AFRICAN CHILD PROJECTS

African Child Projects.
School Connectivity Project Report.
A Case study of 10 Government Schools in 10 Regions, Tanzania Mainland, 2021.

African Child Projects.
P. O. Box 7223.
Dar Es Salaam, Tanzania.

Date: 2021.

Photos by: *Andrew Stephen & Joshua Mwemsi.*

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Mrs. Jacqueline Julius - ICT teacher, Dodoma Secondary, Dodoma.

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Mr. Kombo Ramadhan – ICT teacher, Kiomoni Secondary School, Tanga.
Mr. Salimu Hinda – Ward Education Officer, Mzizima, Tanga.

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Mr. Alicko Kanunyoge – Head of school, Mizengo Pinda Secondary School, Katavi.
Mr. Denis Thilia – District Secondary Academic Officer, Mpimbwe, Katavi.
Mr. Godswine Kodimbaya – Government IT, Mpimbwe, Katavi.

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Mr. Emanuel Zacharia – Government IT, Kasulu, Kigoma.

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Mr. Raphael Choma – Ag. DED Moshi District Council, Kilimanjaro.
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Madam Aziza R. Msengesi – Head of School, Emboreet Secondary School, Manyara.
Mr. Tito P. Masaba – ICT Teacher, Emboreet Secondary School, Manyara.

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Mr. Zawadi A. Msambwa – Head of School, Mbamba Bay Secondary School, Ruvuma.
Mr. Alto A. Mbenya – Ag. District Secondary Education Officer, Nyasa, Ruvuma.
Mr. Henrick Komba – ICT Teacher, Mbamba Bay Secondary School, Nyasa, Ruvuma.

Mara

Mr. Nyachiti P. Tore - District Secondary Academic Officer, Musoma, Mara.
Mr. Mohamed B. Kajeri – Head of School, Musoma Tech Secondary School, Mara.
Madam Beatrice Kitaly - ICT Teacher, Musoma Tech secondary School, Mara.

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African Child Projects was founded in Feb 2018 as a project under the European Union (EU). Later on, it was registered as an NGO in Tanzania mainland on 26th August 2019 with registration number 00NGO/R2/000476 and maintains a Head Office in Dar es Salaam Region at Light industrial area NAFASI ART SPACE. We work on projects in the category of Technology (By bridging the digital divide and bringing internet access to communities of Tanzania) and Education (By advocating for quality education in school, installing internet infrastructures, building community libraries in resource constrained communities) in creating Sustainable development in rural community.

School Connectivity pilot project ("SchoolConnect"), connected 10 government secondary schools in urban and rural Tanzania using the Internet through the mobile network, with a reliable school server providing students a digital education platform, as well as connection to "Internet Lite". The success of this program, together with the experiences from school connectivity through other programs, will create the proof of concept that connectivity of schools is affordable, and at the same time demonstrate the importance of Internet in advancing the education system in Tanzania and urge the incorporation of digital education as part of the learning curriculum to improve the quality of education in secondary schools across Tanzania.

School Connected and Regions.

- Kiomoni Secondary school - **Tanga**
- Morogoro Secondary School – **Morogoro**
- Mbamba bay Secondary School – **Nyasa**
- Dodoma Secondary School – **Dodoma**
- Tabora Boys Secondary School - **Tabora**
- Mizengo Pinda Secondary School – **Katavi**
- Kigoma grand High School - **Kigoma**
- Musoma Tech Secondary School – **Musoma**
- Emboret Secondary School – **Manyara**
- TPC Secondary School **– Kilimanjaro**

Partners Involved.

The pilot designed to contribute to the worldwide effort for school connectivity, mapping of all schools and will answer the demands in resource constrained environments. Contribute in achieving the 5th Government connectivity target that aimed in delivering connectivity to some primary schools and to ALL secondary schools to benefit digital education. It is designed to be a multi-stakeholder project that will engage the Government of Tanzania (GoT), Mobile Network Operators (MNO) like Vodacom and TTCL, Basic Internet Foundation, Non-Governmental Organization (NGO), Universal Communication Service Access Fund (UCSAF), Academic Institutions, Public and Private Organization. The project was designed to be a one-year pilot duration with the budget amounting around 27 Million.

Problem statement.

Digital connectivity in the time of COVID-19 is no longer about traditional communication and the search for information; it has become a lifeline for using data, consuming content and engaging in digital applications by individuals, governments and businesses to ensure continuity of economic and social activities in light of social distancing and the complete lockdown in most countries of the world (World Bank, 2020).

COVID-19 has addressed the need for digital inclusion and accelerated the digital uptake in a not-expected way. However, the digital divide has rather increased, as those having broadband connectivity could follow remotely both education and work-related activities, while those without digital connectivity, mostly from rural areas were left behind.

We have seen how big the divide was in our public schools and private schools. Internet alone cannot be a factor that increases performance in school since we know by fact that there are a lot of contributing factors but with school connectivity we are at a better chance to empower student to access free educational contents online, have extra reading materials for lesson planning by teachers, improve teacher student engagement and prepare students for decent work and economic growth.

General Objective.

The general objective of this project is to create a sustainable model for school connectivity and offer free access to educational content at the end of the project. Specifically, the project is aimed to:

1. Provide free access to educational contents,
2. Establish a local education infrastructure for internet access,
3. Drive the dialogue around Meaningful connectivity in Tanzania,
4. Provide capacity building to the teachers and
5. Establish digital learning platforms in 10 schools located in Morogoro, Tanga, Dodoma, Manyara, Kilimanjaro, Musoma, Tabora, Katavi, Ruvuma and Kigoma.

We want to advance school connectivity to become a national strategy and we believe each region among the 10 selected has its own factor that affects connectivity positively and negatively and these factors can affect the mapping and connecting. Knowing these factors earlier will prove effective when deploying the program at a national scale.

The schools selected meet minimum requirements such as availability of computing devices, reliable electricity, security of the equipment, diversity of schools selected ranging from pupils with disability, traditional community, rural urban communities, rural communities proved to be a major factor in LEAVING NO ONE BEHIND.

Project Implementation.

The School Connectivity Project in government schools was implemented as an addition to the existing teaching methodology in most of the government schools, as the rest of the world has now adopted to more advanced methods of transferring knowledge and teaching except for most counties including Tanzania. The implementation of this project is deliberately planned to equip teachers and students with both digital skills and technical skills to assist them on easy adaptation of technology in their teaching.

Upon completion of all prior requirements like permit and visiting government authorities, assessing the schools, installation and provision of devices, Education government officials and government IT's were involved to verify the functionality of devices.

Once functionality of devices, assessing and reviewing of materials is confirmed, we conducted training to both teachers and students on how to use the learning platform (Elimika). This went together with blocking all unnecessary sites that are not friendly for students and allowing all sites recommended by teachers.

Theory of Change and Device used.

The project uses a both offline and online installation of SHULE DIRECT's software. It also involves government IT's from responsible regions. Lightweight contents (This provide good user experience, and needs only little mobile data such as text and pictures) and Heavy weight contents (By adding a local server to the Info Spot at the schools allows the hosting of education-specific broadband content, such as videos.) were used. The project also restricts what can be accessed (YouTube, dark web).

Digitalization in teaching and education in the United Republic of Tanzania.

The study revealed, through consultations with stakeholders, a literature review and an analysis of relevant policies and initiatives, that although technology is playing a greater role in the social and economic spheres of the United Republic of Tanzania, additional efforts are needed to integrate technology in the education sector. Existing policies and frameworks support the use of technology for teaching and learning; however, some of these policies require updating and others further implementation.

Some of the challenges to integrating technology for teaching and learning include: inadequate teacher training for digital skills development; lack of access to digital facilities and technology in schools and at home; and low internet and power connectivity in some schools and regions. Education stakeholders play complementary roles in maximizing the benefits of digital technologies and advancing technology-based initiatives. The government, employers' representatives, teachers' unions and other education stakeholders need to collaborate toward effective integration of digital technologies in classrooms, including by developing the capacity of teachers.

With labour markets increasingly requiring skills in the use of digital technologies, the education sector has become the focal point for preparing students for this changing context. The Tanzanian Government recognizes the potential of digital technologies to improve education delivery and quality as well as teacher training, and to contribute to student capacities and preparedness for a changing world of work. In light of this, the government introduced the first National Information and Communications Technology (ICT) Policy in 2003 to support the adoption of digital technologies in the education sector. As a result, ICT is taught as a subject at various school levels and is used to assist both teaching and learning. Teachers trained in the pedagogical use of technologies are essential to realizing the benefits of technology for quality education.

This study highlights the current status of, gaps in and opportunities for the use of digital technologies to improve teaching and learning in primary and secondary schools in the United Republic of Tanzania. It first provides an overview of the education sector, including teacher employment data, education financing and existing policy frameworks. This is followed by a discussion of digital technologies in relation to teacher management, teacher training and development, pedagogy and critical use of such technology. The study then provides an overview of governance mechanisms in education, such as policies and social dialogue, as they relate to digitalization in education. It concludes by presenting the opportunities for and challenges of digital technology use in the Tanzanian education sector.

The ICT training programme for secondary school teachers in Tanzania.

The ICT training programme for secondary school teachers was established in 2010. The aim of the training programme was to equip Science and Mathematics teachers with the requisite knowledge and skills of integrating ICT in the teaching and learning of Science and mathematics subjects.

Through the application of ICT, the teacher could prepare, for example, simulated practical lessons without the necessity of having actual specimens which sometimes are difficult to obtain. Similarly, application of ICT in teaching has been observed to minimize the time of lesson preparation, ease storage and retrieval of e-content and enable learners to do self-tutorials. On top of that, the aim of the training programme was to enhance teachers' ability to teach Information and Computer studies (ICS) syllabus effectively and efficiently in secondary schools.

Therefore, the importance of Information and Communication Technology (ICT) focuses on improving access, equity, quality and relevance of education. In this digital world, knowledge and information are becoming cornerstones for the development of a society, as it enhances the ability to communicate.

Ministry of Education and Vocational Training has developed a policy to guide the integration of ICT in Basic Education. It is guided by the overall objectives of education policies, and relevant national development policies, including the Tanzania National ICT Policy of 2003. Since ICT is a cross-cutting tool, the Policy is also linked to ICT activities in other areas and sectors, especially Vocational Training, Higher Education, and Regional Administration and Local Government.

In order to implement the policy, the Secondary Education Unit in the Ministry of Education and Vocational Training has in place the training Manual for the ICT training programme which has been prepared by the ICT experts. The intention is to link and actualize the current instructional approach that employ new technologies in teaching and learning.

The needs assessment was conducted to explore the status of ICT integration in schools. The Manual was written based on the following identified gaps:

1. Lack of awareness on the importance of ICT use in teaching and learning;
2. Lack of basic skills in using ICT facilities;

Lack of basic technical skills in ICT equipment maintenance:

1. Lack of basic technical skills in management of hardware and software;
2. Lack of skills of integrating ICT in teaching and learning.

Therefore, the topics were developed in light of bridging the identified gaps

Brief overview of the education sector.

The Tanzanian Government's role is to enable the implementation of new and existing policy initiatives, ensure educational resources are sufficient and appropriately distributed, support families in meeting the financial costs of education and promote equitable access to education and training. The Tanzanian Government is mandated to provide education to its population through the formulation of relevant policies and the provision of funding.

Administration of education is the responsibility of the local government authorities, while policy formulation and funding remain largely the role of the central government. The structure of the formal education and training system constitutes two years for pre-primary, seven years for primary, four years for junior secondary, two years for senior secondary and at least three years of tertiary education. In addition to regular stream secondary schools, there are also technical secondary schools in which students learn standard secondary school subjects along with technical subjects.

It takes four years to complete the technical secondary school cycle. The number of private and public primary and secondary schools in 2019 is shown as follow:
Public: Primary: 16223 Secondary 3742
Private: Primary: 1581 Secondary 1259
Total: Primary 17804 Secondary 5001
Source: Government of United Republic of Tanzania 2019.

In terms of enrolment, 10,605,430 students were enrolled in public and private primary schools in 2019, with the majority being in the public system (95.9 per cent) (Government of United Republic of Tanzania 2019). It is estimated that 23.2 per cent of primary school-aged children are out of school (UNICEF 2018).

In lower secondary, total enrolment stood at 2,185,037, with the majority (1,914,735) attending public schools, of which 8,068 were enrolled in technical secondary schools. Approximately 84 per cent of the student body in technical secondary schools was male. In terms of public and private upper secondary schools, 152,420 students were enrolled in 2019 (Government of United Republic of Tanzania 2019).

Truancy is often the primary reason for dropouts at all school levels, with other reasons being pregnancy, death and disciplinary issues. Currently, the government is implementing fee-free basic education in which pupils in public pre-primary, primary, lower secondary and technical secondary schools do not pay school fees. Some of the major challenges facing the education sector include: lack of teachers in rural areas, educational facilities, water supply, books and

learning materials; inadequate wages and funding; and shortage of digital facilities and skills in the use of technology for pedagogical purposes.

Examples of school internet connectivity in other countries:

Rwanda: *Internet Connectivity to Exceed 60% in Public Schools*

Rwanda Education Board (REB) has announced that it targets to reach 62 percent internet connectivity among secondary public schools this fiscal year, from the current 52 percent. According to REB, the target is in line with the National Strategy for Transformation (NST1) that targets to reach universal internet connectivity in public schools by 2024. In 2017, when NST1 kicked off, Rwanda's internet connectivity in public secondary schools was at 12 percent only.

The internet connectivity, according to REB, will among others help students to improve their performance as they will easily access academic content online. The initiative was launched in 2019 by the United Nations Children's Fund (UNICEF) and the International Telecommunication Union (ITU), with an aim to provide connectivity to every school in the world by 2030.

So far, there are 1,459 public and government-aided secondary schools of which 724 are connected to the internet. Of these, 678 schools are connected to 4G. The target to reach 100 percent connectivity in public schools by 2024, and will cost an estimated Rwf 4.8 billion.

Rwanda is one of African countries that are putting efforts in equipping schools with digital infrastructures in bid to revolutionize education into an ICT-based sector. In 2016, the Ministry of Education challenged stakeholders in the education sector to fast-track a new model dubbed "Smart Classroom", an initiative aimed at digitising education from a paper-based system to a digital-driven sector.

In the first quarter of 2019, it was announced that over 711 schools have implemented the "Smart Classroom" policy. It also sought to equip schools with computers and access to the internet. In 2008, the Government also launched One Laptop per Child- an initiative aimed at enabling all primary school children to own computers.

Ethiopia: *Connecting Schools and Communities (DigitalEthiopia)*

The DigitalEthiopia project uses school connectivity as the first step for digital empowerment of the Ethiopian Society. Following the plan for connectivity by the MoE, and the national focus on the National Knowledge Platform for Schools (SchoolNet), Focus was on connecting 500 secondary schools in Ethiopia to the national fibre, allowing connection speed up to 300 Mbit/s. The MoE provides access to the fibre, while we extend the connectivity to the schools, and prepare for connecting the surrounding villages in a second step.

Connecting the first 500 schools is the entry to increased educational competence, adaption of the digital public goods (DPGs) and other education content by e.g. UNICEF, Adra, LeapLearning and creates the opportunity for Norwegian educational platforms, e.g. Zabai, Salaby. Furthermore, introduction of assistive technologies for teachers and students, allowing digital teaching and knowledge spread nationwide using SchoolNet. Given the competence of partners, a special focus will be on assistive technologies for people with disabilities, as well as vocational education. As a final outcome, we prepare school connectivity as an entry point for connectivity in the villages, and thus an initiator for entrepreneurship.

Detailed Ten Government Schools Connected.

Kiomoni Secondary School: Tanga Region.

Kiomoni Secondary School is located in Tanga Region, northern part of Tanzania. The school has a total number of 959 students from form one up to form four with 19 teachers. At this school they have only one student with skin disability (Albinism), generally we can say there is no department for students with special needs at this school.

Generally, school infrastructures, especially computer laboratory is well arranged and all computers are okay. The laboratory has 19 computers and can accommodate 60 students at once and the school is connected with Tigo internet.

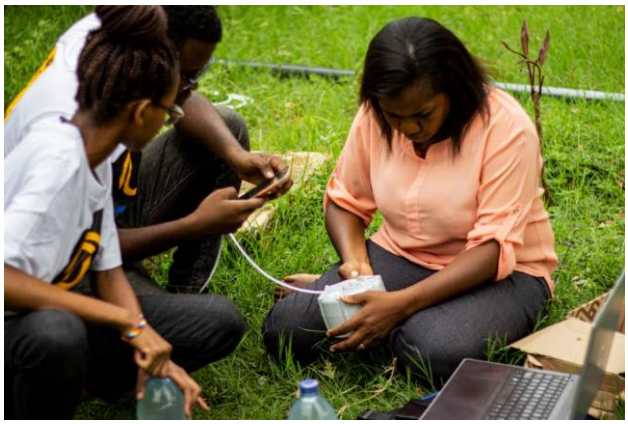
Head of school and teachers in general were very motivated and insisted that the project will be helpful for them, hence it will simplify a lot of their work especially on teaching materials and hence will increase performance for students. To prove this, they have an ICT club in school where students learn how to use computers especially on basic skills, web development and parts of the computer. It is a call for other government officials, especially Government IT's to collaborate with the school for better performance. They have already taken initiatives by involving other stakeholders like Neelkanth Lime who donated desktops.

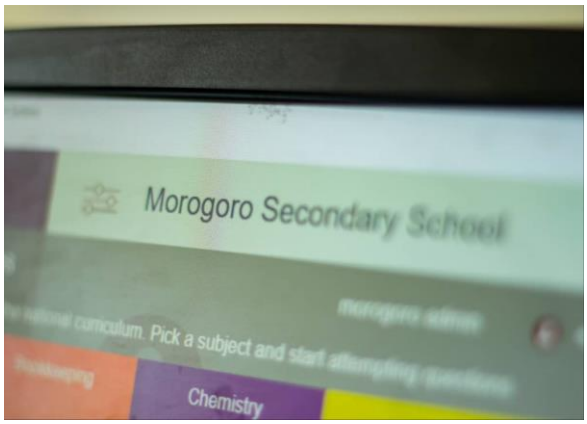
Looking at numbers of students and computers, it tells in detail there is a shortage of computers to accommodate all students, hence more devices are needed. The government through regional education officers and other education enthusiasts should start putting priorities to digital education and internet connectivity for better future results. Government support was appreciated due to their representatives during installation of the software.

Morogoro Secondary School, Morogoro Region.

The school is located in the coastal zone of Tanzania. It has more than 2000 students with 105 teachers. The school is inclusive by having more than 32 students with different disabilities like low vision, albinism, deaf and other physical disabilities. Having a special needs department makes them have 30 minutes extra everyday for all students with disabilities to ensure they cope with the rest.

Both the head of school, teachers and students are well motivated with ICT. They have a nice computer lab with a total of 11 working computers. We were able to connect the school with the TTCL network and donate one tablet as an additional device. ICT clubs never left behind at this school. The main challenge is how they involve students with disabilities into the program due to the fact that they need special devices especially for those with low vision and deaf.





Special attention is needed so as to make the project inclusive, organization and other development partners like CHAVITA (https://chavita.or.tz/) are needed to make this successful. We had full support and cooperation from the government especially the municipal IT and education government officers.

Mbamba Bay Secondary School, Katavi Region.

Mbamba bay secondary school are among the schools build during the period where the government strived to establish schools in every ward around rural Tanzania, hence it's safe to say the infrastructure is still not satisfactory that includes the computer lab which we found to have 10 computers (5 donated by UCSAF and 5 donated by development stakeholders)

The school is located in Nyasa district with 1004 students whereby 346 are boys and 658 are girls with only 29 teachers. The school has only one student with skin disabilities (albinism). And we managed to connect the school with the Vodacom network with the addition of two tablets.

Good support from the government especially municipal /District IT and other education officers shows how they appreciate the project and we hope for sustainability. Also, students and teachers are well motivated.

We started off the day by having a meeting at the district offices where we met the District Executive Director and presented the project to their briefing meeting on Monday. And after that we were accompanied by 2 government officials (Regional Education Coordinator and Quality control education officer) and district IT to the school.

Dodoma Secondary School, Dodoma Region

Dodoma secondary school is a centre for E-learning in Tanzania. With over 1900 students, 86 teachers, and 2 ICT Teachers who work tirelessly to make sure this dream is becoming a reality each day. The school has 2 Computer laboratories with computers donated by UCSAF, KOICA and other stakeholders with a total of 24 working computers.

The school possesses a biometric system for student's registration, CCTV cameras for surveillance of students, and it has participated and won several ICS Competitions. Both students and teachers are very technology driven and this was a great add on to the students since they now have extra materials for studying and teachers since now, they can create and upload contents for the students to access.

Teachers and students are highly motivated and it's all a combined effort from TAMISEMI, and the schools board that this school has become an exemplary school among the 10 schools selected from this pilot.

We got a very welcoming reception from the district council's IT and he made sure to work with us in ensuring everything ran smoothly on the ground. A big shout out to the District council of Dodoma Municipal for seeing the need for connectivity and promising to connect Dodoma Secondary School with TTCL Fibre and putting aside a budget for bandwidth for the school.

Tabora Boys Secondary School, Tabora Region.

Tabora School wasn't just named the head of Tanzania for no reason. This school is known to bring forth leaders who went on to become giants in our nation. The school is located in Tabora Municipal with 765 students and 40 teachers. It has a special department for students with different disabilities and it has 15 different students with disabilities.

Speaking of infrastructures, the school is well arranged and has a nice computer Lab with 23 working computers. The ICT department is well motivated as well as the Regional education department was impressed with the project and promised to cooperate with us and it was impressive to meet with the Regional Secondary Academic Officer, District Executive Director, and Acting Regional Administrative Secretary. Like with other schools, shortage of computers might be the problem that will likely face the school due to having so many students compared to the number of computers. We managed to connect the school with Vodacom network and donate three tablets as an additional device for the school.

Mizengo Pinda Secondary School, Katavi Region.

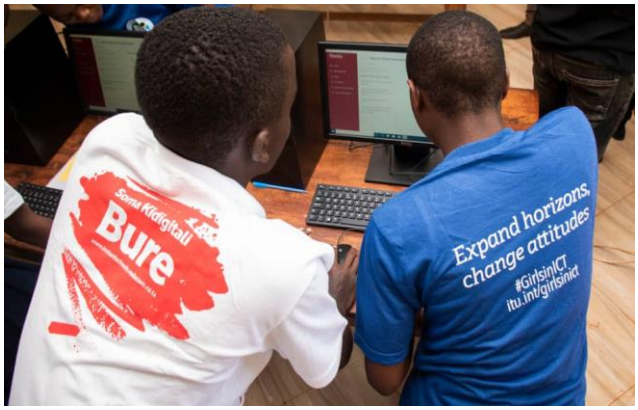
While at Mizengo Pinda secondary school the Education officer of the Municipal together with the District council's IT brought 5 new computers to the school to aid digital learning which makes a total of 16 computers plus three donated tablets from Vodacom foundation makes a total of 19 working devices. The school's board is committed to making sure the learning platform is accessed by all students. The school is located in Mpimbwe district and has 845 students with 23 teachers.

We had so much support from the government, especially the IT and District Secondary Academic Officer who made sure everything went well. With the help of a digital friend who is also a Corporate Social Responsibility we managed

to meet the Acting Regional Administrative Secretary and explain the project in detail. The government was convinced and promised to cooperate for the lifespan of the project.

Kigoma Grand Secondary School, Kigoma Region.

The school is located in Kasulu district with 489 students and 16 teachers. The administration block comprises the library, computer lab and teachers' offices. This was a perfect place to instal the router since we would not only connect the computer lab but the administration office as well.



A computer lab with 16 working computers motivates most of the students and teachers to ICT. Good support and cooperation from the government makes our work so easy. We had a very constructive meeting with the District Education Secondary Officer and District IT's. The school came up with a smart plan and timetable on how to use the program, whereby every class has its on day to avoid overcrowding of students at lab, and the system will be on from 8.am to 6.pm

Due to limited resources, the government is planning to invite other neighbour schools to the centre (Kigoma Grand Secondary) so that they can also benefit from the project, this is green light to the project because we hope the government will add some resources like additional computers to the centre so that it can accommodate the demand. Also mobilizing computers for other government schools is one of the priorities for the government. We connected the school with Vodacom and donated three tablets as additional devices for the school.

Musoma Tech School, Mara Region.

Musoma Secondary school is among the oldest schools in Tanzania with good infrastructures, around classrooms, workshop areas and teachers' offices. The school has 1 computer lab with 10 Desktops connected to LAN (Local Area Network). The school has 940 students and 70 teachers. It is an inclusive school due to the fact that it comprises 124 students with disabilities whereby 64 of them are deaf, 30 have physical disability and the rest 30 includes those with low vision and those with skin disabilities (albinism) and among 70 teachers 12 of them are for special education.

Information and Computer studies (ICS) is mandatory at school and students are registered for doing national exams. The main challenges most computers were of older versions and not enough to accommodate all students since most of the students are interested in ICT.

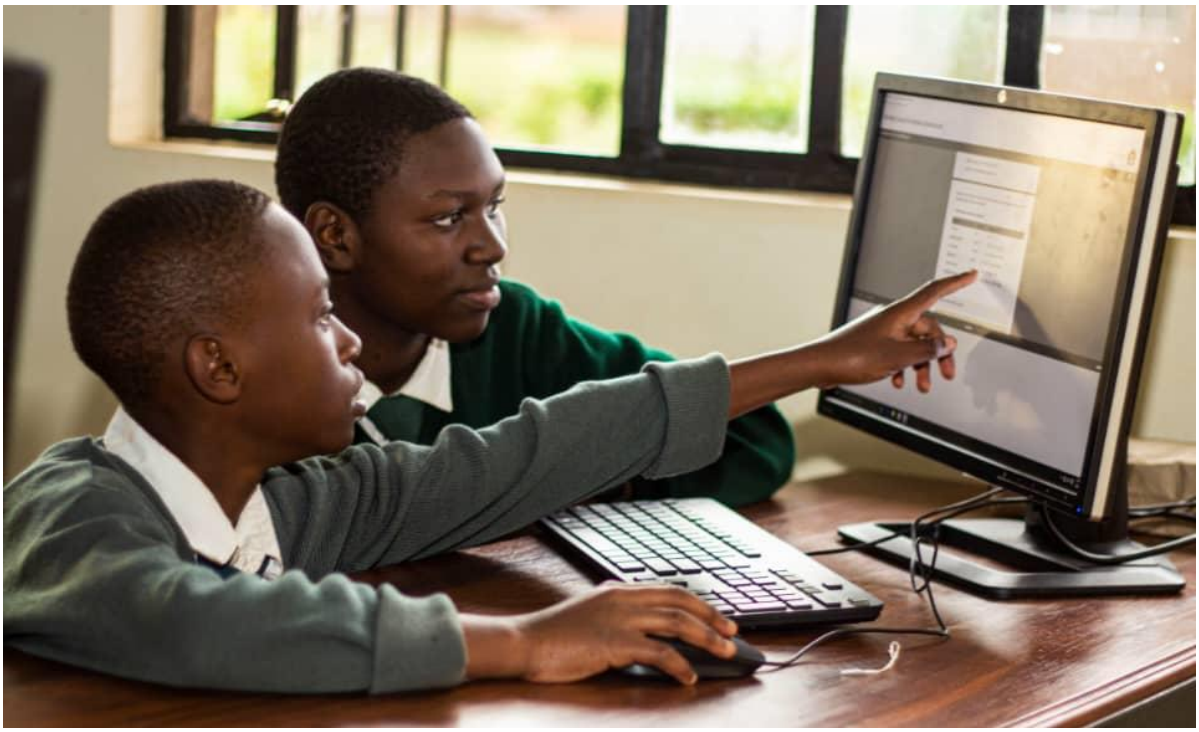
The school has two IT teachers. Speaking of motivation, we visited this school at a time when students were taking exams and this brought about a challenge when conducting training due to the unavailability of both teachers and students. But for the few students and teachers who attended training they showed a great interest to learn and engage.

The government was also not left behind, we started off by having meetings at the Regional offices and later went to the Municipal to speak with Education Officers. Who requested the report to be submitted by the school's Academic teachers of the project and its impact to the schools so as they can together plan the way forward.

Emboreet Secondary School, Manyara Region.

Emboreet Secondary has a well-connected computer laboratory and library built by a local NGO present in Emboreet Village called ECLAT Foundation. The computer room is connected to LAN (Local Area Network) and all 22 computers are new. The school has a total number of 629 students and 18 teachers. Information and Computer studies (ICS) has been given priority to the school whereby they have two IT teachers who worked hand in hand with us during installations and students are being registered for the national exams.

Concerning motivation from both teachers and students, we arrived at the school on Saturday to meet teachers and students waiting eagerly for us to connect with their school. Students agreed to remain behind and wait for us to arrive at their schools while others went on holidays. There is a big network challenge in Simanjiro and Emboreet village in particular, this is to say that Emboreet school is still vulnerable.



TPC Secondary School, Kilimanjaro Region

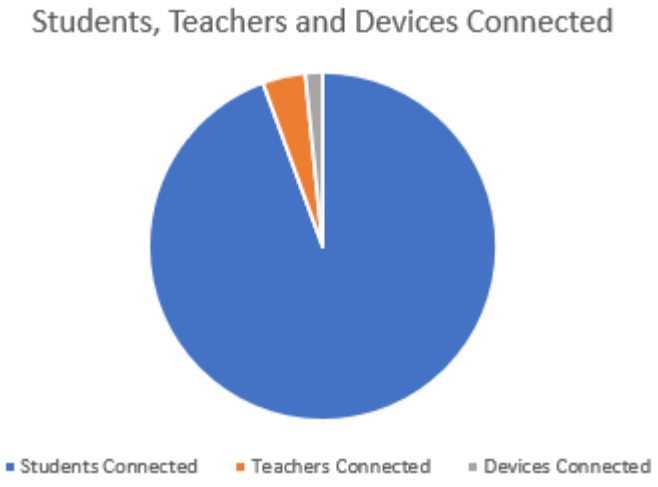
The school is located in lower Moshi, with 600 students and 21 teachers. It has only one student with physical disability. Good infrastructures, especially the computer lap and 18 working computers, motivates students and teachers on ICT. This 2021 they will officially start ICT as a subject and do national exams.

Good motivation from the government and teachers convinced us that the project will be successful hence we met with the Acting District Executive Director and members of the school board for further discussion about the project. Just like other schools in rural areas, there is also a big network challenge in TPC Secondary School. Addition of three tablets from Vodacom foundation Tanzania was also our contribution to the school.

Overview of the Project activities per school.

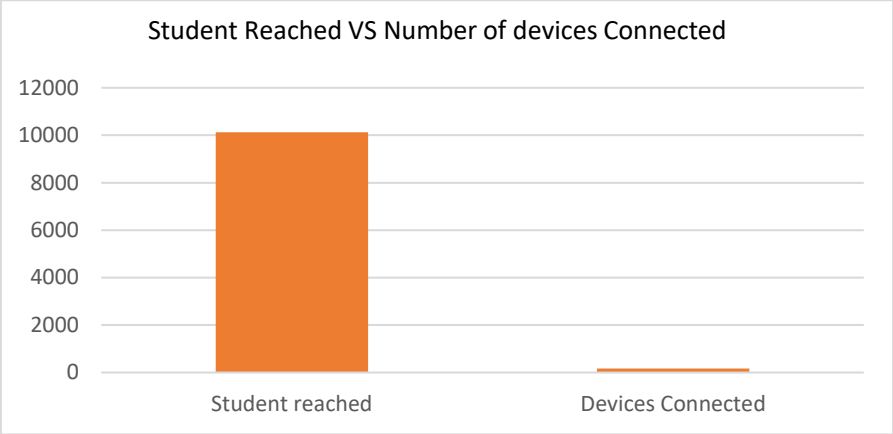
Region	District	Name of the school	Students	Student with Disability	No. of Comuters	No of Teachers	Network Connected
Dodoma	Dodoma Municipal	Dodoma Secondary	1900	0	24	86	Elimika
Katavi	Mpimbwe	Mizengo Pinda Secondary	845	0	19	23	Vodacom + Elimika
Kigoma	Kasulu	Kigoma Grand Secondary	489	0	16	16	Vodacom + Elimika
Kilimanjaro	Moshi Rural	TPC Secondary	600	1	18	21	Vodacom + Elimika
Manyara	Simanjiro	Emboreet Secondary	629	0	22	18	Vodacom + Elimika
Mara	Musoma	Musoma Tech Secondary	940	124	10	70	Elimika
Morogoro	Morogoro Municipal	Morogoro Secondary	2000	32	11	105	TTCL + Elimika
Ruvuma	Nyasa	Mbamba Bay Secondary	1004	1	10	29	Vodacom + Elimika
Tabora	Tabora Municipal	Tabora School Secondary	765	15	23	40	Vodacom + Elimika
Tanga	Tanga Municipal	Kiomoni Secondary	959	0	19	19	Elimika

Details	Numbers
Students Connected	10131
Teachers Connected	427
Devices Connected	172



The following graph shows the number of students reached compared to devices connected.

Student reached	10131
Devices Connected	172



From the graph above, 10131 students were reached through this project but the main challenge was accessibility of the computers as you can see only 172 devices were connected. The ratio is 1:59 which means One connected device is used by 59 Students. This shows more effort is needed especially by the government and other stakeholders to make sure public schools have enough computers and other digital devices for digital learning skills.

Overview of the project Expenditure.

The project will cost almost 27Tshs. millions per 10 schools and it will be done in three phases, the first phase will be installation of devices, second will be monitoring and evaluation and the last phase will be project closure. For the first phase, 11,860,184Tshs. has been used to cover office and internet expenses, Transportation, accommodation and allowances for the team, stationeries, material and other costs.

Sustainability.

There two potential links for sustainability: The government and other development partners that may resume investing in digital education by facilitating and provision of digital devices to government schools, training as well as covering capital expenditures for the lifetime of the project and make ICT subject as a mandatory subject, and Teachers or school (beneficiaries) commitment and participation towards digital education platforms installed and being able to cover operation costs. The involvement of government IT's and other government officials was a good sign for the project. On digital friends (since some government employed teachers may be relocated to other schools. But since digital friends are stationary, they can still transfer knowledge to the schools).

Challenges.

1. Most of the Computers are not able to detect WI-FI, and this is because the public schools use old model desktops.
2. Lack of computers for most of the government schools compared to the number of students available. Most of the schools we found have almost less than ten computers with more than three hundred students.
3. Low knowledge of ICT especially most of the government IT teachers.
4. Difficulties for remote and internet connectivity for rural schools (TPC and Emboreet secondary school). So, working with computers or tablets is a constraint due to lack of exposure on digital education platforms in general and sometimes poor network coverage to most rural areas because most telecom operators preferred towns than rural areas.

Triumphs.

1. Holding meetings with government officials and introducing the project from the regional level to district level.
2. Signing MOU with teachers and opening a SCHOOL CONNECTIVITY FILE at the district council.
3. Installing internet infrastructures with Government IT from the District Council.
4. Installation of offline digital platform (Elimika) from shule direct where students can access verified learning content from Tanzania Institute of Education.
5. There are Education funds set aside by the government and given every year to schools, to improve the quality of education given by secondary schools. Mostly these funds get directed to building classrooms, buying books etc. After discussion with teachers they suggested that this fund can also be set aside to buy bundles as well.

Recommendations for Partners and other stakeholders.

UCSAF

1. Instead of giving out five computers to different schools in which some of the schools all five computers are being used by teachers and not students, we recommend adding more computers to already connected schools so that to accommodate a number of students.
2. Training digital skills to teachers of all subjects, this is due to the fact that the learning platform installed is not only for IT teachers, it contains all subjects.

VODACOM TANZANIA FOUNDATION

1. Design bundles that are affordable to institutions such as schools, hospitals and Communities (E.g. University offer)
2. Special lines for school connectivity that will be affordable for most of the government schools to buy their academic bundles.
3. Change of measurement approaches (From Network cellular info lite to relying both on the app and operator's data)

TTCL CORPORATION

1. Identification of areas with 3G in rural areas so that we can connect rural schools with the TTCL Network.
2. Design bundles that are affordable to institutions such as schools, hospitals and communities.
3. Special lines for school connectivity that will be affordable for most of the government schools to buy their academic bundles.

SHULE DIRECT

1. Extend the design of the software to be user friendly to students with disabilities. Most of the special schools recommend visual and audio.
2. Additional new learning materials specific for advanced level (Form 5 and 6) due to the fact some of the schools installed with the software have Advanced Level.
3. Extra Learning materials like vocation learning materials and other skills should be added to the platform so as to provide a wide range for students to explore more.
4. Clear plan on how the school will keep on paying when sponsorship is over.
5. Clear long-term plan when it comes to scale up, and this is due to the fact that we are planning to reach all government schools (More than 5000 schools).

BASIC INTERNET FOUNDATION

1. Devices that can cover large areas (15 KM)
2. Other network measurement apps (To verify field measures)

General Recommendations.

Our main recommendations are to continue with the flexible approach and adjust project support to each specific school context, to allow shifting budget from less performing to more performing activities, and to continue new, digital innovative activities contributing to the same overall objective of connect the unconnected and transforming digital platform and internet connectivity so s to improve school performance. Besides, a longer duration of the project would allow seeing the maximum effects on students benefiting from the project.

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