in construction computer laboratories in Kenyan schools. The Aga Khan Foundation and Rotary International have also provided scholarship opportunities for students applying to certain colleges outside of Kenya.

<sup>24</sup> Link: <https://www.jica.go.jp/kenya/english/activities/activity01.html#a09> on the program on improvement of quality of primary and secondary ( Mathematics and Science Education)

The banking sector has also been a key player in the support of education in Kenya. ABSA group, locally known as Barclays Bank, has plans to support the construction of 66 laboratories across the country.<sup>25</sup>

Tech companies such as IBM, CICSO, Google and Microsoft have also provided support for the education sector in Kenya. Key European agencies such as the European Union, Danida, Sida and Norwegian Refugee Council have been key funders in the financing of some of these programs.

For example the following Finnish NGOs are working on Education and Training in Kenya (see the full list: <https://www.fingo.fi/meista/jasenet/jasenrekisteri>).

[African Care ry »](#)

[Asante ry »](#)

[Fida International ry »](#)

[Frikyrklig samverkan FS rf. »](#)

Helsingin yliopiston kehitysmaatutkimus

[Lasten ja nuorten säätiö »](#)

[Nakurun lapset ry »](#)

[SEED ry »](#)

[Suomen Pipliaseura ry »](#)

[Suomen Rotarypalvelu ry – Rotary Doctor Bank Finland »](#)

[Suomen World Vision ry »](#)

[Taksvärkki ry »](#)

[Terve Afrikka Kehitysyhteistyö ry »](#)

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<sup>25</sup> <https://www.goplacesdigital.com/absa-bank-kenya-plc-torch-of-possibilities-run-launch/>