

The First informal baseline survey report on responding to contexture setting of Bridgeit Project in Tanzania

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1. Introduction

The International Youth Foundation (IYF), Tanzanian Ministry of Education and Vocational Training (MOEVT), the Forum for African Women Educationalists (FAWE), the Nokia Corporation, and Pearson the Bridgeit project in Tanzania with the goal of increasing the educational quality and achievement among boys and girls in primary schools in math, science, and life skills through the innovative use of cell phone and digital technology. The two-year pilot project is funded through a grant from USAID and is modeled on the successful text2teach program in the Philippines.

The objective of this survey is therefore to:

- Provide assessed information on the current Primary education status in Tanzania particularly in Science and mathematics so as to respond to the contextual setting of Bridgeit program to be conducted in Tanzania.
- Provide recommendations on project areas, grade levels and gender concern for the implementation of the project based on Tanzania context.

2. Background

Education is recognized as the single most important element in combating poverty, empowering girls and women, protecting children from exploitation, promoting human rights and democracy. To these ends International demands for the provision of free primary education following the World Conference on Education for All (EFA) 1990 has resulted in mass increase in enrolment figures. Participating countries have committed to the goal of granting all children access to free quality basic education by 2025, with specific emphasis on girls and the achievement of gender parity by 2025.

3. Methodology

The findings presented here were obtained through interviews with a sample of representatives from the Ministry of Education and Vocational Training (MOEVT), Tanzania Institute of Education (TIE), Teacher Training Center in Ilala District in Dar es Salaam, Kinondoni Municipal Council (Education Department) and Coalition of Teachers Resource Center (TRC) in Dar es Salaam. They were also obtained through desk research from different sources as cited in the document, including from above-mentioned institutions.

4. Overall status of Primary School education in Tanzania

The central objective of offering primary education in our country is to achieve the EFA goal and to equip pupils with the knowledge, skills and values necessary for development of the society and the Nation as a whole. During 1990 World Conference on EFA, Tanzania committed to the EFA goal; in monitoring the process of implementation, we can argue that some targets have been achieved and others are yet to be achieved. The brief information below are some of the areas.

4.1 Enrolment

The overall enrolment in Standard I has reportedly increased from 1,316,727 in 2006 to 1,379,293 in 2007. Currently, enrolment according to gender in primary schools is of 1:1 ration. 2007 statistics indicate that the total primary school enrolment is 8,316,925, with 4,215,431 male pupils and 4,101,494 females. These figures indicate the achievement in gender parity in terms of access. However, drop out has been a challenge. The number of drop outs from school due to reasons such as truancy and pregnancy increased from 41,839 in 2005 to 57,887 in 2006.

Throughout the country, in both primary and secondary schools, the leading reason for dropping out is truancy. This is followed by pregnancy, and then death. Pregnancy accounts for 5.6% of the general dropout rate for 2006. Dropout differs from one region to another in terms of grades, reason and sex.

A sample of regions data as obtained in BEST 2006 indicates that: in Mtwara (case study), the number of drop outs due to pregnancy was 533 girls from grade three to seven, while the number of drop outs due to truancy reached 1733, 811 female pupils and 928 male pupils. Therefore in Mtwara, the number of female drop outs due to the above two reasons is 1344 while the number of boys is 928.

In Lindi (a case study) the number of female drop outs due to pregnancy is 292 from grade three to seven, while the number of drop outs due to truancy has reached 980, with 331 girls and 649 males. Therefore, in the Lindi region, 623 girls and 649 boys dropped out of school because of pregnancy or truancy. The incidence of pregnancy among adolescent mothers in Tanzania increases gender disparities between boys and girls in education.

The Ministry of Education and Vocational Training have been doing a number of things to improve education system in Tanzania. Classroom construction is being undertaken in all districts throughout the country. Communities clearly desire education and have responded positively by registering children and taking part in construction activities. NGOs are more engaged in the Primary Education Development Program (PEDP) process, and donors appear to be willing to increase levels of support to primary education. These aspects provide grounds for optimism.

The government's call to register pupils has been received enthusiastically by many parents. Poor parents are especially appreciative of the decision to abolish schools fees and mandatory cash contributions. This situation has contributed to the expansion of enrolment in primary schools; however, the views of people is that this situation spoiled by not having other components of PEDP in place. Overcrowded classrooms, inadequate and qualified number of teachers and lack of resources are main problems which people view as have negative effect on the quality, retentions and future enrolment.

4.2 General quality of education in Primary Schools.

The 1990 Jomtien World Conference on Education for all (EFA) was instrumental in identifying internationally agreed target for the provision of education as a basic human right. Tanzania is one of the 2000 Dakar Framework for Action, an international review of Education and of educational progress made since Jomtien and has joined many nations in endorsing the United Nations conventions on the rights of the child. In this ends the Universal Primary Education campaign remained as a core Tanzanian determination to achieve EFA. The Primary Education Development Plan (PEDP) 2002-2006 is the most ambitious attempt, after Universal Primary Education (UPE) drive in 1977, to affect primary education in Tanzania. PEDP goes beyond the aims of UPE, which was primarily concentrated on expanding access. PEDP is more comprehensive in its scope because in addition to addressing access, it includes an emphasis on improving the quality of teaching and learning processes in primary schools in Tanzania. Generally there are many strategies in place to successfully implement PEDP, ensuring that every child is able to enjoy her and his right to quality primary education. However the quality of education continues to be poor. The major concern of pupils, parents and teachers at the community level and other key stakeholders on education is that there is very little evidence that the strategies to improve education quality are being implemented.

It is clear that improvement in teaching and learning is the current PEDP priority. One of the objectives of quality improvement in PEDP is to enable teachers to acquire and develop appropriate pedagogical skills that are academically sound, technologically suitable, child friendly, and gender sensitive. But the reality is that very little has been realized in revolutionizing the quality provision of primary education. However, this a massive exercise which requires not only the skills and knowledge of teachers but also changing how teachers view themselves in relation to their pupils, development of relevant in-service programs and invention of advanced technology.

5. Overall status of Science and mathematics subjects In Primary Schools.

The study of Science and Mathematics is important in all aspect of life. In Tanzania and African Countries in general, mathematics and science are used as key subjects for selective advancement in education system. However, the teaching and learning of science and mathematics in Tanzanian primary schools is not at its best. An interview with Teacher Resource Centers Coalition indicated that practically all students believe that both mathematics and science are important for life after school and yet both girls and boys demonstrate some negativity towards certain science subjects. They perceive the subjects as difficult and uninteresting and therefore they despair and perform worse on those subjects.

General feedback I obtained in this study is that the experience shows that conditions and problems which prevail in the Tanzanian educational setup discourage good participation and performance from both girls and boys in mathematics and science. Some of the impediments include the lack of adequate instructional resources and equipment and poor teaching methodologies in science subjects. However the attitude of pupils goes a long way in helping her/his performance in primary schools and there after will influence the final choice of the subjects in the secondary schools. When a pupil has a negative attitude towards the study of the subject, the attitudes of others and the inadequacies in the

school infrastructures only compound the situation. Girls are worse hit by difficult situations in the Tanzania school system. They have to deal with the bias against female education and especially against females in science careers; as a result, they face the discouragement from their teachers, classmates, parents and general public. These situations and others discourage their participation in science and mathematics.

In order to improve learning gains in science and mathematics and education in general, the schools must invest in infrastructures, regularly review of the curricula, train teachers to increase their capacities, and help change the attitude of pupils and teachers.

5.1 Teaching methodologies in science in primary schools

The proper teaching/learning of Science and Mathematics Subjects in Primary schools plays an important role in struggle towards technological advancement of our country.

The Ministry of Education encourages the interactive methods of teaching such as group discussion, role play, games etc. However, experience shows that the most interactive method used by teachers in classrooms is questions and answers. This has made it difficult to equally involve pupils in studies. Reasons which were mentioned as barriers for the use interactive methods are as follows:-

- Ratio of teacher to pupil is not proportional. The current ratio is 1:200+ (one teacher to two hundred and above pupils)
- Inadequate facilities and teaching materials. Enrolment levels have outnumbered the facilities and teaching aids required in the curricula and syllabi. The common resources for teaching and learning in schools are books; the anticipated ratio of books shared by students according to MOEVT is 1:1, but the prevailing ratio situation is 1:5-10 (one book for five up to ten pupil). Many schools don't have proper communication systems such as phones, televisions, computers, as it is indicated in the Communication and Information Technology syllabus.
- Many teachers lack basic academic and professional skills for effective classroom interaction.
- Many teachers lack the ability to design and develop (improvise) teaching and learning materials. In fact these teachers hardly used any teaching/learning materials when teaching.
- Many teachers fail to prepare and use gender responsive schemes of work, lesson plans and lesson notes.
- Many teachers predominantly use the lecture method when teaching.
- In Teacher Training Colleges (TTCs) the teacher trainees are exposed to academic content as opposed to professional/pedagogic content.

Generally there are very few qualified teachers in primary schools. According to Basic Education Statistics 2007, the total number of teachers in primary schools in 2007 is 156,664. The percentage of teachers with Grade B/C (standard 7 leavers) is 26.9, Grade "A" (form four leavers) is 70.1, Diploma holders is 2.8 and degree graduate is 0.2.

- Schools must be set up with facilities and materials so as to create a positive teaching and learning environment.
- A methodology that ensures equal participation of pupils, saves time and enables teachers to interact well with students is crucial for bringing a positive effects on the quality of education
- Massive in-service and pre service trainings are necessary.

6. Curriculum experience of teaching and learning mathematics and science in primary schools

The General objective of primary school science in Tanzania is to acquire and apply scientific process, acquire and use technology for sustainable manner in every day life, use knowledge and principles of science and technology and develop positive attitude towards science and technology.

Science, Mathematics and other curricula are developed by Tanzania Institute of Education and approved by the Ministry of Education and Vocational Training under Chief Education Officer. Normally the review of the primary school science and Mathematics curriculum are supposed to be done after the completion of one cohort (Standard 1- 7), or once every seven years. However, it has been difficult to realize the anticipated goal of reviewing it due to financial constraints and limited resources. The current curriculum was updated in 2005, prior to this is the one updated in 1997.

Generally the decision to review the curricula is made by MOEVT with the concern of TIE, Inspectorate Department at the district level, subject teachers in the schools and other stakeholders, while the development and review of curricular is done by TIE.

The Science and Mathematic syllabus for Standard 1-7 articulates topics to be covered in the particular grade, objectives, teaching methodologies, teaching materials and number of periods per year.

Standard Five syllabuses stipulate that there will 50 periods per year the standard 5.

Objectives for studying Science in standard 5 are:-

- Develop positive attitude toward healthy living and prevention of infections
- Acquire basic skills to explain scientifically change in substance, events and things
- Acquire theoretical and practical knowledge about simple machines
- Acquire scientific knowledge skills and attitude and apply them in everyday life
- Apply scientific principles and process in daily life
- Develop a positive attitude towards environmental balance and maintain for the good of the living things

Objectives of studying Science in Standard 6 are:-

- Maintain the health of body system
- Protect him or her against diseases and maintain the quality of food hygiene
- First Aid services provided to different group of people with health problem
- Scientific asking and answering of question
- Understand positive and negative changes on living and non living things in the Environment
- Acquire knowledge and skills of using sustainable energy and simple machines in every day life.

Objectives of studying mathematics in standard five (5):-

1. To develop pupil skills in mathematics in order to facilitate their ability in doing several educational, economic and technological activities in the society
2. To develop positive attitude towards skills, concepts and values in mathematics for her/ his own development and the society

Specific objectives

- To read and write odd numbers
- To conduct mathematical practices on whole numbers
- To read and write Roman numbers
- To understand and practice fractions
- To understand and practice decimals in mathematics
- To calculate patterns
- To understand and draw triangles
- To understand and practice matrix
- To calculate average and drawing graphs.

Objectives of studying mathematics in standard six (6) are:-

1. To read and write whole numbers, roman numbers, fractions, time etc.
2. To do practices in mathematics
3. To calculate decimals in mathematics
4. Understand and practice Metric measurements in mathematics

7. Information and Communication Technology subjects in Tanzania Primary Schools Curriculum

TIE has developed the curriculum on Information and Communication Technology (ICT) which paves the way for pupils to access information from different sources; develop their capacities to apply and use the existed and new technology in acquiring skills for developmental studies; and understand the importance of ICT in pedagogical processes, social, economical and political development. This has started to be implemented at school levels where by the main focus is the use of postal services, radio, newspapers, TV, and computers. However this curriculum also requires understanding the meaning and roles of the technology through the hands-on use of this technology in the schools. Responses from this study have shown that the real fact is, many schools do not have the capacities and infrastructure that support the use of the suggested technology. Most schools in rural and even in urban do not have source of power and the surrounding communities do not have the knowledge required to support the new technology. To cite an example, one person from EDC stated, "We were discussing with the Community in one of our intervention areas on where is the safe place to put a radio for the students to access educational radio programs? The community suggested that their village bar is the appropriate place for that purpose." This statement has two implications: first that

the schools are not secured places to rely on in terms of security, and second, that parents value other things such as entertainment rather than educational development for their children.

Therefore, there is a great need to build capacities in schools through creating the needed infrastructures so as to support the use of ICT in pedagogical processes. There is also a need to train teachers and students on the proper use of the said technology and other technologies to be introduced, sensitize the community to create a positive attitude toward the use of ICT for academic development and provide security support measures to the schools with valuable infrastructures/equipments.

8. Other Relevant Education Projects & Support to MoEVT

The Ministry of Education and Vocational Training receives support from various development partners, including international NGOs, foreign governments, bilateral donors, etc. JICCA, which is a Japanese development agency, assisted the radio unit in enhancing its capacity to deliver radio school sessions in Tanzania. MoEVT has been assisted by the government of Sweden with computer laboratories, equipping 38 teacher training colleges across Tanzania with sets of computers and connection to the internet. MoEVT, with assistance from Sweden, seeks to expose teachers to be in the world of IT in an effort to improve their understanding as well as their teaching skills. MoEVT works with UN instruments such as ILO, WHO, UNICEF etc. For instance, UNICEF works with the Ministry on a programme called Child Friendly Schools, an initiative that supports the Ministry in ensuring that both teaching and learning are more child friendly in order to improve learning gains among children. These are a few examples of how MoEVT works with other development partners in various educational spheres.

9. Primary education supportive structures in Tanzania.

9.1 Roles and responsibilities of TIE and MOEVT at National, Regional and District Levels

MOEVT is the overseer of the education system in Tanzania, and it links with other supportive structures within it in implementing its mandates. In the provision of basic education, MOEVT works at national and regional levels, as well as with TIE and other stakeholders. However, the main players at district levels remain to District Municipal councils.

9.2 Roles of MOEVT at National level in supporting Schools

MOEVT is responsible for reviewing, preparing and recommending amendments to existing education policy, plans, laws and regulations in response to change in the mission and vision of the Government. It is also involved in enrolling, reviewing, preparing and recommending guidelines for the recruitment, posting and deployment of teachers; providing teacher management and support services; allocating material and financial resources; and monitoring and evaluating the schools and teachers. It is the structure that recommends curriculum guidelines, curriculum package and syllabus for Primary Education. It also approves and issues guidelines on the quality of instructional materials intended for use in primary schools, as well as areas of projects or programs intervention in Primary Education under the Chief Education Officer's consultation.

9.3 Roles Tanzania Institute of Education (TIE) in supporting Schools

Tanzania Institute of Education is a semi autonomous body within the Ministry of Education and Vocational Training. The main roles which TIE plays in linking with MOEVT in supporting primary schools includes designing and developing curricula for Pre- primary, Primary, Secondary, and Teacher Education levels. Once TIE designs and develops a curriculum, it is sent to the Chief Education Officer at MOEVT for approval. Thereafter the developed and approved curricula are sent to the district levels for their implementation.

TIE is also responsible for carrying out pre-service (through providing curricula to TTC) as well as in-service training of teachers for efficient and effective implementation of curricula with financial and material support from MOEVT. However the role of pre- service trainings for teachers is primarily the function of MOEVT (through Teacher Training Colleges). TIE provides and oversees teaching methods, subject objectives and standard of teaching and learning materials. It is also provides

technical advice to the Government through MOEVT and other stakeholders with the ultimate objective of providing quality education at all levels.

9.4 Roles of MOEVT at Regional and District level

The Ministry of Education and Vocational Training (MOEVT) has decentralized the pre primary and primary Education into the regional and district levels; the aim of doing so is to consider the differences of various localities in the education development process. It was noted that the previous Education and Training Policy concentrated powers and decision making in the management and administration of education and training institutions at the ministerial level; attempts to involve regions, districts and communities in the management and administration of education and training institutions in their areas of jurisdiction was necessary.

MOEVT is represented at Regional and District levels by education and academic officers at each level. The main responsibilities of MOEVT at regional and district level include:

- Monitor and evaluate examinations at regional and district level
- Handle Teachers Resource Centers
- Supervise the inspectorate department
- Supervise the implementation of MOEVT educational policy, plan and laws.

Therefore the Regional and District authorities are responsible for all the educational and other programs implemented in Primary schools. This being the case all basic education based interventions are gradually being realigned to correspond with the Local Government Reform Programme which places emphasis on improved service delivery, autonomy in decision making, transparency, accountability and good governance. The decentralization process has made easy and effective implementation of different Education programs due to the fact that it was difficult for the central government to manage over 200,000 primary schools teachers and over 15, 500 primary schools. However the central Government still takes part in ensuring provision of quality education and maintaining parity among schools by providing equal services such as allocation teachers and teaching and learning materials. Specifically MOEVT provides equal capitation grants and other services in all schools; it also monitors programs through inspectorate.

10. Teachers Resource Centers

Teacher Resource Centre was established under the Tanzania Education and Training Policy of 1995. This is the crucial growth poles for teacher's academic and professional development and improvements.

The core functions of TRC's in Tanzania are to promote innovation and improvements in methods of teaching; to facilitate the exchange of professions, ideas and experience; to update the teaching and learning methods and techniques; to orient the curriculum changes; to encourage peer teaching for difficult topics/ contents; and to prepare mock and inter-schools examinations. TRCs are supposed to be used for in-service trainings in all levels of education from primary, secondary and teacher training education.

TRCs are owned by District Councils; there are 418 TRCs in Tanzania and they are supposed to be supported by the Government bursaries through District Council. However, most of TRCs are dormant due to the fact that they don't have the support as anticipated. Nachingwea Teacher Training Resource Center in Lindi and Monduli in Arusha region, Mikumi and Tegeta TRCs in Dar es Salaam are said to be the most active TRCs in Tanzania because

1. They have experience working for the different primary education projects such as Dar es Salaam Primary School Project (DPSP), Support to education in primary Schools (STEPS).
2. They have training facilities such as TV, Computers, Science and mathematics Kits, Projectors etc.
3. They are members of TRC Coalition hence they benefit from different trainings on capacity building, networking, and be informed on current issues in education area.

Generally MOEVT and TIE are working together in different areas at national, regional and district levels in terms of policy formulation and plans while the regional and District Councils are the implementers of the education programs. Teachers resource Centers are there to foster the networking and training of teachers in schools. (*Attached see attached Diagram for the above explanation*)

Master Teachers

70% of MOEVT and TIE officials are masters degree holders, and people with experience in teaching both in primary and Secondary schools and colleges; they have been working in the Central government for number of years thus exposed to different education development programs. In MOEVT there are both people with ICT skills and those with training skills. There are people with curriculum expertise at TIE who have experience in both curriculum reviews and curriculum development and also dissemination skills. Teacher Resource Centers are also crucial poles for in-service training of teachers in different program, and they been involved in a number of educational projects and dissemination of reviewed curriculum. These groups of expertise in Education will play a potential role in BIT project in areas of reviewing the curriculum (TIE), Training of Trainers (MOEVT) and training teachers at schools (TRCs).

10. Conclusions and recommendations

Tanzania is a country which has the population of over 30 million, of which 80% of its population lives in rural areas. These areas are characterized by poor infrastructure, poor transport facilities, shortage of power, ignorance which emanate into abject poverty. This being the case, most interventions should be directed to rural areas, which is always not the case.

Although most areas in Tanzania are poor, their poverty levels differ from one area to the other. This situation is also prevailing in the education sector, where you find that some regions are more advanced than others; some of the most unprivileged regions include regions along the coastal belt and pastoralists societies.

Below are the specific recommendations for the implementation of Bridgeit program in Tanzania.

Infrastructure at School level

In addition to the structures which Bridgeit project is going to contribute in these schools such as TVs, set top box, mobile phone, etc., we recommend that in order to be able to successfully implement the Bridgeit project in the above and other areas there is a crucial need to allocate source of power because many primary schools have no power.

Targeted Grade levels

Assessment of Tanzanian Curricular in comparison to the Philippines Text2Teach curriculum guide table of contents has indicated that the content in grade 5 in the Philippines correlate with standard 6 in Tanzania for both Science and mathematics and grade 4 in Philippines matches with standard 5 in Tanzania for both Science and mathematics curriculums. Therefore it is recommended that the grade levels to be targeted for BIT in Tanzania context remain standard 5 and 6, however this means that the digital content for grade 5 in Philippines could be used as basis for the content in Standard 6 in Tanzania but the Philippines content for Grade 5 is too advanced for Standard 5 in Tanzania, so this content will have to be created drawing from Pearson Knowledge Box content.

Gender Issues

There is a need to address gender issues in primary schools which are related to Gender discrimination where by a girl child and female teachers are treated as incapable and less important individuals in the educational development. Equal participation of both female and male teachers, female and male pupils in this project is important, and specific strategies in involving female gender are necessary to achieve that balance. Therefore at least 50% of female pupil should benefit from the Bridgeit project

Teachers Resource Centers

Due to the fact that TRC are basically the area where facilitation of Trainings are being done We recommend that they should be used as centers for the TOT for this project to create a sustainable source of trainers during pre- pilot, pilot and even scaling up process to follow.

Institutions and People to work with on Bridgeit

We recommend that people from MOEVT, TIE, FAWETZ and Teachers Resource Centers should be resource people for bridgeit project due to above mentioned potentials; this survey has recognized specific people who can be contacted first. Attached find names and institutions they belong to and how to contact them.

References:

- I. TIE Head office: The Tanzania Educational journal – January- June 2005
- II. Euan Davidson 2002-2004: The Progress of Primary Education Development Plan (PEDP) in Tanzania.
- III. Dissemination Report No 13: Female Education in Mathematics and Science in Africa.
- IV. MOEVT: 2003- 2007 Basic Education Statistics in Tanzania (National Data)
- V. MOEVT: 2006 Basic Education Statistics in Tanzania (Regional Data)
- VI. MOEVT: Science syllabus for primary Schools standard 1-V11
- VII. MOEVT : Mathematics syllabus for primary Schools standard 1-V11
- VIII. MOEVT: Information and Communication Technology syllabus for primary Schools.

Websites:

www.og.tz www.tie.og.tz www.fawe.org

Annex i
NAMES OF PEOPLE PROPOSED TO WORK IN BRIDGE / T PROJECT IN TANZANIA.

S/No	Name of Institution	Personnel	Contacts
1	MOEVT-Department of Primary Education MOEVT- Department of Teacher Education	<ol style="list-style-type: none"> 1) Mr. Jumanne Shauri- ICT focal point 2) Sara Mlaki – Gender Focal Point 3) Pambe Donald- COBEC Coordinator 4) Bakari Issa <ol style="list-style-type: none"> 1) Naomi Swai 2) Sara Kironde 	The Permanent Secretary, Ministry of Education and Vocational Training P.O. box 9121 Dar es Salaam.
2	Tanzania Institute of Education	<ol style="list-style-type: none"> 1) Mr Timanywa 2) 	The Director Tanzania Institute of Education P.O. Box 35094 Dar es Salaam.
3	FAWETZ	<ol style="list-style-type: none"> 1) Ms Zamaradi Said 	Chair Person, FAWETZ P.O. Box 63319 Dar es Salaam
4	Teacher Resource Centers. <ul style="list-style-type: none"> • Mikumi Teacher Resource Center- Dar es Salaam • Nachingwea Teacher Resource Center- Lindi 	<ol style="list-style-type: none"> 1) Anitha Masaki 2) Benadetha Kitambi 3) Sofia Mlay 	Municipal Education officer P.O. Box 31902 Dar es Salaam. Municipal Education officer P.O. box 80 Nachingwea- Lindi