.

Educating Through Technology Project

Karatu District, Tanzania

Contact:
Janice Lathen, Founding Director
Powering Potential Inc.
1-929-265-1167
janicelathen@poweringpotential.org
www.poweringpotential.org

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Current developments in science and technology have stimulated the use of Information and Communication Technology (ICT) as one of the basic building blocks of knowledge in society. Tanzania is facing challenges in her endeavor to provide quality education. High failure rates in science, mathematics and English subjects, especially in secondary school national examinations, are clear signs of the challenges prevalent in the education sector. In response to these challenges, Tanzania has geared itself towards integrating ICT in the education system to ensure improvement of delivery of education and to help address a wider range of socio-economic issues. Strategically, ICT is given priority because it helps to alleviate the critical shortage of proficient teachers and quality learning resources in schools.

In collaboration with schools and all levels of governments, Powering Potential Inc. (PPI) proposes to implement its award-winning Educating Through Technology program in the 23 public secondary schools in Karatu District that currently lack an up-to-date computer lab. Karatu has a total of 29 public secondary schools, of which six already have PPI's program. Over a three-year period, the completed program will deliver 23 SPARC (Solar Powered Access to Raspberry Computing) labs. Each lab consists of a solar energy system, a computer network with 20 Raspberry Pi user computers, 20 monitors, and three Raspberry Pi servers, and a library of offline digital educational content (no internet required). The project will take place over three years at a cost of $900K.

PPI's local partner organization, the Potential Empowerment Foundation (PEF) installs the systems and provides training to teachers and students and ongoing maintenance and quality control to each school. This technology infrastructure enables schools to offer the digitized national secondary school curriculum for Tanzania, including the Information and Computer Studies curriculum. An ongoing survey since 2016 of graduates of PPI schools found that students who gain computer skills in PPI schools increase their likelihood of employment after completing school by a factor of ten.

This will be the first district-wide scale-up of the Educating Through Technology program, ensuring that 12,909 students and 666 teachers in all 29 public secondary schools in Karatu have access to computers and digital learning materials. We will be able for the first time to evaluate the impact of the program on students and teachers at the district level, and to document lessons learned in operating at this scale so that we have a model to replicate as we expand to Bunda and Ngorongoro Districts and then to other districts in Tanzania, and as we expand our program in Peru. Although we already have strong support from the government, we expect that successful implementation throughout an entire district will engender greater commitment on the part of communities and the authorities to implement the program throughout the country.

Powering Potential is qualified to complete this project because it has been designing, funding, and implementing its program in Tanzania since 2007. PPI has trusting relationships with Tanzanian government officials and school communities, an experienced team in the U.S. and an independent partner organization in Tanzania, the Potential Enhancement Foundation (PEF). Registered in Tanzania in 2016, PEF has implemented nine computer projects and three initial training workshops, as well as 14 follow-up training workshops in secondary schools. The four districts where SPARC labs have been implemented have over 63,303 public secondary school students and teachers and represent the potential reach for implementing this program in schools in all four districts. Eventually we would like to implement the program throughout all of Tanzania's rural public secondary schools.

ORGANIZATION DESCRIPTION

Powering Potential Inc. (PPI) was founded in 2006 by Janice Lathen, an American technology entrepreneur. During a safari to Tanzania, Ms. Lathen visited the Banjika Secondary School in Karatu, a rural district in the Arusha Region. She introduced herself to students in Swahili. Their exuberant response and the heartfelt connection she experienced inspired her to bring opportunities of technology to their school by designing, funding, and implementing a pilot project in 2007. When Ms. Lathen learned about the dramatic increase in the number of students requesting a transfer to that school, she mobilized resources to implement computer labs in other secondary schools in the district. In subsequent years, the success of PPI's Educating Through Technology program has spread throughout the country.

In 15 years of operation, PPI has accomplished the following in Tanzania:

- installed 55 solar-powered computer projects and conducted 42 training workshops in a total of 33 schools across 15 districts, including Zanzibar.

- 35,000+ teachers and students have a world of knowledge at their fingertips through RACHEL, an offline digital library.[1]

- 3,000+ students have enrolled in Tanzanian Information Computer Studies (ICS) courses for secondary schools.

- 60% of beneficiary respondents report going on to higher education or vocational training.

- 58% of beneficiary respondents report securing employment because of their technology skills.

PPI has a distinctive approach to international development. Tanzanians are empowered to do the work for themselves, and PPI is well-respected in Tanzania for this approach. In September 2016 Powering Potential established a local Non-Governmental Organization (NGO) in Tanzania, the Potential Enhancement Foundation (PEF), an entity legally separate from PPI. Powering Potential has seeded these projects, which have taken root, with the goal to have them now flourish independently. PPI and PEF have worked closely with the Government of Tanzania to help meet its education goals. The Ministry of Education, Science, and Technology's Secondary Education Development Plan (SEDP II) included specific budget items for increasing the number of schools with access to ICT equipment and the teacher training needed to offer the elective sequence of ICS courses in the Tanzanian curriculum, both of which are provided by our Educating Through Technology program. We also support the UN Sustainable Development Goal #4: Quality Education.

PEF will implement the project in the Karatu District, working with the Tanzanian government (local, regional, and national) to install and maintain the labs and to expand the program. PEF orders all equipment, installs the systems, trains teachers and students, conducts coding workshops, conducts surveys and collects program data.

---

1 https://rachel.worldpossible.org/preview

PPI has an experienced management team with diverse expertise, and a committed group of advisors and highly qualified volunteers in the United States. In Tanzania, PEF has an experienced Executive Council and has developed a skilled, dedicated staff with solid relationships with schools and local, district, and national governments. Together, we have attracted funding from government, corporate, foundation, and individual sources in Tanzania and the U.S.

PPI's mission is to enhance education and stimulate the imagination of students in developing countries while respecting and incorporating values of the local culture. The vision is: all learners in developing countries experiencing the joys of technology and fulfilling their potential as global citizens. In 2017, PPI received the Energy Global National Award for Best Project in Tanzania, and our partner PEF was one of three finalists for a 2019 Energy Globe World Award in the Youth category. In 2019 PPI went global, launching its award-winning program in South America in a public school in the Peruvian Amazon, led by multiple Fulbright Award recipient Dana Rensi.

BACKGROUND

Located in East Africa, the United Republic of Tanzania was formed in 1964 as a union of Tanganyika (mainland) and Zanzibar (archipelago), which achieved independence from the United Kingdom in 1961 and 1963 respectively. Tanzania is governed by a parliamentary democracy, with Swahili and English as official languages. Over 100 different tribal languages are in day-to-day use in the country and 90% of the population speaks Swahili as a second language. Tanzania is the 13th largest country in Africa, with a population of approximately 52 million. According to the 2012 census, almost half (44%) of the population is under the age of 15, the majority of whom live in rural areas.[2]

Tanzania is a country of contrasts. Although well over a million tourists each year (1.5 million in 2019)[3] come to visit its spectacular natural beauty and wildlife, it remains one of the poorest countries in the world. The 2020 Gross Domestic Product per capita is estimated at US $1,076[4] with a 3.3 inflation rate.[5] Tanzania has the fastest growing economy in Sub- Saharan Africa, but it is continuously challenged by poverty, lack of electricity, and unmet needs in education and healthcare.

2 https://en.wikipedia.org/wiki/Demographics_of_Tanzania
3 https://data.worldbank.org/indicator/ST.INT.ARVL?locations=TZ
4 https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=TZ&most_recent_value_desc=false&type=shaded&view=map
5 https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?

Tanzania's economy has grown at an average rate of 6% in the last decade,[6] fueled largely by agriculture, industry, and tourism. In 2020, 2% of the total workforce was unemployed.[7] The situation for youth is undoubtedly worse – the most current information, from 2014, shows a percentage of youth not in education, employment or training as 15%.[8]

Economic growth, however, has been uneven. Tanzania remains predominantly agricultural, and 80% percent of Tanzania's poor live in rural areas like Karatu District, where our project will take place. In rural areas, birth rates are high (6.1 births per woman compared to 3.7 in the urban areas), and growth in productivity barely keeps pace with population growth. Therefore, poverty in Karatu and other rural districts where PPI works is likely to be significantly higher than the national rate.

According to the World Bank's 2019 Tanzania Mainland Poverty Assessment, the proportion of Tanzanians living in poverty (defined as $1.90 per person per day) declined by eight percentage points in 10 years, down from 34.4% in 2007 to 26.4% in 2018.[9] Nevertheless, Tanzania's rapid population growth has caused the number of people living below the national poverty line to increase over the same period. The World Bank estimates that the pandemic caused the poverty rate to rise to 27.2% in 2020, and the impact has been especially harsh on households that rely on self-employment.[10]

The Problem

Education has played a vital role in Tanzania's development since independence. Tanzania now has universal access to primary education, yet every year millions of children are not able to progress to secondary school. Almost 70% of children aged 14-17 are not enrolled in secondary education, despite the fact that the government now provides free secondary education for the first four years.[11] Tanzania follows the system used in Britain and many other countries of having a two-tiered structure of secondary education. The Ordinary, or "O" level, comprises the first four years (Forms 1 through 4). The Advanced, or "A", level, comprises Forms 5 and 6, and would usually be required to enter university. Currently very few Tanzanian students complete the "A" level.

For those learners who do progress to secondary schools, the uneven quality of education limits their prospects for a productive future and in 2020 65% of secondary school learners who sat for the Secondary School National Examination failed to score high enough to advance to "A" level.[12]

6 TanzaniaInvest – Tanzania Economy
7 https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=TZ&most_recent_value_desc=false&type=shaded
8 https://data.worldbank.org/indicator/SL.UEM.NEET.ZS?locations=TZ&most_recent_value_desc=false&type=shaded
9 https://documents1.worldbank.org/curated/en/431111575939381087/pdf/Executive-Summary.pdf
10 https://www.worldbank.org/en/country/tanzania/overview
11 https://www.unicef.org/tanzania/what-we-do/education
12 https://www.thecitizen.co.tz/tanzania/magazines/success/-what-next-for-those-who-scored-divisions-4-and-0--3262218

School budget constraints, shortage of qualified teachers and high-quality learning materials, low family income levels, harmful traditions, gender discrimination, and geographically remote locations all make it difficult to achieve the promise of quality secondary education for all. Few alternative learning solutions (such as self-study) in Tanzania provide the quality of educational content that students need to fill the gaps in their education. Such gaps prevent learners from doing well in their national exams and beyond. Because of these findings, UNICEF has announced that its number one goal to be addressed by 2021 is "enhanced capacity to deliver quality and relevant formal basic education."[13]

The Solution

Incorporating technology is part of Tanzania's national strategy to improve the equity, quality, and relevance of education, so that more children can benefit from and contribute to the country's development in the information age. Recognizing the need for rural electrification, the Tanzanian Education Sector Plan has stated a goal of installing solar power in schools that have no electricity. Powering Potential's Educating Through Technology program provides solar power, affordable ICT infrastructure, energy-efficient hardware, and sustainable technology, including digital libraries and free open-source software and training. The mutual goal of PPI/PEF and the Government of Tanzania is to help children and young adults in rural areas gain better access to education and learning resources and become more informed and empowered global citizens.

Powering Potential's program offers a practical, effective solution to bridge the digital divide by providing access to both Tanzanian Government and worldwide educational content, available to learners at their individual pace. The computer technology program greatly increases the appeal of secondary education as a worthwhile investment of students' time and effort, and helps more of them to succeed. Since its first implementation, PPI has received multiple requests to implement its award-winning program at schools in Tanzania. The organization has the capacity and, with adequate funding, is willing and able to respond to more requests.

PROJECT DESCRIPTION

We have chosen Karatu as the pilot district for several reasons. PEF is based in Karatu, where it has an office, staff and a 12-year working relationship with schools and Local Government officials in the district. This makes access, oversight, and the ability to collect data and measure outcomes relatively easy. After completion, Karatu will serve as a model as PPI scales up to other districts across the country. Bunda, Ngorongoro and Serengeti Districts are the next three in line for a district-wide scale-up. (See Appendix 5 for a letter from the Karatu District Council.)

The implementations will be accomplished within a three-year period in three phases. In the first year, PPI aims to install computer labs in seven schools, followed by installations of eight computer labs each in years two and three. (See Appendix 2, Work Plan). Each SPARC lab will house 20 user computers and monitors and three servers, and is powered by a solar power-generating system. Installing 23 new SPARC labs in Karatu will bring a total of 460 new desktops to district schools.

13 https://www.unicef.org/tanzania/what-we-do/education

Each computer will have access to an offline digital library through World Possible's RACHEL-Plus device, which includes Khan Academy videos, Wikipedia articles, UNESCO teaching resources, medical reference books, including *Where There is No Doctor*, and other learning resources.[14] Office productivity software (word processing, database, spreadsheet, presentation) and coding programs are also installed. Shule Direct, a Tanzanian company, will provide the government-approved digitized Tanzanian secondary school curriculum.[15] (See Appendix 1 for details on World Possible and Shule Direct.)

The schools and communities also contribute. Each participating school will provide a secure room and build the tables and chairs for the computer lab, and make available two teachers whom PEF will train to maintain the labs, train other teachers to use the systems, and act as liaisons with PEF. Schools are also responsible for setting aside funds for small repairs and maintenance. PEF will conduct an orientation for the lead teachers before the labs are installed in their own schools. Once the labs are installed, PEF will provide an introductory training to students in the school, and will teach all available teachers in the school how to use the lab and how to help students use it effectively.

EXPECTED OUTCOMES AND MEASURES OF SUCCESS

Expected Impact

This project will benefit 9,800 girls and boys in Forms 1 through 4 (ages 13-16) by increasing the quality of education through technology. With 23 additional labs, the learners' access to information technology as well as computer studies and general educational curriculum will increase exponentially. And the benefits are lasting - the labs remain functional for many years, allowing each new class to have access to an expanded range of courses and educational resources.

To quote a program beneficiary, Elitumaini Rweyemamu: "It is unhidden truth that is going to have an immeasurable impact to youth and all the people in rural areas, as they are going to be exposed to the world of technology where they could meet plenty of social, economic, academic, and political opportunities. I have trust in... (the) Powering Potential team. I believe it is the team that will be mentioned in the history of Tanzania in coming days."

Monitoring and Evaluation

The purpose of monitoring the progress of the project and evaluating its accomplishments is to document accomplishments, improve results, ensure sustainability, and measure impact. The effort centers on maintaining communication and gathering and analyzing qualitative and quantitative data from the students, parents, teachers, school administrators, and government. With information on what works and what the challenges are, PPI/PEF can work with government and school authorities and local communities to improve both current and future projects.

14 https://rachel.worldpossible.org/preview
15 https://www.shuledirect.org/

Mr. Muhwela Kalinga, a retired head of monitoring and evaluation at the Tanzanian Ministry of Education, will serve as the Monitoring and Evaluation (M&E) Director of the project. He conducted an evaluation of the PPI program in Tanzania in 2013, which has informed the design of this proposed Karatu District project. We are also using his evaluation report to strengthen the monitoring and evaluation framework of the project. In addition to the Director, the M&E team will include one full-time and two part-time data specialists, who will help administer surveys, collect data, and enter data in structured formats. The data specialists will move from school to school as needed to collect data, which will be transferred to the M&E Director for collation and analysis. The M&E Director will be based at the PEF office in Karatu, and will analyze the data and report on the results. He will be supported by William W. Thompson, Ph.D., an education researcher and advisor to PPI and PEF. Dr. Thompson has more than 35 years of research experience, including work with the U.S. Department of Education evaluating the U.S. Education Title I program.

Our evaluation will use a Quasi-Experimental design, with wait-list control groups to enable comparisons. Schools will be randomly assigned to receive their labs in years one, two, or three, so that the schools selected for year two and three implementations can serve as control schools in year one, and the year one group will serve as the intervention group for comparison purposes. Similarly, the years one and two groups will serve as the intervention groups in year two while the year three group serves as the control group. The six schools that already have SPARC labs will be included as well, so that we can see how their results compare to schools that receive their labs during this scale-up. In addition, baseline national test data is available for all schools and therefore baseline data can be used to adjust for pre-existing differences between schools prior to the beginning of the evaluation. Key indicators and sources of data are found in Appendix 3, Logical Framework.

PPI will track the number of students enrolled in Tanzanian national ICS courses for secondary schools, national exam results, and activities of program graduates, such as whether they go on to advanced education or secure employment because of their new technology skills. PPI and PEF are committed to reducing gender disparities in the schools, for example by including equal numbers of girls and boys in training and orientation sessions. PEF is developing a log-in tracking system so that we can track actual use of the labs. In our analysis we will disaggregate data by gender so that we can see if girls and boys differ in their academic progress, their use of the computers, and so on, so that we can adjust the program as needed to meet the needs of all students. We also plan to take a simple survey of both parents and students at the beginning and end of each school year.

SUSTAINABILITY

PPI ensures the sustainability of its interventions by engaging the support and commitment of local schools and governments, by building local capacity through the establishment of PEF, and by using appropriate and locally sourced technology. Of the 33 secondary schools in 15 districts of Tanzania where we have implemented a project, 29 schools are still providing the program. Some organizations donate used Windows computers to developing countries, but these are unsuitable in rural Africa, as they draw too much power (80W-90W) for schools that have either no or unreliable electrical power. Software for them is expensive and often carries an ongoing yearly cost. In contrast, PPI uses Raspberry Pi computers plus monitors, which cost about $200, draw about 15 watts, and can be powered directly by an onsite solar power system. They are not susceptible to viruses, and hold up better in the hot, dry, and dusty conditions of rural Tanzania. All of our equipment is sourced in Tanzania, and we use free open-source software. Shule Direct, which provides the Tanzanian curriculum, charges a moderate one-time fee.

PPI/PEF MANAGEMENT TEAM

- Janice Lathen: B.A., Founding Director of PPI for 15 years. 25 years experience managing her NY city computer consulting business.

- Albin Mathias: PEF Executive Director, working with PPI since 2010. Bachelor of Engineering in Information Systems and Network Engineering.

- Theophilus E. Mlaki: Chair of the PPI Executive Council. Masters in Library and Information Science from Loughborough University in the UK. 20 years experience as Director of Information at the Tanzania Commission for Science and Technology (COSTECH).

- Sabasaba Moshingi: Treasurer of PEF. CEO and Managing Director at Tanzania Commercial Bank Limited since 2011.

- Denis Christopher: PEF Social Media/Technology Manager. Bachelor of Engineering in Information Systems and Network Engineering.

- Neema Lyimo: PEF Technology Manager. Diploma in Computer Engineering, JR Institute of Technology.

- William Thompson, PhD: President of Reproducible Scientific Solutions, LLC. Monitoring and Evaluation Advisor.

- Muhwela Kalinga, former Head of Monitoring and Evaluation at the TZ Ministry of Education and Vocational Training. Monitoring and Evaluation Director.

APPENDICES

Appendix 1. Technology Implementation Partners

For this project, PPI will be using offline educational content from World Possible and Shule Direct.

World Possible

PPI has been working with World Possible (https://worldpossible.org/) since 2010, using its offline educational content, named RACHEL (Remote Area Community Hotspot for Education & Learning).

PPI will install one 980GB RACHEL-Plus device at each school. RACHEL-Plus is a portable plug-and-play server that can connect a whole classroom of computers to a world of educational content with a single click. It stores copies of open educational content such as Wikipedia articles, Khan Academy videos, PhET physics simulations from the University of Colorado (https://phet.colorado.edu/en/) and much more, and makes that content available over a local wireless connection. RACHEL-Plus provides fast, free access to quality educational content without needing access to the internet. RACHEL-Plus is rugged, lightweight, and portable – approximately the same size and weight as a tablet computer.

In Tanzania, all communication devices must be screened and approved by the Tanzania Communications Regulatory Authority. RACHEL-Plus received this government certification on April 16, 2018 under the Non-Governmental Organization Act of 2002, Sec 12 (2) of act no. 24, 2002.

Shule Direct

Shule Direct (https://www.shuledirect.org/) provides digital educational content specifically tailored for young learners across Tanzania and Africa to improve their learning outcomes. Shule Direct works with qualified teachers to create and upgrade digitized learning notes, tutorials, quizzes, and multimedia content that is tailored to the Tanzanian Secondary School Curriculum, which is necessary for passing the CSEE (Certificate of Secondary Education Examination). A student can use a device to access learning content that has been certified by the national government for 13 secondary school subjects, such as Civics, Mathematics, and Social Science. This meets individual learning needs and gives students the opportunity to learn at their own pace. Its premier platform, www.shuledirect.co.tz, was named Tanzania's Best Education Platform at the 2019 Tanzania Elimu Awards. Shule Direct has also been nominated as one of the three best educational platforms in Africa by Apps Africa Innovation Awards.

Appendix 2. Work Plan

ONE YEAR WORK PLAN	MONTHS											
ACTIVITIES	1	2	3	4	5	6	7	8	9	10	11	12
PEF communicates project plan with President's Office-Regional Administration and Local Government from national to school level	X	X	X									
PEF signs MOU with schools and LGAs	X	X	X									
PEF conducts baseline study (Situation Analysis) and makes random assignment of the 23 schools, administers pre-installation questionnaires	X	X										
Schools provide secure classroom furnished with tables and chairs according to batching (7 in 1st Year, 8 in 2nd Year and 8 in 3rd Year)		X	X									
PEF procures equipment for the first seven schools.	X	X	X									
Schools dedicate qualified computer teachers		X										
PEF trains lead teachers to operate and maintain systems		X										
PEF supplies and installs SPARC labs and solar power systems to selected schools (according to Batches/Lots i.e. 7 in 1st Year, 8 in 2nd Year and 8 in 3rd Year)				X	X							
PEF provides followup training to students and teachers							X	X	X			
Schools and parents plan budget and raise money for maintenance of solar and computer systems				X	X	X	X	X	X	X	X	X
PEF monitors progress			X	X	X	X	X	X	X	X		
PEF conducts End of Year 1 evaluation and report											X	X

Appendix 3. Logical Framework

SUMMARY	OBJECTIVE/ ACTIVITY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Goal/Impact	Increased % of students who pass national secondary school exam	% of students in PPI schools who pass exam compared to students in non-PPI schools	National Examination Result (NECTA)	Covid pandemic does not adversely affect student performance
	Increased employment after graduation	% of students in PPI schools who are employed within 6 months of graduation from secondary school exam compared to students in non-PPI schools	PEF survey of students who complete Form 4 in PPI schools compared to students in non-PPI schools	Covid pandemic does not adversely affect employment opportunities
	Increased % of students who enroll in further education or training programs after Form 4	% of students in PPI schools who are enrolled in Form 5 or in vocational training programs within 6 months of completing Form 4 compared to students in non-PPI schools	PEF survey of students LGA school records	Covid pandemic does not adversely affect opportunities for further education or training
	Reduced dropout rates	% of students who drop out of PPI schools compared to non-PPI schools	LGA school records	Covid or related economic trends do not increase dropout rates
Outcomes/Effects	All Karatu secondary schools have two teachers trained by PEF to use and maintain the labs	# of Karatu secondary schools with two teachers trained by PEF in maintaining the labs and training teachers and students to use them	PEF records, LGA school records	Adequate # of teachers available to be trained Risk: trained teachers move to other positions
	Increased attendance rates	Attendance rates of students in PPI schools compared to those in non-PPI schools.	LGA school records	Covid pandemic does not adversely affect attendance
	Teachers and students use lab for research and instruction	# of log-ins per student and per teacher	Computer lab records	Tracking system developed and in place
	Increased # of students who complete ICS curriculum	# of students who complete ICS curriculum	LGA school records	Teachers available to teach ICS course
Outputs	All Karatu secondary schools have SPARC computer labs installed	# of Karatu secondary schools with SPARC computer labs installed	PEF project records	Availability of funds Availability of equipment
	All Karatu secondary schools provide rooms and furniture for labs	# of Karatu secondary schools with adequate space and furnishings for labs.	PEF project records	Schools are willing and able to provide space and furnishings
	Evaluation completed	Report of evaluation shared with stakeholders	PEF project records	M&E staff hired and trained
Activities	Signing agreements with each school; purchasing equipment, installing labs, training teachers, maintenance, monitoring	Tasks completed	PEF project records	Availability of funds

Appendix 4. Budget

The budget for this three-year project includes project oversight, computer network hardware and software, solar power system, transportation, installation, monitoring and evaluation design and implementation, staff salaries and benefits. We have included inflation factors of 4% in Year 2 and an additional 2% in Year 3. A detailed budget is available upon request.

	Year 1	Year 2	Year 3	Total
	# of Schools			
	7	8	8	23
Tanzania Costs				
Personnel	$46,270	$52,157	$57,318	$155,745
Benefits	4,273	4,444	4,533	13,250
Local Travel	9,120	10,068	10,266	29,454
Computer Network	63,333	73,492	74,906	211,731
Solar Power System	25,464	30,266	30,848	86,577
General & Administration	911	947	966	2,824
Total Tanzania Costs	**$149,371**	**$171,375**	**$178,836**	**$499,582**
US Costs				
Personnel	$79,200	$82,368	$84,015	$245,583
Benefits	19,158	19,924	20,323	59,405
International Travel	3,100	3,224	3,288	9,612
General & Administration	12,048	12,530	12,781	37,358
Total US Costs	**$113,506**	**$118,046**	**$120,407**	**$351,959**
Total before contingency	$262,877	$289,421	$299,243	$851,541
Contingency at 5%	$13,144	$14,471	$14,962	$42,577
GRAND TOTAL	**$276,021**	**$303,892**	**$314,205**	**$894,118**

Appendix 5. Letter From Karatu District Council

KARATU DISTRICT COUNCIL
(All correspondences to be addressed to the District Executive Director)

Tel.   +255 27 297 0648
Fax: +255 27 297 0649
Email: ded@karatudc.go.tz

In reply please quote:
Ref. No. KDC/DED/E.1/VOL.X/20

P.O. Box 190,
KARATU
ARUSHA – TANZANIA

Date: 22nd December, 2019

The Director, Potential Enhancement Foundation (PEF),
P. O. Box 93,
Karatu – Arusha.

DearSir /Madam,

RE: FURTHER WELCOME THE PROGRAMME IN OUR DISTRICT

Refere the above mentioned heading.

Your organization have been helping our Schools in the District in Computer facilities. We really appreciat the spirit you have as currently the progamme is limited to few schools. The District at moment have 118 primary Schools of which 1 is boarding Primary school and 32 Secondary Schools which 3 are boarding.

We will appreciate more if the programme is extended to more schools so to improve performance.   In this regard I further welcome the programme. We asure to make effective use of all facilities of your help.

Regards,

Waziri A. Mourice
District Executive Director
Karatu District Council

DISTRICT EXECUTIVE DIRECTOR
KARATU DISTRICT COUNCIL