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Realising the potential of technology in education

EdTech in Tanzania: A Rapid Scan

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Country Scan

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1. About this scan

EdTech Hub country scans explore factors that enable and hinder the use of technology in education. These factors include the policy or vision for EdTech, institutional capacity, private-sector partnerships and the digital infrastructure. The scans are intended to be comprehensive but are by no means exhaustive; however, we hope they will serve as a useful starting point for more in-depth discussions about opportunities and barriers in EdTech in specific countries, in this case, Tanzania.

This report was originally written in June 2020. It is based primarily on desk research, with quality assurance provided by a country expert. Given how rapidly the educational technology landscape is evolving, the Hub plans to provide periodic updates. Table 1 provides a summary of the situation regarding EdTech in Tanzania.

Table 1. EdTech in Tanzania

Policies	• National ICT Policy. (Ministry of Communications and Transport, 2003) • Implementation Strategy for the National ICT Policy (Ministry of Works, Transport and Communication, 2016) • ICT in Education policy for basic education (Ministry of Education and Vocational Training, 2007) • Education Sector Development Plan (ESDP) (Ministry of Education, Science and Technology, 2018)
Infrastructure	• 85% of primary schools and all secondary schools have access to electricity¹ compared to 36% of the population that has access to electricity. • There are 77 mobile connections per 100 people². • 13% of the population have their own connection to the internet³; 25% of the population use the internet⁴. • There is no data on connectivity or computers in schools.

¹ UNESCO Institute of Statistics (n.d.), as available at <http://uis.unesco.org/en/country/tz>

² World Bank (n.d.-b), as available at <https://datacatalog.worldbank.org/dataset/world-development-indicators>

³ CIA (n.d.), as available at <https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html>

⁴ World Bank (n.d.-c), as available at <https://datacatalog.worldbank.org/dataset/world-development-indicators>

Partners and initiatives	• The Tanzania Institute of Education (TIE) is responsible for content development and has its own studios. • The Tanzania Education Authority (TEA) has a mandate to secure funds for education, including EdTech initiatives. • Several agencies under the MoEVT play a role in implementing EdTech; there is no coordinating body. • Initiatives are usually led by donors or companies, not by the government.
Covid-19	• All schools closed mid-March 2020. • The Tanzania Institute of Education (TIE) created a virtual library and started broadcasting educational content through radio and television.

2. Country overview

The United Republic of Tanzania is a country in East Africa with an estimated population of 58 million people in 2020⁵. With a growth rate of 3.1%⁶, it has the 15th fastest growing population worldwide⁷. Over 45% of Tanzania's population is under the age of 15. Tanzania is divided into 31 regions; 26 regions are on the mainland, and 5 on the two islands of Zanzibar. Zanzibar has a semi-autonomous status in the country, allowing it to set its own education policy.

The country's relatively high economic growth of 6–7% per year over the last decade has contributed to a declining poverty rate⁸. However, the absolute number of poor citizens remains the same because of Tanzania's high population growth rate. Tanzania has only just transitioned from a low-income country to a middle-income country. Its HDI index of .528 places it in the medium human development category and ranks it 159 out of 189 countries and territories⁹.

⁵ CIA (n.d.), as available at

<https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html>

⁶ Demographic Dividend (2020), as available at

https://demographicdividend.org/country_highlights/tanzania

⁷ CIA (n.d.), as available at

<https://www.cia.gov/library/publications/the-world-factbook/geos/tz.html>

⁸ World Bank (n.d.-b), as available at <https://www.worldbank.org/en/country/tanzania/overview>

⁹ UNDP (n.d.), as available at <http://hdr.undp.org/en/countries/profiles/TZA>

3. Education system overview

The Tanzanian educational system is organised by the 1978 Education Act (UNESCO, 1978), later amended in 1995, and the Education and Training Policy, drafted in 1995 and updated in 2009 (Ministry of Education and Vocational Training, 2009). Education Sector Development Plans (ESDP) lay out the policies and strategic objectives for the sector in 5-year or 10-year periods. The latest ESDP (Ministry of Education, Science and Technology, 2018) covers the 5-year period from 2016 / 2017 to 2020 / 2021.

Tanzania implemented a fee-free basic education policy in 2016¹⁰, which led to a reduction of out-of-school children, higher enrollment, and higher retention rates. However, increased pressure on the educational system has led to challenges in maintaining the quality of education and improving learning outcomes. The semi-autonomous region of Zanzibar, with less than 3% of Tanzania's population, sets its own education policy. While it uses slightly different terms for education levels, it follows the Tanzanian curriculum.

3.1. Education policy and system structure

Tanzania's education system entails 12 years of schooling with a 1-7-4-2-3+ structure (Table 2). The sector is in the process of moving towards a compulsory and fee-free basic education system with a 2-6-4-2-3+ structure. While this transition has already begun, the change is not expected to be fully enshrined until 2021 (ESDP).

Table 2 — Level, year and grade name in the Tanzanian educational system

Level	Duration (years)	Grade name
Pre-primary	1	
Primary	7	Standards I–VII
Lower secondary	4	Forms 1–4
Higher secondary education	2	Forms 5–6
Higher education	3+	

¹⁰ Global Partnership for Education (2020b), as available at <https://www.globalpartnership.org/where-we-work/tanzania>

Tanzania spent an estimated 4.43% of its GDP on education in 2016, and 20.6% of the government's expenditure went to education in 2018 (Unesco Institute for Statistics).

3.2. Education sector progress and challenges

Enrollment rates in Tanzania have been increasing since 2015, after a period of declining enrollment rates from 2010–2014¹¹. The fee-free, compulsory pre-primary education has resulted in a ~30% growth in enrolment from 30% in 2015 to around 40% in 2018. Similarly, albeit less impressive, declines in primary and secondary education enrollment turned to steady, but modest increases from 2016–2018. Primary enrollment stood at 94% in 2018, and secondary enrollment around 29%. In all levels preceding higher education, enrollment rates are essentially the same for males and females, with females enjoying slightly higher enrollment rates than boys. This parity disappears in higher education, where male enrollment is almost double that of females, with 5.2% and 2.8% respectively (ESDP).

However, as a result of high population growth, in absolute terms, the number of out-of-school children has been increasing, rising from around 800,000 children in 2010 to 1.8 million in 2018. In 2018, 57% of pre-primary-aged children, 23% of primary school-aged children and 41% of secondary-aged children were estimated to be out of school (ESDP). While the out-of-school primary population is 23%, enrollment in primary schools is 94%. This seeming discrepancy is largely explained by the fact that many secondary school-aged children still attend primary school.

One of the reasons the Ministry revised the 2007 / 2008 ESDP was to address growing concerns about the quality of education and poor learning outcomes in literacy and numeracy, especially at the basic education level. The National Examinations Council of Tanzania (NECTA) reports that, in 2015, close to 80% of children could read after standard II, but that less than a quarter attained satisfactory levels on reading with comprehension; mathematics scores were slightly lower.

Of the estimated 400,000 school-aged children with disabilities, only around 13% are registered in primary or secondary school. The ESDP notes that school not only serves to teach children but also to protect them — especially girls — from exploitation and abuse. While the government intends for children with disabilities to attend normal school when possible, few teachers are qualified to work with special needs learners.

The ESDP identifies several concerns in the basic education sector:

1. Multiple educational agencies intervene in the curriculum without coordination, leading to a lack of vision or single framework;

¹¹ UNESCO Institute of Statistics (n.d.), as available at <http://uis.unesco.org/en/country/tz>

2. Less than half of teachers master their subjects, a problem most pronounced in language teachers;
3. There is a shortage of textbooks, resulting in teaching not being aligned with textbooks or non-curricular content being taught;
4. There is a shortage of teachers, and the teachers are not distributed evenly over the country. In over 10,000 schools, the student-to-pupil ratio is over 100, with exceptions reaching 300, and a national average of a bit above 40;
5. There is a shortage of classrooms, even after the introduction of a compulsory double shift in standards I-IV;
6. Large regional disparities in enrollment persist, with low enrollment in Dar es Salaam, and the northern and western regions.

Tanzania uses Kiswahili as the language of instruction for pre-primary and primary grades, but shifts to English as the language of instruction in lower, upper secondary and higher education. While the acquisition of English is considered important, the standard of instruction is low. In practice, teachers often revert to Kiswahili to teach classes.

3.3. Tanzania's Education Sector Development Plan 2016 / 2017–2020 / 2021

Tanzania's ESDP (2018) (Ministry of Education, Science and Technology, 2018) discusses key challenges faced in the education sector and provides comprehensive data on the state of education. It identifies seven objectives and policy statements:

1. Access to education and training opportunities;
2. A system that enables Tanzanians to continue learning academically and professionally;
3. Quality education and training that is recognised locally and internationally;
4. An increase of human resources consistent with the priorities and demand;
5. An education and training system that integrates cross-cutting issues;
6. A sustainable financing modality for education and training;
7. Effective management and administration of education and training.

4. EdTech policy and strategy

In this section, we describe Tanzania's national ICT policy and include a brief look at the ICT in education policy.

4.1. National policy

In 2016, the Ministry of Communications and Transport published an Implementation Strategy for the National ICT Policy (Ministry of Works, Transport and Communication, 2016), the first update since the policy was initially published in 2003 (Ministry of Communications and Transport, 2003). The strategy identifies several barriers to ICT use including the lack of privacy laws, security, infrastructure, legal frameworks or public-private partnerships. Policy objectives and statements describe the actions that will be taken to address these challenges, but the strategy provides no guidance on how to operationalise the objectives or assess when desired outcomes have been achieved.

4.2. ICT in education policy

The MoEVT published an “ICT in Education policy for basic education” in 2007 (Ministry of Education and Vocational Training, 2007). Basic education comprises pre-primary, primary, lower secondary and upper secondary education in Tanzania but the policy also addresses vocational training and adult education. No newer policies on the use of ICT in Education have been published. The policy lays out several objectives for the use of ICT in education, but given that the document is now considerably dated, the Implementation Strategy for the National ICT Policy of 2016 is consulted for strategic guidance on ICT issues and objectives in the education sector.

The Implementation Strategy acknowledges the potential for ICT to enhance teaching and learning in both formal and non-formal education. The policy notes how currently only a few educational institutions, most of which are private, incorporate the use of ICT in education delivery. Universities are among the institutions that lack ICT facilities — physical infrastructure is poor and internet bandwidth is weak. It also discusses how for online education and other services, much of the content is in English, instead of in Kiswahili. The dearth of local content means that content is often not understood, or that it does not address or apply to the skills needed in the country. Further, a legal framework is needed to ensure that data are stored in the country, instead of abroad as is currently the case. This is relevant for organisations that plan to create online platforms and want to retain access to user data in Tanzania.

The observations above led the Tanzanian government to formulate the following policy objectives for addressing these issues in the National ICT Policy :

- To ensure a conducive environment to enhance hosting of ICT systems locally and localisation of internally generated traffic;
- To create an enabling environment that nurtures the development and promotion of local content in ICT products and services in partnership with public and private sectors;

- To put in place an effective mechanism to promote the use of Kiswahili in electronic services for the transformation of Tanzania into a knowledge society;
- To ensure effective use of ICT in teaching and learning throughout the formal and non-formal education system.

The objectives build a foundation for more concrete implementation plans that include Key Performance Indicators that define and quantify when objectives are reached and assign responsibilities for achieving desired objectives.

5. ICT infrastructure

The GSMA reports that in 2018, 42% of the population subscribed to a mobile service, slightly more than the number of people who have access to electricity, which was around 36% in the same year. Few of these phones are used to access the internet. About one in eight individuals, or 13% of the population, can access the internet through any device or any means at home. Individuals access the internet through means other than their own devices and connections, and in 2017 about one in four people, or 25% of the population, used the internet. When we narrow down computer ownership in households or broadband internet, very few households have a computer — around 4% in 2016 — or broadband internet — less than 2% in 2018 (Table 3).

Table 3. Percentage of households who own a fixed-line telephone, mobile phone, computer and the various ways they connect to the internet (CIA, n.d.; GSMA, 2018; World Bank, n.d.-d, n.d.-c, n.d.-a).

Information and Communication Technology	Year	Percentage
Access to electricity (% of population)	2018	36%
Subscribing to a mobile service	2018	42%
Fixed phone subscriptions per 100 people	2018	0.22
Mobile cellular subscriptions per 100 people	2018	77
Fixed broadband subscriptions per 100 people	2018	1.53
Individuals with access to internet at home (any device and any connection)	2016	13%
Households with a personal computer	2016	4%
Individuals using the internet	2017	25%

Tanzania has a competitive and vibrant mobile telephony market, with seven companies offering subscriptions at widely varying prices. The cheapest provider offers data at 6%

of the cost of the most expensive provider. Table 4 shows the market share and data pricing for the various providers in Tanzania (Tanzania Communications Regulatory Authority, 2020).

Table 4. Price per MegaByte and number of mobile telephony subscriptions in March 2020 (Tanzania Communications Regulatory Authority, 2020).

Providers	Price / MB (TSH)	Subscriptions (March 2020)
Airtel	40	13,390,131
Halotel	26	5,199,112
Tigo	40	829
Vodacom	98	12,641,426
Zantel	41	1,190,427
TTCL	14	15,591,430
Smile	6	926,175
TOTAL		48,939,530

The TCRA also provides information on the number of television and radio stations in the country (Table 5), and has its own estimate of the number of internet users. While there is data on TV subscriptions and active decoders, no information on television or radio penetration in the country is available.

Table 5. Types of subscription and TV and radio stations in March 2020 (Tanzania Communications Regulatory Authority, 2020).

Type of connection	Number
Mobile subscriptions	48,939,530
Fixed network	75,946
Internet users (estimate)	26,832,089

TV stations	37
Radio stations	183
TV Subscriptions / Active decoders	2,683,513

In schools (Table 5), no recent data on connectivity, computers or student per computer ratio was available. However, schools have much better access to electricity than households, with the vast majority of primary schools connected, and all upper secondary schools connected. Data on lower secondary schools were not available.

Table 6. Percentage of schools connected to electricity (UNESCO Institute of Statistics, n.d.).

Information and Communication Technology indicators in school	Year	Percentage
Primary schools with electricity	2016	85%
Upper secondary schools with electricity	2016	100%

6. Key partners and initiatives in EdTech

This section looks at the work and roles and responsibilities of key partners with regard to EdTech in Tanzania, including government and non-governmental agencies, as well as EdTech initiatives.

6.1. Government agencies

Within the Ministry of Education, Science and Technology, several agencies play a role in designing and implementing EdTech initiatives. No single agency bears responsibility for integrating technology in education, although the Tanzania Institute of Education (TIE) shoulders significant responsibility in integrating ICT in primary and secondary education. In its 2007 ICT Policy for Basic Education, the Ministry of Education and Vocational Training planned for an ICT4E unit and created its Terms of Reference. The unit does not seem active and its website is defunct. There also does not seem to be any successor unit responsible for integrating technology in education.

Policies are set by the Ministry. Implementation of any EdTech policy in education is the responsibility of the Regional Administration and Local Government (PO-RALG) unit. The Administration Development of Education Management (ADEM) is responsible for the training of education managers at the basic level. The Tanzania Institute of Education (TIE) is a parastatal organisation under the MoEVT, responsible for ensuring the quality of basic education in Tanzania. It is responsible for curriculum development and content development and is the responsible agency for approval of digital content in schools. It has created video and audio content in its own studios. The TIE was expected to launch an online learning library within the last year (Mbwiga, 2019), and is likely to play a lead role in implementing an online and offline portal for teachers' continuing professional development given its mandate to ensure quality education with appropriately trained teachers (World Bank, 2019). Finally, assessment in basic education is managed by National Examinations of Tanzania (NECTA), giving them a role in the implementation of examinations, should they be conducted through technology.

Table 7. Additional government agencies responsible for aspects of educational technology implementation, for both basic and higher education

Ministry / Agency	Roles and responsibilities in EdTech
Tanzania Institute of Education (TIE)¹²	• Ensuring the quality of basic education • Development of ICT syllabuses for primary and secondary education

¹² Tanzania Institute of Education (n.d.), as available at <http://tie.co.tz>

	- Established studio for recording learning content - Development of curriculum materials - Approval of learning and teaching materials
National Accreditation of Technical Education (NACTE) ¹³	- Accreditation and establishment of non-university programmes in science and technology - Assessment and quality assurance of its programmes
Commission for Science and Technology (COSTECH) ¹⁴	Managing research in science and technology
Tanzania Education Authority (TEA) ¹⁵	Securing funding for financing education, including EdTech initiatives
Administration Development of Education Management (ADEM) ¹⁶	- Development of training for education management, including for technology-based education leadership and management - Training of education managers at all levels of basic education in e-management
Tanzania Commission for Universities (TCU) ¹⁷	- Quality assurance of education technology in universities - Control approval of technology-based programmes

6.2. Non-governmental agencies

EdTech initiatives in Tanzania are implemented by donors, NGOs and private partners. While the government can be an implementing partner, many private-sector led initiatives operate entirely independent of government. With Kiswahili as the medium of instruction in primary school and English in secondary, EdTech partners in Tanzania can draw on Kiswahili content created by other countries in the East Africa region, and

¹³ The National Council for Technical Education (NACTE) (n.d.), as available at <https://www.nacte.go.tz>

¹⁴ Tanzania Commission for Science and Technology (n.d.), as available at <http://www.costech.or.tz>

¹⁵ Tanzania Education Authority, n.d., as available at <https://www.tea.or.tz>

¹⁶ Agency for the Development of Educational Management ADEM (n.d.), as available at <https://www.adem.ac.tz>

¹⁷ Tanzania Commission for Universities (n.d.), as available at <https://www.tcu.go.tz>

global content for English language needs. Table 8 includes donors, private sector partners, or implementing organisations under the label of implementing partners. Implementing partners include donors such as UNHCR, DFID, UNESCO, USAID, Mastercard Foundation, and the Bill and Melinda Gates Foundation, and companies such as Viamo or one of the country's largest telecom operators, Vodacom.

6.3. EdTech initiatives

Tanzania benefits from home-grown EdTech initiatives and from the advantage that the local language, Kiswahili, brings with it, as solutions built for surrounding Kiswahili speaking countries can also be used there. EdTech initiatives in Table 8 have been sourced through references, web searches, and the EdTech Hub's EdTech initiatives database (EdTech Hub, 2020). There are many more initiatives in Tanzania than presented here — only initiatives that meet the following criteria have been considered:

1. The solution has a large user base in Tanzania;
2. The solution has reached a certain level of maturity;
3. The solution specifically targets the Tanzanian curriculum in basic education;
4. The solution has content in Kiswahili.

For example, Eneza is included as it has content in Kiswahili and has reached around 8.5 million users, although it does not have a current presence in Tanzania.

Table 8. EdTech initiatives used in or targeting Tanzania

Initiative	Details
Ubongo ¹⁸	Overview: Ubongo creates educational television shows for children from 3-12. Target group: Primary and secondary Technology: Most content is in the form of videos, available on TV and through mobile apps. Ubongo also has an offering for feature phones. Reach / scale: 17 million viewers monthly in Africa, 1.5 million TV viewers monthly in Tanzania, 1.3 million monthly radio listeners in Tanzania, and 3.8 million YouTube visitors in Tanzania. Implementing partners: HDIF, DFID, local television, Curious Learning, Enuma, Viamo.

¹⁸ Ubongo (2020), as available at <https://ubongokids.com>

	Government partners: N/A Status of implementation: 2013–present
Shule Direct ¹⁹	Overview: Tanzania based NGO providing curriculum-aligned content for Forms 1–4. Target group: Secondary (Forms 1–4) in Zanzibar, Kenya, Rwanda. Technology: Available online through a website; offline in schools through a local server called Elimika LMS; a learning app; an SMS-based solution called Makini SMS. Reach / scale: 2.2 million users via the website; 16,000 users via the apps; 34,000 offline via Elimika LMS; 80,000 via Makini SMS. Implementing partners: National Microfinance Bank (NMB), Camara Education, Read International, The Foundation for Tomorrow; UNESCO; Tigo Tanzania's eSchools Project. Government partners: N/A Status of implementation: 2013–present
SEQUIP ²⁰	Overview: The World Bank invests \$500 million in helping the Government of Tanzania improve access and quality of secondary education in Tanzania. Digitally enabled teaching and learning is an important component. Target group: Secondary grade Technology: Unclear how technology will be used. Reach / scale: 6.5 million children through the different components. Implementing partners: World Bank Government partners: Government of Tanzania Status of implementation: Starting in 2020

¹⁹ ShuleDirect (2020), as available at <https://www.shuledirect.co.tz>

²⁰ World Bank (2019), as available at <https://www.worldbank.org/en/news/factsheet/2020/03/31/tanzania-secondary-education-quality-improvement-program-sequip>

equip-t²¹	Overview: The Education Quality Improvement Programme focussed on early-grade learning (literacy and numeracy) Target group: Primary Technology: Website with continuous professional development material. Reach / scale: 2.6 million students and 55,000 teachers Implementing partners: DFID, KPMG Government partners: Government of Tanzania Status of implementation: 2014–2020
Connecting Classrooms²²	Overview: Classrooms in Tanzania can connect and interact with classrooms in other countries. Target group: Primary and secondary Technology: Various synchronous platforms Reach / scale: 300 schools in Tanzania, UK and other countries. Implementing partners: British Council, DFID Government partners: N/A Status of implementation: 2003–ongoing
OneBillion²³	Overview: Building educational content for in-school and out-of-school children in their own language. X-Prize winner in 2019, together with South Korea’s KitKit School. Target group: Pre-primary and primary; Kiswahili. Technology: Integrated LMS and content on a tablet. Reach / scale: 500 children in Tanzania until 2019; 150,000 globally. Implementing partners: OneBillion, with RTI and Google

²¹ Equip Tanzania (2020), as available at <https://www.equip-t.org>

²² British Council (2020), as available at <https://connecting-classrooms.britishcouncil.org>

²³ One Billion (2020), as available at <https://onebillion.org>

	Government partners: N/A Status of implementation: 2014–2019
KitKit School ²⁴	Overview: A child-centred, tablet-based, personalised learning system to teach reading, writing and basic maths, especially in difficult-to-reach areas. X-Prize winner in 2019, together with OneBillion. Target group: Pre-K to standard III; available in Kiswahili Technology: Tablet-based, individual usage. Reach/scale: 450 children in 30 villages Implementing partners: UNESCO, World Food Programme Government partners: Tanzanian Ministry of Education Status of implementation: Controlled trial in 2017
Elimu Tanzania ²⁵	Overview: Hadithi Hadithi app to improve literacy rates in the first years of primary education. Target group: Primary and secondary; English and Kiswahili Technology: App Reach / scale: 80,000 visitors Implementing partners: n/a Government partners: n/a Status of implementation: 2016–present
Global e-Schools and Communities Initiative (GESCI) / African Digital Schools Initiative (ADSI) ²⁶	Overview: Founded by the UN, GESCI uses ICT through its ADSI programme to increase learning outcomes and improve the transition to university. Target group: Secondary school subjects

²⁴ KitKit School (2019), as available at <http://kitkitschool.com>

²⁵ Elimu Tanzania (2019), as available at <http://elimutanzania.com>

²⁶ Global E-Schools and Communities Initiative (GESCI) / African Digital Schools Initiative (ADSI) (2020), as available at <https://gesci.org>

	Technology: Hardware provision (projectors, laptops and routers), Reach / scale: 31,000 students, through 40 schools and 500 teachers in Pwani and Morogoro. Implementing partners: Mastercard Foundation Government partners: MoEVT Status of implementation: 2016–2020
World Possible ²⁷	Overview: They provide Rachel, a router that provides content to connected devices, even when no internet is available. The purpose is to provide Open Source content. Target group: (Pre-)Primary up to vocational studies. Technology: Linux router with offline capabilities and pre-loaded with content from oer2go.org. Reach / scale: 200 devices in 15 institutions. Implementing partners: UNICEF, Vodacom, Powering Potential, Lyra, Tanzania Development Trust. Government partners: Status of implementation: 2018–present
Silverleaf Academy ²⁸	Overview: Social enterprise with school chain of low-cost, private primary schools in Tanzania, with a strong emphasis on training and empowering teachers. Target group: Primary schools Technology: Uses tablet-based and classroom-based digital content. Reach / scale: 2 schools Implementing partners: Anza, HDIF, UKAid, Ubongo, Mwabu Government partners: Status of implementation: since 2016, two schools have

²⁷ World Possible (2020), as available at <https://worldpossible.org>

²⁸ Silverleaf Academy (n.d.), as available at <https://www.silverleaf.co.tz>

	opened (Kiwawa and Debora)
Christianity Social Services Commission (CSSC) ²⁹	Overview: The CSSC's E-Learning in Secondary Schools project developed a platform with content for in-school use. Target group: Secondary schools, forms 1 and 2, science subjects. Technology: Tablet computers preloaded with content and BRCK devices. Reach / scale: Tablet computers in 50 secondary schools (12 per school). Implementing partners: Studi Academy, HDIF, UKAid Government partners: TIE, MoEST Status of implementation: 2015–2018
ProFuturo ³⁰	Overview: Teacher training, offline LMS with content and provision of IT equipment in rural and remote areas. Target group: Primary and lower secondary; English, no Kiswahili Technology: Local offline LMS and tablets. Reach / scale: 102 schools (in Dodoma, Mafinga -Iringa, Songea, Moshi - Kilimanjaro, Dar es Salaam, Morogoro and Zanzibar); 2,000 teachers and 67,600 children. Implementing partners: Salesians of Don Bosco in Tanzania Government partners: Status of implementation: 2016–now
Eneza Education ³¹	Overview: Eneza offers a mobile-phone-based learning platform that allows users to access lesson programmes and ask teachers clarifying questions through SMS

²⁹ Christianity Social Services Commission (n.d.), as available at <https://hdif-tz.org/cssc-e-learning-in-secondary-schools-2>

³⁰ ProFuturo (2020), as available at <https://profuturo.education/en>

³¹ Eneza Education (2020), as available at <https://enezaeducation.com>

	Target group: Students and teachers living in rural and marginalised communities; Kiswahili Technology: Basic mobile phones are used to deliver supplementary learning and revision materials to students. Reach / scale: no users. In 2017, a pilot started that did not succeed. Implementing partners: n/a Government partners: n/a Status of implementation: 2017
English Literacy E-Reader Project ³²	Overview: Providing access to the curriculum through e-readers. Target group: Secondary Technology: Curriculum on e-Readers Reach / scale: 25 schools and 4,500 girls Implementing partners: Campaign for Female Education (CamFed), WorldReader, Kiva. Government partners: n/a Status of implementation: 2015–2017
WorldReader ³³	Overview: Open source reading books Target group: Primary and secondary; English, Kiswahili and other languages Technology: Smartphone or e-reader Reach / scale: 50,000 users in Tanzania; 13.3 million worldwide since 2010 Implementing partners: UNHCR, Bill and Melinda Gates Foundation, CamFed, local donors Government partners:

³² Camfed (n.d.), as available at <https://hdif-tz.org/technology-supported-learning-innovation-for-the-improvement-of-learning-outcomes-of-vulnerable-children-in-tanzania>

³³ Worldreader (2020), as available at <https://www.worldreader.org>

	Status of implementation: 2012–2016
Opportunity Education Foundation (OEF) ³⁴	Overview: OEF creates content aligned with the Tanzanian curriculum and rolls it out to schools. OEF provides content and support, but hardware is the school's responsibility. They have also created a teacher peer support app (My Maarifa). Target group: Forms 1–4 (Phase 1) and Forms 1–6 (Phase 2). Both private and public schools. Technology: Online content rolled out through cheap tablets (such as Amazon's) that can limit access to other apps. Generic Android app available mid-2020. Reach / scale: 30 private schools in different parts of the country. Implementing partners: Private schools Government partners: Tanzania Institute of Education (TIE) Status of implementation: Phase 1 2016–2021, ongoing; Phase 2 planned 2022–2027.

Box 1. The Government of Tanzania's education sector response to Covid-19 (Global Partnership for Education, 2020a).

Tanzania closed its pre-primary, primary and secondary schools in mid-March 2020 in response to Covid-19. In its immediate response, the Tanzania Institute of Education (TIE) started hosting a virtual library for basic education. National, private, and community TV and radio channels began broadcasting educational content on 20 April 2020. The government is drawing on Tanzania's high mobile phone penetration to reach parents and guide them on child protection and home learning.

Going forward, the National Examinations Council of Tanzania (NECTA) has adjusted national examination schedules to allow flexibility in exams, and the government is exploring how to support alternative ways of teaching.

³⁴ Opportunity Education Foundation (2020), as available at <https://www.opportunityeducation.org/tz>

With support from the Global Partnership for Education (GPE), Tanzania is developing plans for mid-term and long-term responses. Mid-term, the focus is on mitigation and response, while recovery is the long-term intervention area and deals with the return to school.

Tanzania's proposed mid-term intervention ensures access to education, through virtual and physical learning materials, and explicitly mentions (a) students with a visual impairment; (b) child protection and well-being; (c) creating a learning environment, mostly through available mediums like telephony and SMS; (d) community engagement; and (e) gender equality.

7. Looking Ahead

Tanzania has a policy framework that identifies key objectives in the use of technology in the education sector. These objectives have not been operationalised in practical terms. There is no concrete roadmap for creating, curating or adapting content for the local market, nor for applying ICT to support learning in formal and non-formal education systems — two of the policy objectives. Still, with a policy framework, there is a solid foundation to build on and plan for practical implementations. Tanzania's former ICT4E unit, set up in 2007, can provide an example of an entity that works to liaise and streamline the many agencies responsible for effective and successful integration of technology in education. The government has observed that multiple agencies intervene without coordination in the curriculum; that observation helps to make the case for future investments in a coordinating body. Finally, Tanzania's languages of instruction — Kiswahili and English — are widely spoken in the region and globally, and may help to fast-track curation of content suitable for the local context.

8. Further reading

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