# Educating Tanzanian Children for the Globalised World of the 21st Century

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Post retirement, he has carried out consultancies for various organisations and has written widely on primary education in Tanzania. He held the position of Coordinator of Uwezo Tanzania from August 2008 to April 2012.

# Abbreviations and Acronyms

| | |
|---|---|
| ATE | Association of Tanzania Employees |
| CRC | Committee on the Rights of the Child |
| CSEE | Certificate of Secondary Education Examination |
| DFID | Department for International Development |
| ECD | Early Chilhood Development |
| EdData II | Education Data for Decision Making |
| EGMA | Early Grade Mathematics Assessment |
| EGRA | Early Grade Reading Assessment |
| EQUIP | Education Quality Improvement Programme |
| ESR | Education for Self- Reliance |
| GER | Gross Enrolment Rate |
| GDP | Gross Domestic Product |
| ICT | Information Communication Technology |
| ILFS | Integrated Labour Force Survey |
| ILO | International Labour Office |
| IUCEA | Inter-University Council for East Africa |
| MMIC | Model Medium Income Country |
| MOE | Ministry of Education |
| NBS | National Bureau of Statistics |
| NECTA | National Examinations Council of Tanzania |
| NER | Net Enrolment Rate |
| NFYDP | National Five-Year Development Plan |
| OECD | Organisation for Economic Co-operation and Development |
| OIF | International Organization of La Francophonie |
| PISA | Programme for International Student Assessment |
| PORALG | President's Office Regional Administration and Local Government |
| PYP | Primary Year Programme |
| PSLE | Primary School Leaving Examination |
| PTR | Pupil Teacher Ratio |
| REPOA | Research on Poverty Alleviation |
| R&D | Research and Development |
| RTI | Research Triangle Institute International |
| SACMEQ | Southern African Consortium for the Measurement of Education Quality |
| SDI | Service Delivery Index |
| SSME | Snapshot of School Management Effectiveness |
| STEM | Science, Technology, Engineering and Mathematics |
| STI | Sciences, Technology and Innovation |
| TCU | Tanzania Commission for Universities |
| TIMSS | Trends in International Mathematics and Science Study |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UNICEF | United Nations Children's Fund |
| UNIDO | United Nations Industrial Development Organisation |
| URT | United Republic of Tanzania |
| USAID | United States Agency for International Development |

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# 1.0. Introduction

There is an almost universal acceptance that education plays a central role in personal and national development. That is why governments, even in the poorest countries, spend a substantial portion of their budget on education. Similarly, parents even those with least means, save and spend to ensure their children are educated. Policymakers around the world are preoccupied with ensuring to use education to equip their citizens with the knowledge and skills necessary to achieve their full potential, contribute to an increasingly interconnected world, and ultimately convert better skills into better lives. Highly educated people with skills are more likely to be employed and earn a higher income than those with lower levels of education. Since gaining independence, the Tanzanian leadership has prioritised education in national policies, plans and resource allocation.

The year 2017 marked 50 years of Education for Self-Reliance (ESR) that fundamentally changed the education system of Tanzania at the time. It also got international recognition as an education innovation from and for a developing country. ESR was the blueprint for a new education, relevant for a newly independent nation. In my opinion, the key feature of ESR was to build a sense of self-confidence among Tanzanians after years of being oppressed and humiliated by colonisation. The aim of ESR was to build a new Tanzanian, a Tanzanian who was equipped to take part in shaping a new Tanzania.

"It (education) must encourage the development of a proud, independent, and free citizenry which relies upon itself for its own development, and which knows the advantages and the problems of cooperation. It must ensure that the educated know themselves to be an integral part of the nation and recognise the responsibility to give greater service to the opportunities they have had." (Nyerere: 1968, 290). "Only free people conscious of their worth and their equality can build a free society" (Nyerere: 1968, 275).

ESR also had an economic aim, it was to prepare the youth for a rural life, to live and work there and improve the rural living standards. The concept of self-reliance is as relevant today as it was 50 years ago. Self- reliance in education, in the economy at the national level; as well as at personal level makes sense even today. ESR was not supposed to be a static document, prescribing solutions for the problems that the country faced in the late 60s, it was a philosophy to guide Tanzanian education, and the economy, for all times. Unfortunately, we – both politicians and academicians- have not articulated the relevance of ESR in the changing Tanzania. In the late 60s, the focus was on preparing children for Tanzania that was mostly rural. Currently, the majority of children are not looking for a life in rural Tanzania as peasants. They are looking for a life as employed or self-employed people, mostly in urban areas. We have a responsibility, as educators, to articulate how the principle of self-reliance can be used in current situation.

Fifty years on, the Tanzania of today is vastly different from Tanzania of 50 years ago. Sectors that drive the economy have changed over time. Although agriculture is still important as a large number of people still derive their income from agriculture, sectors that drive the economy are tourism, mining, construction, manufacturing and so on. In the next few years oil and gas sectors are going to be important. Changes are evident on the ground as well. All weather roads have been built where there were mud roads before; electricity has reached where there was darkness before. Fifty years ago, only a tiny proportion of people in the country had access to a telephone, now millions have mobile

phones, practically in every corner of the country. We are in the process of moving out of an economy dominated by agriculture to one fuelled by industries. We are slowly, but certainly, moving towards an industrialised Tanzania.

The expanding economy has increased opportunities for employment. Youth have opportunities in different fields such as – newspapers, TVs, radio, telecommunications, hospitality, banking and finance, music, sports, ICT related fields, fashion – and soon in oil and gas industries. Unfortunately, our education has been slow to respond to the changes that are taking place nationally and internationally. Our school system is functioning as if it is still preparing youth for government employment.

At the political level efforts have been made to articulate the role of education for the emerging economy. Vision 2025 sets out the agenda of making Tanzania a middle-income country by 2025. By 2025, it is envisaged that the economy of Tanzania will have transformed from a low productivity agricultural economy to a semi-industrialised one led by modernised and highly productive agricultural activities which are effectively integrated and buttressed by supportive industrial and service activities in the rural and urban areas. The Vision 2025 foresees making Tanzania a learning society which is confident; learns from its own development experience and that of others and owns and determines its own development agenda. The Vision too sees education playing a transformative role. It requires education to develop the human capital in tandem with the socio-economic changes envisaged in the Vision 2025. (URT: 1999). Unfortunately, little effort has gone into translating the vision into practice on the ground, reflecting a failure on the part of educational institutions and educationalists.

National Five-Year Development Plans (NFYDP) I and II elaborate how the transition to a semi-industrialised country will be achieved. To become a middle-income country by 2025, Tanzania will need a large number of highly skilled personnel in various fields. This will require a significant increase in the number of graduates, especially in engineering and science-related fields. A study commissioned by the Planning Commission (URT: 2014) assessed the skill-needs for Tanzania to achieve the middle-income status. Table 1 shows the manpower needed for various occupations.

| Table 1: Projected Targets of Skilled Labour Force (Professional Level) in Selected Occupations Needed to Achieve Middle Income Country Status By 2025 | | | |
|---|---|---|---|
| Occupation | As of June, 2012 | 2015/16 (Projected) | 2024/25 (Need) |
| Engineering, manufacturing, construction | 14,196 | 17,600 | 148,800 |
| Agriculture | 3,717 | 4,175 | 15,130 |
| Science | 16,049 | 20,920 | 87,100 |
| Health and welfare | 48,215 | 64,000 | 212,200 |
| Services | 105,433 | 119,200 | 400,600 |
| Social Services/ Business/ Law | 291 | 329 | 1089 |
| Humanities/arts | 8,738 | 9,870 | 32,680 |

*Source: URT (2014; pp. 3)*

The table shows that the demands on education sectors are staggering. To achieve sufficient labour force by 2025 will require planning and increased investment in education at all levels. A study by the United Nations Industrial Development Organisation Industrial (UNIDO) titled "Skills Survey" (URT: 2012) projects much higher needs for the country to achieve the middle-income status. The study concludes: The occupational categories in need of a higher proportional share of workers are those for which higher skills are required and, in particular, those categories linked to Science, Technology Engineering and Mathematics (STEM) degrees.

Taking Model Medium-Income Countries (MMIC) as a benchmark, Tanzania needs to almost triple the number of technicians and increase the number of professionals six-fold (as a percentage of the working population). If Tanzania is to reach middle-income status by 2025, nearly 300,000 engineers, architects and related technicians will be required, along with up to 90,000 physical scientists and related technicians and 70,000 life scientists and related technicians. (URT: 2012; pp. 72)

Supporting an industrial middle-income country structure will also require a massive increase in administrative and managerial positions by nearly 430,000. (URT: 2012; pp. 73) In order to achieve the targets set by NFYDP II (2016/17 – 2020/21), a five-year skill development plan was developed to address the critical and scarce skill gap in areas such as technology, health, construction, Information Communication Technology (ICT), mining, and agro-business. Table 2 shows the number of people to be trained for each sector.

| Table 2: National Skills Development Targets for Selected Sectors 2016/17 To 2020/21 | | | | | | |
|---|---|---|---|---|---|---|
| **Indusrty** | **2016/17** | **2017/18** | **2018/19** | **2019/20** | **2020/21** | **Total** |
| ICT | 1,584 | 1,584 | 1,584 | 1,584 | 1,584 | 7,920 |
| Health | 1,056 | 1,056 | 1,056 | 1,056 | 1,056 | 5,280 |
| Construction | 2,112 | 2,112 | 2,112 | 2,112 | 2,112 | 10,560 |
| Mining | 1,056 | 1,056 | 1,056 | 1,056 | 1,056 | 5,280 |
| Tourism | 2,112 | 2,112 | 2,112 | 2,112 | 2,112 | 10,560 |
| Agribusiness | 2,640 | 2,640 | 2,640 | 2,640 | 2,640 | 13,200 |
| **Total** | **10,557** | **10,557** | **10,557** | **10,557** | **10,557** | **52,800** |

*Source: (URT: 2015a; pp.7)*

The industrial policy formulated to achieve the goals of Vision 2015, sees the private sector to drive industrialisation in the country (URT: 1996; URT: 2011). However, one of the constraints that private sector faces is a shortage of skilled manpower. The shortage of skilled labour, at all levels, is one of the most serious constraints facing achieving the required levels of industrialisation. Value-added for a Tanzanian worker is 43% lower than in Kenya; 54% lower than in China and 37% lower than in India (ATE: 2010, 3). Low productivity makes Tanzanian products less competitive in international markets. According to employers, Tanzanian employees do generally have appropriate education qualifications but have, either low levels or lack of soft or behavioural skills that affect labour productivity. Here too we find lack of strategies developed by the educational institutions to ensure that we achieve the targets of the skilled manpower.

# 2.0 Education and Employment

Tanzania has sustained relatively high economic growth over the last decade, averaging 6–7% a year. At 6.8 %, in 2016, Tanzania's economy expanded quickly, putting it close to the top of the fastest growing economies in Sub-Saharan Africa (Delloite:2017,6). However, this rapid growth is not translating into increased employment for the population (Sabarwal: 2013, 7). This is a matter of concern as Tanzania has one of the youngest and rapidly growing population in the world (Sabarwal: 2013, 7). Investment in education, both for individual and for the nation, will be less productive if it does not lead to employment and increased earnings for individuals.

In recent years, Tanzania has made impressive gains in education. Enrolment in primary education is almost universal. Access to secondary and tertiary education has increased significantly. Despite increased enrolment, the problem of quality remains, especially at primary education level. Recent studies show that it is what people have learnt while at school and their ability to apply that knowledge that is strongly related to productivity and economic growth, much more so than the number of years of school attendance (Hanushek; Woessman: 2008). Basic skills that children learn in their early years of education, such as literacy, numeracy, and problem-solving become critical for them when they get employment. Acquisition of basic skills makes it easier for workers to acquire job-specific skills. They also allow workers to be adaptable to changing circumstances and be more open to new ideas. Low quality implies not only that school leavers are poorly equipped to perform in the labour-force but also that they have a poor foundation for acquiring further skills. This could translate into a lifetime of low earnings and high poverty for the workers themselves, and low productivity in the private sector in general. (Sabarwal: 2013, 13).

Poor quality of basic education has seeped upwards and is affecting the quality of tertiary education. Low quality of tertiary education in the country is a matter of concern. There is growing recognition that universities have potentially a powerful role to play in economic growth. Poor quality of higher education can seriously dent that potential. This concern has been raised at several levels. There is a public perception that quality has been compromised in the effort to expand enrolment in recent years. Employer satisfaction of the quality of university graduates has not been flattering. The Inter-University Council for East Africa (IUCEA) recently commissioned a survey of employers to seek their views on the employability of graduates from its member universities.

The survey revealed some stark and disturbing facts. Between 51% and 63% of the graduates were found to be 'half-baked', 'unfit for jobs' and 'lacking job market skills'. The worst performing countries were Uganda (63%) and Tanzania (61%). At a time when great efforts are being made to increase student enrolment in higher education and when the acute shortage of highly skilled human resources is proving to be a handicap to growth and development, these findings are, to put it mildly, alarming (Mohamedbhai: 2014). The poor quality of education results in poor skills development. Employers are concerned about the lack of skills among their employees. Several studies have shown that Tanzanian employers are not satisfied with the skill levels of the people they employ (Sabarwal: 2013; NBS: 2015). There appears to be mismatch between the education that schools provide and skills that employers require.

# 3.0 Challenges facing Education

There are many challenges facing Tanzanian education. In this section, we will discuss **three** key challenges that we feel are crucial. These are the challenge of learning, the challenge of inequality in education, and, perhaps the most important challenge that will affect the industrialisation process - challenge of the unpopularity of science and mathematics in schools at all levels. National development in the 21st Century will be driven by technology and for that, we need manpower who are technological savvy. Digital literacy will be required for practically every job in future.

## 3.1    Challenge of Learning

"The key to ensuring that all children succeed at school is to enable them to attain critical foundational skills, such as reading and basic mathematics. Without these basic skills, many children will struggle to keep up with the prescribed curriculum, and learning disparities will widen for disadvantaged children" (UNESCO: 2014).

In the last couple of decades, Tanzania has taken great strides to ensure children are in schools. Nearly every child who should be in primary school is currently enrolled in school. However, studies show that many of the children who enrol in schools are not learning what they should be. Assessment of learning outcome such as Uwezo and EGRA and EGMA highlight this issue.

In recent years several national assessments have been carried out to measure what children are learning in school. All national assessments show that primary education is providing poor quality of education and children are not learning what they should be. Uwezo, initiative established in 2007 to specifically assess learning outcomes, has been carrying out an assessment of learning outcomes since 2011. Table 3 summarises the Uwezo findings since 2011. Perhaps the most heartening thing that the table shows is that Kiswahili reading ability of children in standard three has improved significantly from 2011. In 2011 only, 29 percent of standard three children assessed were able to read a simple Kiswahili text. By 2015, the number had risen to 56 percent. Improvement in Kiswahili reading was also noticed for children in standard seven where the number of children who could read a standard 2 text in Kiswahili increased from 76 percent in 2011 to 89 percent in 2015. Despite this improvement, it is a matter of concern that more than ten percent of children who finish seven years of education are illiterate.

Reading levels in English were low at all levels of education, and there was no improvement over the years. The Uwezo reports show that half of the children in standard seven were unable to read a standard 2 level text in English. This is particularly worrying as some of these children will be joining secondary schools where the medium of learning is English.

| Table 3: Pass Rate % by Subjects and Class 2011-2015 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Kiswahili | | | English | | | Mathematics | | |
| | Std. 3 | Std. 7 | Total | Std. 3 | Std. 7 | Total | Std. 3 | Std. 7 | Total |
| 2011 | 29 | 76 | 41 | 12 | 48 | 22 | 37 | 84 | 49 |
| 2012 | 28 | 76 | 40 | 12 | 53 | 23 | 44 | 89 | 56 |
| 2013 | 45 | 81 | 52 | 19 | 56 | 27 | 32 | 70 | 40 |
| 2014 | 55 | 85 | 57 | 21 | 56 | 25 | 35 | 76 | 41 |
| 2015 | 56 | 89 | 54 | 13 | 48 | 19 | 35 | 78 | 40 |

*Source: Uwezo: 2017; 23)*

Performance of children in mathematics was also poor. Only about one-third of children in standard 3 passed the mathematics test. The pass rate for standard seven children ranged from 84 percent in 2011 to 70 percent in 2013. There was no improvement over the last five years. It should be a matter of concern to all that:

- 11% of the children in standard 7 could not read a simple standard 2 level text in Kiswahili
- 52% of the children in standard 7 could not read simple standard 2 level text in English
- 22% of the children in standard 7 could not do standard 2 level mathematics sum.

Other assessments (USAID: 2015, EQUIP: 2015) of learning outcomes confirm what Uwezo assessments over the years have shown, that a large number of our children in schools are not developing basic literacy and numeracy skills.

### 3.1.1 Why are our children not learning?
Why are students performing so poorly, despite the fact that government is allocating more and more resources to the sector? Many input indicators show significant improvements in recent years. For example, in 2011, 30 children shared a textbook between them; in 2014, 8 children shared a textbook and in 2015, 3 children were sharing a textbook. The textbook situation has improved considerably. Similarly, PTR ratio improved significantly, from 1:47 in 2012 to 1:42 in 2016 (URT: 2016b). There are more teachers in primary schools than ever before. Why is the provision of more textbooks and employment of more teachers not leading to improved performance of our children?

One of the reasons for poor performance has to do with attendance of both of teachers and pupils. Uwezo 2017 report states that on the day of the school visit, 25% of teachers and 29% of the children were not in school (Uwezo: 2017). Teacher absenteeism figures are consistent over years. A World Bank/ REPOA study on Service Delivery Index (SDI) found that on any given day on average, 14 percent of teachers were found to be absent from school and even more significant was the finding that 37 percent of teachers *in school but were* not in the class teaching. Absenteeism from the classroom was 46.5 percent nationally. While in the classroom, teachers spent about 12 percent of the time on non-teaching activities. Combining these three indicators, the results show that pupils only had 2 hours and 47 minutes of teaching time every day (World Bank: 2016, 6,7).

This simply means that at any point in time, almost half of the Tanzanian primary school teachers are outside the classroom and are thus not teaching. As expenditure on teachers represents by far the largest share of education spending in developing countries including Tanzania, this very high absence from classroom clearly constitutes an important waste of time and resources with half of the time of teachers not utilized interacting with their pupils. Interestingly, absence from classroom does not vary much across regions (World Bank: 2016, 22).

The SDI study found that content knowledge among teachers was extremely low. Minimum content knowledge – teachers' content knowledge and ability to teach was calculated on the basis of a custom designed teacher test administered to the standard four mathematics and English teachers of the 2013 and 2014 pupil cohorts. The objective of the teacher test was to examine whether teachers had the basic reading, writing, and arithmetic skills that lower primary pupils need to have in order to progress further with their education. Teachers were considered capable of teaching if they score at least 80 percent on the tests, which is interpreted as the *minimum* knowledge required for the teacher to be effective. Only one out of five (21.5 percent) teachers scored more than 80 percent on the combined mathematics and English test. Overall most teachers displayed disappointing levels of content knowledge (World Bank: 2016, 28).

Poor content knowledge of teachers and their absence from classrooms are main causes of poor learning among the children. How can children learn when teachers are not in class teaching and how can children learn when they are absent from school? Not all Tanzanian children are affected by poor learning outcomes. Those children who attend private schools perform much better than those who attend government schools.

## 3.2   Challenges of Inequality: Increasing Privatisation of Education

There are many inequalities in Tanzanian education. Education access and outcomes are affected by gender, location, and, socio-economic status of children. However, in this section we will discuss the inequality resulting from increasing privatisation of education in the country. The privatisation of education has become a matter of concern internationally. In 2016, 57 head of States from Francophonie countries signed a declaration against the commercialisation of education. The Declaration reads:

> Noting the development of academic and educational establishments with a commercial purpose, and committed to public, free and of quality education for all, we ask the OIF and the Conference of the Ministers of Education of States and Governments of the Francophonie (Confémen), in collaboration with civil society, to continue the reflection raised during the Kinshasa Summit (2012), and to take measures to promote efficient institutional mechanisms for the regulation of private actors in education, in order to ensure quality and equity of education services.
> http://globalinitiative-escr.org/57-head-of-states-signed-a-declaration-without-precedent-against-commercialisation-of-education/

The United Nations Committee on the Rights of the Child (CRC) has carried out reviews of education systems in various countries. After the review of the Moroccan education, CRC raised serious concern about it. It stated:

> Increased privatization of schools in Morocco is benefiting the elite and maintaining a mediocre public education system for the rest of the population. Increasing privatization in education in Morocco without strong government regulation is discriminatory, likely to exacerbate inequality, and if not properly dealt with in an expeditious manner would rise to a violation of Morocco's obligations under international human rights law', a leading coalition of non-governmental organisations said today.
> http://globalinitiative-escr.org/privatization-of-education-in-morocco-breaches-human-rights-new-report-2/

In the last two decades, Tanzania has seen a dramatic increase in scale and scope of non-state actors in education. Although most of the investment has happened in schools that are to make a profit by providing quality education for the children of the high and middle-income parents, faith-based schools have also been established to provide quality education for children of respective faiths. In terms of human rights, the practice of privatization of education conflicts with the principle of the right to free, quality, compulsory education without discrimination enshrined in the Convention on the Rights of the Child to which Tanzania is a signatory. It is surprising, despite the vast inequality this is creating among the children of Tanzania, the issue has not received the public attention it deserves.

In Tanzania, non-government education is driven by profit motive and religion. Education is seen either as a means to make money or to ensure that children of a particular faith get better education than other children. A large number of non-government schools are run by Christian organisations

and some by Muslims. In 2017, only 1,217 or 7.0 percent of 17,357 primary schools in the country were non-government. In terms of numbers, children enrolled in non-government primary schools were tiny compared to overall enrolment in primary schools. In 2016, only 348,681 or 3.7 % of 9,317,791 enrolled in primary schools were in non-government schools. Non-government involvement in primary education was almost negligible in the past but is steadily increasing in recent years. In 1992, there were only 15 non-government primary schools in the country out of a total of 10,960 schools. In 2000, the number increased to 46 which was only 0.4 percent of the total of 11,654 schools. The number of non-governmental schools started increasing rapidly after 2000 (URT: 2018). The proportion of pupils in non-government schools has been increasing steadily in recent years. The increase in non-governmental primary schools, maybe, is a reflection of the poor quality of education that is provided by government schools. Parents, who can afford it, try to give their children the education that they deserve. Non-governmental schools are unequally distributed, most of the non-governmental primary schools are in urban areas. Of the 655 primary schools in Dar es Salaam, 279 or 42.6 percent were non-governmental. In Arusha City Council, 94 of the 142, or 66.2% of the primary schools were non-governmental. There were very few non-governmental schools in poor and rural areas. In 2017, there were only 4 non- governmental schools in Lindi out of a total of 502 primary schools, 0.8 percent. In Mtwara only 0.9 percent of the primary schools were non-government (URT: 2018). Most of the private primary schools are located in urban or semi-urban areas of the country. This is understandable as wealth is concentrated in urban areas while the rural areas suffer poverty (URT: 2013, 3).

Should we be concerned about this small private sector in education? We should be as it is creating unequal access to quality education based on your religion, where you reside and how much you can pay. Children of parents who can afford the fees get good quality of education while the vast majority of children, coming from poor families, get poor quality education. One thing is common with all the non-government primary schools, that they are English medium as opposed to all government primary schools which are Kiswahili medium. There are different types of non-government primary schools. At the top there are international schools or academies who charge exorbitant fees, ranging between 5 and 20 million shillings per year. Aga Khan primary school charges a fee of USD 4,200 per year. Nearly all of the high fee-charging schools do not follow the national curriculum. Heaven of Peace Academy, which charges an annual fee of 15.5 million uses the Cambridge curriculum. Aga Khan primary school uses Primary Year Programme (PYP) curriculum for age 3-12. Other schools like Feza offer both national and international curriculum. Fees charged for national curriculum is slightly lower than for the international curriculum. On the whole, the fees charged by most non-governmental schools are high which results in keeping out the vast majority of children from accessing these schools.

To make sure that they get children whose parents are willing to pay high fees, these schools have to deliver - and deliver they do. Of the top 100 better-performing schools in PSLE in 2016, only six were government schools and of the 100 worst performing schools in PSLE in 2016, all were government schools. The majority of the top performing schools are non-government. Of the total 300 top performing schools in PSLE 2016, 180 were non- government (Data from NECTA website).

Table 4 compares the performance between the government and non-government primary schools. The table shows that nearly 90 percent of the children in the top 100 best performing non-government schools obtained an A, and the rest obtained a B. There were no Cs, Ds and Es. Compared to this, less than half of children from the 100 best performing government schools obtained an A grade. The performance of children in the bottom performing schools was extremely poor. Of the 3,264 children who sat the PSLE in 2016, only 4.6% passed and most of them with a C grade.

| Table 4: Comparison in Performance in PSLE 2016 Between Government and Non-Government Schools | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Average Grade 250 | **Grade** | | | | | **% Pass** | **No. Pupils** |
| | | **A** | **B** | **C** | **D** | **E** | | |
| Top 100 Private Schools | 215.60 (86.2%) | 89.1 | 10.9 | 0 | 0 | 0 | 100.0 | 4,216 |
| Top 100 Government Schools | 194.33 (77.7%) | 42.9 | 53.7 | 2.7 | 0.6 | 0.1 | 99.3 | 3,961 |
| Bottom 100 All government | 56.93 (22.8) | 0.0 | 0.1 | 4.5 | 53.2 | 42.2 | 4.6 | 3,264 |
| National Average | | N/A | N/A | N/A | N/A | N/A | 70.4 | 789,479 |

*Source: MOEST Open Data and NECTA website*

Unlike in primary schools, provision of secondary education by non-government agents has been significant for a long time. Similarly, of the top 100 better-performing schools in Form 4 exam, only 8 were government schools. The top best-performing government secondary school was Kibaha which was ranked 17 in the national ranking and the 100th best-performing government school was Ushokola which was ranked 613 in the national ranking. This means that, of the top 613 best performing schools in CSEE 2016, 500 were non-government schools. How big is the difference in performance?

| Table 5: Comparison in Performance in CSEE 2016 Between Government and Non-Government Schools | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Range Av. GPA | **Division** | | | | | **% Division 1-3** | **No. Students** |
| | | **1** | **2** | **3** | **4** | **Fail** | | |
| Top 100 Private Schools | 1.4769 to 2.4728 | 44.0 | 45.8 | 9.3 | 0.9 | 0 | 99.1 | 8514 |
| Top 100 Government Schools | 1.8587 to 3.7197 | 10.7 | 24.2 | 26.3 | 31.7 | 7.1 | 61.2 | 10,446 |
| Bottom 100 All government | 4.6313 to 4.9243 | 0.0 | 0.8 | 3.4 | 27.4 | 68.4 | 4.2 | 9117 |
| National Average | | 2.7 | 9.3 | 15.6 | 42.8 | 29.7 | 27.6 | 349,524 |

*Source: NECTA website*

Table 5 compares the performances between the top 100 non-governments and top 100 government schools. It also compares with the top schools with the bottom 100 schools. Nearly 90 percent of the 8,514 students who sat for the CSEE in 2016 from the top 100 non-government schools received either an A or B. Nationally, only 12 percent of the candidates get either A or B grade. All these students will be admitted to Form 5. Only 35 percent of the students from the top government schools obtained an A or B. More than 95 percent of the students from the 100 bottom performing schools, all government, obtained a division 4 or 0, with no hope for further education.

## 3.3    Challenge of Low Student interest in Mathematics and Sciences

For Tanzania to become a semi-industrialised country by 2025, it requires manpower in STEM areas. This is because development in Tanzania, and in the rest of the world, will be driven by technology. To drive that development and to function in the modern world our children need to be competent in mathematics and science. Many children in Tanzania do not like mathematics and science. This is

perhaps a reflection on how these subjects are taught in early years. Data is available on how students perform in CSEE in various subjects. The subject with the lowest pass rate has been Basic Mathematics, less than 20 percent of students sitting the exam pass. It is a matter of concern that more than 80 percent of students fail basic mathematics after studying for 11 years. Over time our education system seems to have created a mental block among our children against mathematics. Table 6 shows the pass rate in CSEE by subjects.

| Table 6: Form 4 Examinations (CSEE) Pass Rates in Selected Subjects 2009 - 2016 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Subject | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| Kiswahili | 70.4 | 50.4 | 37.1 | 47.7 | 67.8 | 69.6 | 77.6 | 77.7 |
| English | 57.9 | 30.1 | 30.1 | 26.1 | 45.7 | 55.1 | 56.2 | 64.3 |
| Biology | 43.2 | 30.5 | 43.4 | 30.5 | 37.1 | 48.3 | 53.7 | 55.7 |
| Basic Mathematics | 17.8 | 16.1 | 14.6 | 11.3 | 17.8 | 19.6 | 16.8 | 18.1 |
| Physics | 55.5 | 44.6 | 43.2 | 42.5 | 44.1 | 46.7 | 44.3 | 44.8 |
| Chemistry | 57.1 | 43.9 | 43.3 | 46.0 | 50.2 | 56.7 | 60.1 | 59.2 |

*Source: URT (2015) Pre-Primary, Primary and Secondary Education Statistics 2014: National Data Dodoma: Prime Minister's Office: Regional Administration and Local Government*

The table shows that the lowest pass rate is in mathematics followed by physics. Poor pass rates in science subjects means a smaller pool of students who could do science and mathematics at the university level. In 2016 CSEE, the number of students who passed basic mathematics was 62,990; those passing physics were 57,453 and 96,651 passed chemistry. Compared to science subjects many students passed arts subjects. In 2016, a total of 170,026 students passed civics, 270,404 passed Kiswahili, 223,508 passed English, 163,588 passed History and 177,750 passed geography. Biology seems to be an exception, 192,994 students passed it (URT: 2018, 336). It is obvious that the majority of students at the tertiary level will study arts subjects.

The low number of students passing science and mathematics is reflected in the enrolment at university. Currently, there are 32 universities in the country, of which 11 are public. Total enrolment in universities and university colleges was 218,959 of whom 144,157 (65.8%) were in public universities and 74,802 (34.2%) were in private universities (TCU: 2015). The growth rate in public universities in recent years has been impressive, increasing by 3.9% in 2010/2011; by 21.1% in 2011/2012; by 14.7% in 2012/2013 and by 11.6% in 2013/2014. Enrolment in private universities and colleges has more than doubled between 2009/2010 and 2013/2014; from 33985 to 74802 (TCU: 2015). Gender remains a problem in enrolment at the tertiary level. From 2009/2010 to 2013/2014 the female-male ratio has remained 36: 64 (TCU: 2015).

# 4.0 Government Interventions to address the challenges

As discussed earlier, in order for the nation to achieve the middle income country status, it will require a large number of STEM graduates. The enrolment in our universities does not reflect this priority. We may be producing a large number of graduates whose skills are not needed for national development. In 2013/2014, out of 218,956 students, only 56,476 (25.8%) were taking science-related courses. What is disturbing being the fact that the proportion of students enrolled in science programmes has fallen from 34.0% in 2006/2007 to 25.8% in 2013/2014. The largest number of these students, 15,270, were in science and ICT programme. Numbers in other science programmes were 12,600 in engineering; 13,124 in science; 10,351 in medicine; 2867 in agriculture and 2,263 in natural science. Not only is the proportion of STEM students lower than that of art students, but their rate of increase is much lower than that of art students. Between 2009/2010 and 2013/2014, the number of students enrolled in arts subjects increased by 90.4% compared to a 48.3% increase for the science students (TCU: 2015). The fewer number of students enrolled in STEM fields at the tertiary level is a reflection of the low number of students opting for science subjects at the secondary school level. Despite the efforts made by the government to popularise and prioritise science education, students are not opting for science subjects. The proportion of female students in science subjects has remained around 30% between 2009/2010 and 2013/2014 and around 36% in arts subjects (TCU: 2015).

The Tanzanian government is cognisant of the fact that the education system is not delivering in terms of both quantity and quality creating a mismatch between education outputs and demands of the workplace. FYDP I and II propose interventions to address the shortcomings in the education sector. The Five Year Development Plans are blueprints for achieving the middle-income target for Tanzania. The Plans indicate how interventions in various economic and social sectors will lead Tanzania to become a semi-industrial country by 2025. Targets and interventions in the education sector are of interest for this paper. Tanzania FYDP II sets targets in the education sector that need to be achieved by 2025 for the country to have the required manpower to become a semi-industrialised country (URT: 2016). The focus of interventions is to build the technological base of the workforce. During the implementation of FYDP II, emphasis will be on the accumulation of internal science, technology and innovation (STI) capabilities through investing in human capital, institutions, improving innovation systems and upgrading in industrial clusters and global value chains.

The government aims to achieve the required high-level manpower through various interventions. These include increasing R&D expenditure; by supporting private sector R&D initiatives; supporting universities and research centres; by securing international scientific and technical cooperation agreements and by strengthening science, technology and innovation capabilities. The targets to be achieved by 2025/26 are ambitious. By 2025/26 it is expected that GER at tertiary level will rise from 3.0 percent in 2014/15 to 6.0 percent by 2025/26. This will require the number of students graduating every year from tertiary institutions to rise from 40,000 in 2014/15 to 120,000 by 2025/26. As the current and future employees will require skills in STEM fields, the plan expects the proportion of science and engineering students will rise from 30 percent in 2014/15 to 56 percent in 2020/21 and to 63 percent in 2025/26. The Plan also projects the average number of graduates from vocational schools to rise from 150,000 in 2014/15 to 1,000,000 by 2025/26.

NFYDP II also sets targets for lower levels of education. The government realises the importance of early childhood education (ECD). It is expected that through various interventions GER in pre-primary will rise to 100 percent by 2025/26. The Plan envisages that by 2020 Net Enrolment Ratio (NER) will increase to 50 percent for pre-primary; to 100 percent for primary; and 50% for secondary education

from the current NER of 44.6 in pre-primary, 84.0 in primary and 33.7 in secondary (URT: 2018). To achieve the projected NER levels will require a great deal of efforts. For example, currently, nearly 300,000 children are not in school. To put them in class would require additional 7,000 classrooms and as many new teachers on top of clearing the backlog of classrooms. In 2017, the nation had a shortage of 82,632 classrooms (URT: 2018). Similarly, there was a shortage of more than 20,000 teachers. The problem is made worse by high dropout in standard one. In 2017, a total of 26,986 children dropped out of school before they completed even one year of primary education. More than 100,000 dropped out in primary schools in all classes (URT: 2018). Efforts will need to be made to ensure all children enrol in school and also to ensure that no child drops out before completing seven years of primary schooling. To achieve the targets set by 2020, only two years from now would require considerable financial resources and planning.

Achieving the qualitative targets – to raise the pass rate in PSLE to 75 percent; in CSEE to 85 percent and in ACSEE to 100 percent will be even more difficult. The quantitative and qualitative targets are expected to be achieved through improving qualified teacher-pupil/student ratios at all levels; improving teaching and learning environment (classrooms, desks, textbooks, latrines/toilets ratios; boarding for girls; etc.); increasing access to student loans at tertiary level; expanding use of ICT in teaching and learning at all levels; and by improving the working environment for teaching staff at all levels (commensurate with remuneration, housing close to work premises (URT: 2016; 80/81). It is realised that the quality of education will largely depend on the teaching that takes place. FYDP II realises the importance of teachers in improving the quality of education. The Plan realises that it is vital to improve the professional competencies of teachers and to raise their morale by improving the quality of teaching environment.

Bridging the identified skill gaps will be the key focus of FYDP II. Key targets to be achieved by 2020 will be to have 12.1 percent of the working population with high-level skills and to have 33.7 percent of the population with middle-level skills. This will significantly raise the skill levels of the -working population. A study which was done in 2014 (URT: 2014, 4) compared the actual enrolment with the projected enrolments for the year 2011/12 and found a wide gap. The study showed that the projected target for engineering was 5.6 times higher than the actual enrolment; 4 times higher than the actual enrolment in agriculture, and the projected enrolment was 22.5 times than the actual enrolment for health and medical sciences. In sciences and ICT, the projected enrolment was 4 times the actual enrolment. In actual numbers it was projected that 14,196 would be enrolled in engineering, science, manufacturing and construction fields, the actual enrolment was 2,540. Without concerted efforts at all levels, it is unlikely that enrolment in education will come even close to what is expected. The only area where enrolment is close to expected was in social sciences, businesses and law where the projected enrolment was 0.6 times of the actual. These figures show the enormity of the problem that Tanzania is facing to ensure that it will have enough manpower to meet the demands of a middle– income country by 2025/26 (URT: 2014, 4).

The Plan lists several interventions that need to be implemented to ensure availability of the required manpower. Some of the interventions are;
- Match the training with the labour market demands by having relevant curricula, by having the necessary equipment and infrastructure for practical training and by hiring the required number of skilled teachers.
- Organise internship, and apprenticeship for graduates at workplaces.
- Encourage entrepreneurship in agri-business by training 2,500 graduates in agribusiness skills to establish agribusiness enterprises. A total of 20 Agriculture and Livestock Training Institutes will be equipped to ensure they provide competency-based training.
- Vocational training institutions and Folk Development Colleges will be equipped to cater for increased enrolment and improved training (URT: 2016, 86).

# 5.0 Way forward

As discussed in earlier sections, Tanzanian education is facing several challenges that need to be addressed to ensure that the country produces manpower required to become a semi-industrialised country by 2025. Government, as we have discussed, has set targets and developed strategies to ensure that the education delivers. In this section we will discuss what other measures can be taken to make education a dynamic force in the national development process. In order for this to happen, all the stakeholders have to be accountable for their actions and activities. All stakeholders, from the government to parents have to play their part to ensure education becomes a tool that supports the national vision of making Tanzania a middle-income country by 2025.

## 5.1    Focus on Accountability

In recent years, accountability in education has become a major concern. For instance, the theme of 2017/18 Global Education Monitoring Report is accountability (UNESCO: 2017). To ensure that the education system in Tanzania provide quality education to all its children would require collective efforts by all the stakeholders – from the government to children and their parents. All the actors have to make a concerted effort to meet their responsibilities. In education it is impossible to reasonably pin blame on one individual or one entity. Most often the entity with the least power in the chain, schools or teachers, are blamed for the failures. As they are the end of the chain of actors, interacting with students, it is easy to fix blame on them. However, teachers and schools do not work in isolation, they depend on the government to provide resources and depend on parents to ensure that children attend school. Teachers normally would blame the children or their parents. We have to come out of the blame game and devise ways of ensuring accountability across the board. This interdependence is one of several factors limiting the effectiveness of accountability mechanisms in education. It is possible to identify individuals and institutions and responsibilities for which they are accountable. However, its presence or absence influences the way students learn, teachers teach and governments govern. Good accountability mechanisms encourage collaboration between different actors leading to an inclusive, equitable, and good-quality education. Poorly designed accountability can cause more harm than good.

In discussing accountability in Tanzania, the following four issues need to be considered:
- Which approaches to accountability will be appropriate in the Tanzanian situation?
- Under what conditions or circumstances can these approaches be effective?
- How can an enabling environment be provided to ensure accountability, and,
- How can accountability policies take into account the interdependence of actors working towards a shared aim?

Accountability is a means of ensuring that all individuals and institutions are meeting their responsibilities and are carrying out the assigned tasks. For this to happen, it is important that individuals and institutions know what their responsibilities are. It is also important that there is a reporting mechanism on how responsibilities have been met, and this reporting is done regularly. All stakeholders should have clear goals against which the accountability is evaluated. One of the problems of ensuring accountability in education is the interdependence between various individuals and institutions involved. For example, schools cannot operate if funds are not received from the government on time. The context in which education is provided also matters. All schools in Tanzania are equal in certain aspects but unequal in others. They are equal in the sense that they follow the same national curricula, use the same textbooks supplied by the state, are funded by the state, teachers are trained under the same system, are inspected by the same inspectors and so on. However, in other aspects, they are different. Some schools have more teachers than other schools, some have more male teachers or female teachers. But, the most significant difference is the children they educate. Some schools educate children from rich families, while other schools have most of their children from poor families. Rural and urban schools differ in many aspects that affect how these schools function. Rural schools in Tanzania have more pupils

per teacher than urban schools. Often it takes a longer time before rural schools receive textbooks or funds from the government compared to urban schools. In some areas children may have to walk long distances before they reach school, malnutrition is also common in some parts of the country. One cannot expect that all the children would learn similarly. To have one accountability system for all the schools would not be justified or fair. An accountability approach cannot succeed if different actors operate with different levels of resources. The primary responsibility of the accountability comes to teachers, who carry the responsibility for educating and bear the brunt of accountability efforts. However, how can teachers be held responsible if classrooms have more children than they can accommodate, if there are no desks, textbooks are inadequate, and they are not provided with regular in-service training? How can teachers be held responsible if children come hungry to school and tired from walking too long to school?

### 5.1.1 Holding the Government Accountable

In Tanzania, like in other developing countries, interest in the functioning of the education is high as it affects the future well-being of children and the nation. It is the national government that is responsible to ensure that inclusive, equitable and high-quality education is provided for all the children. Therefore many actors such as civil society, parents associations, teachers' unions, the media and donor agencies, reflecting the strong public interest in the functioning of the sector, can and do hold governments accountable for education. However, , those who are directly affected by the government policies and practices in education, i.e. parents and children, have few, if any, mechanisms available to hold the government accountable. Most parents, especially the uneducated ones in rural areas, would likely see education as a favour provided to them by the government and any attempt to introduce accountability, raises challenges. With the introduction of fee-free education both at the primary and secondary school level, this feeling that the government is doing its citizens a favour may have grown. The provision of social services that benefit the people is not seen as the responsibility of the government. One way through which the Tanzanian government is held responsible is through national elections every five years. However, education quality is just one of the many issues that concern the citizens, and education may not be of the priority concern. There is no example, anywhere in the world, where the government has been voted out because of the poor quality of education provided to its citizens.

As stated earlier, governments have the responsibility to set and execute education policies, allocate resources, seek reports on activities and funds used. Holding the governments accountable is very difficult as the government is not a single, uniform actor but is composed of many sectors, departments, levels and authorities. In Tanzania, there are various groups and institutions that hold the government to account. These include political parties, civil society organisations, and the media. CSOs often conduct research that is used to build media campaigns to hold national and local governments to account. In Tanzania, Uwezo has conducted an assessment of learning outcomes to highlight policy and practice deficiencies in the education sector. Organisations such as HakiElimu have been conducting budget tracking analysis to see if funds are reaching schools on time. In many countries now, governments have accepted the role of CSOs. The ability of CSOs in holding the government accountable largely depends on the capacity of the CSOs, especially in terms of their expertise.

The proliferation of newspapers, TV stations and social media has created a huge potential to raise the visibility of education issues, putting pressure on education actors to meet their responsibilities and pursue policy change. By exposing evidence and directing focus, they can set the agenda for the public and policy-makers. No government likes criticism and often there is pushback against various media, but the struggle to hold governments accountable in many countries continues.

### 5.1.2 Holding Schools Accountable

The role of schools is to provide children with literacy and numeracy skills, general and specialised knowledge, an understanding of their environment and transferable life and workplace competencies, such as problem-solving, creativity and interpersonal communication. Schools are also expected to shape values and in a safe and healthy environment. Schools receive most of the funding from the government and are accountable to the government. Governments ensure that schools have adequate resources and other inputs to enable them to perform the assigned tasks. Governments also determine the curricula that the schools teach and monitor their activities in various ways. On the other hand, schools are

also accountable, perhaps to a lesser account, to parents and students. In private schools, parents can decide to take their children to another school, if they are unhappy or if they feel their children are not getting the education that they expect. Changing schools is not an option for many parents who send their children to government schools. Holding schools accountable is also not feasible in a country like Tanzania where many of the parents are not literate. Parents are also involved in school affairs through school management committees. The extent to which parents can hold schools accountable through membership of school committees would largely depend on their education, knowledge and abilities.

### 5.1.3 School Inspections
School inspections are an essential instrument of the government to hold schools and teachers accountable. Schools are by law expected to be inspected by government inspectors at least once a year. Inspectors act as a link between the school and the ministry. Inspectors also play a key part of the country's monitoring systems, and are often mandated by national or local authorities. The main aim is to ensure that schools are meeting the set standards. Government learns about the strength and shortcomings of schools from inspectors' reports. Inspectors also advise schools, through their reports on how to improve the school performance. Its impact, however, depends on how it is done, and whether the results are used as a tool to drive improvement of school performance. If inspections are not done effectively, if communication and feedback are lacking, if there is no follow up on recommendations, and if there is no way of assessing whether inspections deliver or not, then school inspections can be reduced to a waste of public resources and time (UNESCO: 2018, 45).

Tanzanian experience with school inspection has not been positive. It is not clear how inspection helped in improving quality of education or brought any other positive changes in schools and in teaching. In 2008, the National Audit Office conducted a performance audit of the secondary schools' inspection programme. This audit was prompted by mass failure in CSEE, especially in sciences and mathematics. The audit, which focused on inspection activities conducted between 2004 and 2006, aimed at assessing whether the school inspectorate programme appropriately fulfils its mission to safeguard the good quality of teaching and whether it addresses the problem of poorly performing students in secondary schools (Uwazi: 2009). The report showed that the school inspectorate programme was failing at many levels. It failed to achieve the primary goal of inspection – that of safeguarding the quality of instruction. It failed to prioritise the issues of poor performance of students in the inspection cycle. The inspectorate also failed to effectively communicate and follow up on the implementation of recommendations, and by failing to monitor the effectiveness of school inspections.

Whole school inspections are supposed to be done once every year. However, this target was not achieved during any year under review. Percentages of schools inspected ranged between 54 percent in 2007/08 and 9 percent in 2008/09. Various reasons were given for this failure. These included inadequate personnel, lack of transport, office space, equipment and housing. The audit report was scathing; it found that even when an inspection was done, the key questions of poor performance of students in vital subjects – sciences and mathematics – was not addressed. The inspection also did not sufficiently address the problem of poor performing students. The audit also found that the reports which the inspectors generated were not circulated in a way that would lead to holding the schools and teachers accountable. The audit also found that the kind of suggestions and recommendations that the inspectors made were not useful to school administrations in supporting better performance (Uwazi: 2009, 6).

### 5.1.4 National Examinations
The performance of schools in national examinations provides information to the government and parents on how a particular school is performing. In Tanzania, both primary and secondary schools, are ranked by their performance in PSLE and CSEE. However, it is not clear what actions are taken against those schools that perform poorly. Critics argue that tightly tying a single score to school livelihood is unfair, as test results are heavily determined by factors outside school control, such as natural ability, socio-economic background, afterschool tutoring and parental involvement (UNESCO: 2018,52). Blame for school failure cannot be laid at the feet of school administration and teachers alone. Schools have very little autonomy. Their powers are limited. Without decision-making control over hiring, budgeting and resource allocation, schools and communities can do little to change. Giving schools control has shown positive effects. For instance, in the Republic of Korea, school autonomy

over curriculum and instructional assessment had a statistically positive (page 54) association with mathematics achievement (UNESCO: 2018, 54).

## 5.1.5  Holding Teachers Accountable

Teachers have primary responsibility for educating students. There are pressures on teachers from different stakeholders to perform. Good teaching involves many activities, including preparing, giving and grading lessons, assignments and tests; managing classrooms; developing instructional materials; and providing feedback to students and parents (UNESCO: 2018, 65). Apart from teaching, teachers are also required to do other tasks which create conflicting demands on teachers' time and commitment. Tanzanian teachers have to teach for 5 hours 20 minutes a day for 194 days a year, around 1,000 hours a year (MOEVT: 2007). This compares well with Organisation for Economic Co-operation and Development (OECD) countries where on average primary school teachers taught for 776 hours in 2014. In Colombia, it was 1,000 hours. In the Russian Federation, it was 561 hours (UNESCO: 2018, 65). One of the problems that face Tanzanian education is high teacher absenteeism rate. There could be several reasons why teachers are not in school, but persistent teacher absenteeism should be a matter of concern. More worrying is the fact that even when some teachers are in school, they do not go to teach in class. School management needs to be empowered to ensure that every teacher teaches.

Teacher accountability is a complex process. There are four key questions: To whom are teachers held accountable, on what basis, for what purpose and with what consequences? The pull of different teacher responsibilities and dependence on other actors to fulfil their own responsibilities makes holding teachers accountable challenging. While individual absenteeism, for example, can be tied to a teacher's chosen behaviour, fulfilment of the primary responsibility of high-quality instruction can be harder to evaluate. (UNESCO: 2018, 68). The most common accountability process of teachers in Tanzania has been by school inspectors. Student performance in national examinations like PSLE and CSEE is another way teachers are held accountable. However, students test scores do not reflect only teacher input. There may be other factors such as students' skills, expectations, motivation and behaviour; parental background and support; peer pressure and aspirations; school organisation, resources and culture; and curriculum structure and content (UNESCO: 2018, 69). Teaching is also a cumulative process. If a child does well or does not do well in PSLE, he/she had gone through seven years of schooling with different teachers. No one teacher is responsible if a child does well in the exam and therefore holding one teacher accountable will not be fair. There is broad agreement among researchers and educators that student test scores alone are unreliable indicators of teacher effectiveness, due in part to measurement problems and the complexity of teaching and learning (UNESCO: 2018, 75).

## 5.2    Focus on Skill Development

"The key to ensuring that all children succeed at school is to enable them to attain critical foundational skills, such as reading and basic mathematics. Without these basic skills, many children will struggle to keep up with the prescribed curriculum, and learning disparities will widen for disadvantaged children". (UNESCO: 2014)

From our discussion, it has become clear that if Tanzania is to achieve the Vision 2025 goal of becoming a middle-income country by 2025, then the education system has to be vastly improved. Tanzania needs skilled manpower which our education system is not currently producing in sufficient quantity and of the required quality. This has been shown by various surveys of employers that have been done and discussed in the earlier section. Skill gap problem – what the industry needs and what schools produce - is not unique to Tanzania but is faced by many developing countries. Most developing countries are grappling with the problem of reforming education to ensure that schools produce an adequate number of graduates with the required knowledge and skills. If Tanzania is to become a middle-income country in the next seven years then the problem has become urgent. The Global Education Monitoring Report 2012 which focuses on the issue of youth employment states:

*"If countries are to grow and prosper in a rapidly changing world, they need to pay even greater attention to developing a skilled workforce. And all young people, wherever they live and whatever their background, require skills that prepare them for decent jobs so they can thrive and participate fully in society (UNESCO: 2012, 14)."*

In a short paper like this it will be difficult to discuss all the skill issues that need to be addressed and so we will focus on a few. Perhaps, the most urgent need is to address the poor foundation skills our school graduates acquire when in school. As we have shown, learning outcomes among children between the ages of 7 and 15 are poor. Too often, access to skills is unequal, perpetuating and exacerbating the disadvantage that attends being poor, female or a member of a marginalized social group. It is often the young people who are poor and reside in rural areas who miss out on the foundation skills perpetuating intergenerational poverty. Education is the only vehicle through which they can break out of the poverty cycle.

These are the most basic skills which are developed among children in early years of the schooling. These are literacy and numeracy skills. These skills are necessary for children to continue in education and training. Children are disadvantaged at a very early age if they do not develop these foundation skills. It is therefore important that by the time children finish primary education all children have developed foundation skills.

## 5.2.1 Literacy and Numeracy Skills for All the Children

Perhaps the most critical problem facing Tanzanian education is that a large number of children are not acquiring the basic literacy and numeracy skills at the age when they should do. Literacy and numeracy are the skills that all children should have. Normally, after two years of primary schooling, children achieve these basic skills. These skills are the foundation on which other skills are developed. If children do not achieve literacy and numeracy skills by the end of two years, it will be difficult for these children to catch up and learn other skills. Teachers should ensure that all children have achieved basic literacy and numeracy skills by the end of their second year in school. Literacy is more than reading. Literacy encompasses the knowledge and skills students need to access, understand, analyse and evaluate information, make meaning, express thoughts and emotions, present ideas and opinions, interact with others and participate in activities at school and in their lives beyond school. There are different skills involved in developing literacy, these are print awareness, sounds of speech, phonemic awareness, phonics, fluency, vocabulary, spelling, comprehension, writing, and speaking. All these skills associated with literacy need to be taught, and assessed.

To ensure that children develop literacy it is important that adequate time is allocated in the curriculum to develop various skills related to literacy. As developing basic literacy and numeracy is important, in class one and two, 40 percent of the time should be spent on developing literacy skills and 40 percent on developing numeracy skills. The remaining 20 percent on other subjects. To develop literacy and develop reading culture among children will require schools to have a good supply of books. Developing comprehension – understanding what a child reads – is equally important, and this skill has to be taught to develop a deeper understanding of a text. The key strategy for ensuring comprehension is questioning. Good readers are always thinking and wondering.

Developing writing skill is part of literacy skills. A child who is unable to write has not fully developed the literacy skill in a language. Writing can build grammar, stamina, and a love for reading. One of the purposes of literacy is to develop children's ability to talk and discuss various issues. This is particularly important when teaching a language that is not the mother tongue of the child. Children need to do more talking in classrooms and this talk has to be more conversational than interrogational. Normally, children only talk when they are asked a question by the teacher. Teachers pose questions, children respond, the teacher then verifies or corrects. Although that is important, there is need to develop children's skills in discussing ideas, concepts, strategies etc. from early standards. Children should also be encouraged to talk to each other about various issues. In order to develop the language skills of – reading, writing, and talking – equal time should be allocated to develop these skills.

In today's world, having numeracy skill is indispensable, without it one cannot effectively function. To effectively participate in daily life and make sense of the world one has to be numerate. Numeracy is mathematical literacy and having the numeracy skills is essential to students' success in school and beyond. Numeracy involves students recognising and understanding the role of mathematics in many contexts. Numeracy is the ability to apply mathematical concepts in all areas of life; it is the ability to reason and to apply simple numerical concepts. For children joining the school, numeracy is not

new. Before they start school, most children develop an understanding of addition and subtraction through everyday interactions. Teachers have to explore what children already know and build on it. Mathematics is a key skill which children need to acquire for use in their everyday lives. There are many aspects of mathematics, and these can be explored at an early age through everyday informal contexts. Children's everyday experiences are full of opportunities that can lay the foundations for numeracy.

Rapidly growing technological advances are making the need for numeracy skills more critical within the workplace. In a work environment, numeracy can be a controlling factor affecting career achievements and failures. Many professions require at least a basic level of understanding when it comes to numeracy and mathematics. Many other professions like accountants, bankers, engineers, architects, statisticians, physicists, and many others, require individuals to have a well-developed sense of numeracy. Even outside these specialized areas, the lack of proper numeracy skills can reduce employment opportunities and promotions, resulting in unskilled manual careers, low-paying jobs, and even unemployment. Poor numeracy can reduce employment opportunities, affect career progress and equity and cause overdependence on experts and professionals. Productivity is also affected when employees are unwilling or slow to take on new tasks or to get involved in training either because of a lack of understanding or fear of required mathematics-related skills.

### 5.2.1.1   Focus on 21$^{st}$ Century Literacies: Digital Literacy

Tanzania is in the process of digital revolution and people with digital literacy will benefit from this revolution. The spread of computers and internet and smartphones have put Tanzania firmly on the digital map. Thousands of children and youth use social media such as Facebook, WhatsApp and Twitter. Many read newspapers online rather than the print version. Our TV signals are digital. Most of the text students come across today is digital. Instead of books and magazines, students are reading blogs and text messages. This requires a different skill set from traditional literacy. It is time to for our education system to make learning of digital literacy mandatory.

Although, there is widespread use of digital tools in the country, use of computers and internet for learning in schools is not widespread. Why is it important to teach digital literacy? Students who don't learn digital literacy skills will be left behind in our increasingly digital world. Access to higher education and the best career opportunities depends on students' ability to navigate the digital world. Digital literacy is also something students will use in their daily lives. For our school graduates to compete in the labour market, both inside and outside the country, it is imperative for all children to be able to tap into the digital world of information. In today's world digital literacy is as important as reading and writing and numeracy. With the increased importance of technology in society, digital literacy is gaining recognition as the most valuable tool for learning at all levels. The influence of social media, technology, and online resources is massive. For adults, the ever-evolving tech world can either help them succeed or hold them back.

Children should be taught to find an answer to a question and also be able to judge whether the source is reliable or not. Educators can, and should, teach students how to tell whether information on the internet is true. The ability to weed out false information and find reliable sources is a key part of digital literacy and a crucial life skill in the 21$^{st}$ century.

One of the problems that can arise with introducing digital literacy in school is that of digital equity. Digital equity is the idea that all people should have equal access to digital technology. Children whose parents are rich have access both to computers and internet. The digital divide is also evident between government and non- government schools. With this in mind, it is clear that we are in a state of digital inequity. Some children have more access to digital technology than others. This is important, and there can be no doubt that this digital gap is an equity issue and needs to be addressed. If we are going to build a world that is based on digital technology and the internet, then we must ensure that all students have access to these things. Otherwise, we are creating barriers that will keep children (especially children from low-income families and in rural areas) from achieving their full potential. It is impossible to discuss digital equity or the digital divide without considering it as a rights issue.

### 5.2.1.2 Transferable Skills are Equally Important

These are skills whose use is not limited to specific employment. They can be used in different situations. Some of the transferable skills include critical thinking, problems solving, communicating ideas, creativity, leadership and entrepreneurial skills. These 'transferable skills' are not taught from a textbook but can be acquired through good quality education. An individual can carry these skills from one job to another and adapt them to different work environments. It improves their chance to be employed for long. Such skills help young people adapt to labour market changes, including new technologies. They can also help many young people working in the informal sector to become successful entrepreneurs.

In secondary schools, students should be taught skills related to seeking employment. There are many skills that students should master. However, in this paper we will discuss three of the key ones. These are writing a resume/curriculum vitae, applying for a job and how to prepare for an interview. Students should be taught how to write a resume/curriculum vitae. There are things that students should consider when writing a CV. The resume should be easy to read. For this legible font should be used and it should be of reasonable size. There are different formats for writing a resume and students should be exposed to some of these. The resume should have information that will enable the employer to make a decision on your candidacy. Ability, achievements, education and experience are things that employers look for when employing an individual, and these should be highlighted in a resume. There are things that should be avoided in a resume. These are typing errors, poor word choices, and bragging. Although students should highlight their accomplishments, this should not tip into bragging.

The job application letter is a strategic marketing document which can land an applicant with a job or without. It is therefore important that students are taught how to write a good letter. A job application letter should build a strong and persuasive case for the applicant. The information that is included in a job application varies depending on what type of position one is applying for. A job application letter should not duplicate information that is on the resume. In general, the job application letter should contain the contact information (name, email address, city, and phone number). The first paragraph should state applicants' interest in the job.

If an applicant is shortlisted for a job, then she/he will be called for an interview. This is a make or break situation. People who can impress the interviewer will get selected for the job. Students should be taught about the interview process and how they should conduct themselves during it. Before somebody goes for an interview, it is important to do a research on the company and gather background information on it. This is crucial for a successful interview. An employer will expect the applicant to know something about the company and how the applicant will fit in. Schools can help students by organising mock interviews, which can be videotaped and looked at over and over to see the weaknesses, mistakes that need to be overcome. Normally, in an interview, the interviewer will ask if the applicant has a question. An applicant should prepare a list of questions on information needed.

### 5.2.1.3 Critical Thinking

It is human nature to think, but much of our thinking, left to itself, is biased, distorted, partial, uninformed or prejudiced. We have to train ourselves to become critical thinkers, it is a skill that can be developed. Critical thinking is a valued skill for employment. Critical thinking may be described as the ability to engage in reflective and independent thinking. It involves being open-minded and without letting your personal bias or opinion affecting your arguments. Critical thinking requires one to use the ability to reason. A critical thinker can understand the links between the ideas, determine the importance and relevance of ideas and arguments. A critical thinker will be able to identify inconsistencies and errors in reasoning and approach problems in a consistent and systematic way.

Critical thinking can be developed in school from the earliest years. The ability of schools to develop critical thinking ability among children is one of the signs of quality education. Critical thinking is one of the most important skills that our education system needs to produce. This kind of thinking will question gender, religious, ethnic and other kinds of biases and also question superstitions like magic. Critical Thinking is based on the development of other skills such as observation, analysis, interpretation, reflection, evaluation, inference, explanation, problem-solving and decision. Paul and Elder (2008)

argue that a critical thinker is a person who raises vital questions and problems, and formulates them clearly and precisely; gathers and assesses relevant information, using abstract ideas to interpret it effectively comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards; thinks open-mindedly within alternative systems of thought, recognising and assessing, as need be, their assumptions, implications, and practical consequences; and communicates effectively with others in figuring out solutions to complex problems.

Critical thinking requires several key skills, these are problem recognition; understanding the importance and sequencing in problem-solving; collect relevant information; recognise assumptions and values; use language with accuracy and clarity; data interpretation and ability to judge and evaluate arguments. Critical thinkers should be able to draw conclusions and generalisations and put to test these conclusions and generalisations.

### 5.2.1.4 Problem Solving and Analytical Skill

In recent years there has been marked increase in the demand for employees who have problem solving skills. Increased use of technology in the workplace has led to this increased demand. What is a problem-solving skill? PISA (OECD: 2014, 30), defines problem-solving competence as: …an individual's capacity to engage in cognitive processing to understand and resolve problem situations where a method of solution is not immediately obvious. It includes the willingness to engage with such situations in order to achieve one's potential as a constructive and reflective citizen. Problem solving is a process of working through details of difficult and complex problems to reach a desired situation. In today's world, problem-solving has become a required skill for employment. Employers demand people who can solve non-routine problems. Few workers, whether in manual or knowledge-based occupations, use repetitive actions to perform their job tasks. A large majority of workers are confronted with problems in their jobs which they need to solve. As the employer surveys have shown, complex problem-solving skills are particularly in demand in fast-growing, highly skilled managerial, professional and technical occupations. Schools must therefore address this demand. This is one of the skill gaps between what employers need and what our education provides. Our schools are teaching literacy, numeracy and science in schools but problem-solving skills are not taught in an organised way.

Problem-solving competence can be developed and nurtured through high-quality education in a wide range of subjects. Appropriate teaching methods, like problem-based learning, inquiry-based learning, and individual and group project work, can be used to foster deep understanding and prepare students to apply their knowledge in new situations. As the use of computers and availability of internet becomes widespread in schools, self-directed learning will become more common. All teachers can create opportunities to develop problem-solving competence by focused questions. Teachers should develop students' observational skills. To ensure that teachers' focus on developing problem-solving skills, national examinations should focus on testing more complex skills than focusing on facts.

This paper shows that there are several problems that Tanzanian education is facing. However, there are a couple that are crucial. The quality of education is poor; our children are not learning what they should do at an appropriate age. The second problem has to do with the employability of youth that our schools and universities produce. There is a mismatch between the skills that are needed for employment in today's Tanzania and what our schools are producing. Tanzanian education needs to change so that it provides high-quality and high-equity education to enable the country to be competitive within the regional, continental and global landscape. Tanzanian education, therefore, has two tasks, first to meet the numerical requirements of manpower by increasing enrolment and second, to ensure that the graduates it produces have the required skills by improving the quality. Can the education sector deliver? To improve the education in Tanzania we are proposing the following recommendations. We are proposing policy changes and changes in how schools operate.

# 6.0 Conclusions and Recommendations

## 6.1 Policy Level Interventions

### 6.1.1 Focus on developing skills

Clearly, there is urgent need to address the issues of skills mismatch in the Tanzanian economy. However, there are no quick-fixes to achieve this goal. It will require a long-term strategic vision and investments. For a beginning, we have to know what current skill gaps are and what skills will be required in future. Based on current and future needs training programme will have to be developed. Employers should be included in planning for skill development. A good skills development system will be able to anticipate skill needs for various sectors; maintain the quality and relevance of training; make training accessible to all sectors of society; ensure viable and equitable financing mechanisms, and continuously evaluate the economic and social outcomes of training. There is a need for maintaining a close connection between training policies and employment policies and this can be achieved by including employers in developing training programmes. Skill development will immensely benefit from having internship programmes for school graduates. Strong internship programmes can be developed if employers are involved at every stage of planning.

It is important to think of skills provision as a coherent system. What Tanzania needs is a flexible and adaptable skills development system that can cope with rapidly changing skills demand. It has also been contended that there is a need for system integrators (one or several) responsible for taking a high-level view of the entire heterogeneous and fragmented landscape of education-to-work transition. The role of the system integrator is to work with education providers and employers to develop skill solutions, gather data, and identify and disseminate information. Such integrators can be defined by sector, region, or target population.

Improving the quality of education: Human capital formation is a cumulative process. Therefore, improving the quality of basic education (primary and lower secondary) needs to be an overarching priority because of the foundational role of basic cognitive skills. Policymakers need to strengthen the quality of learning at all levels to equip tomorrow's workers, not only with academic and technical skills, but also with the behavioural, creative thinking, and problem-solving skills employers increasingly demand. To this end, improving quality of education service provision through better performing and better-equipped teachers and schools is critical.

The problems with Tanzanian education are not in terms of numbers only. FYDP I and II, unfortunately, focus primarily on numbers only. Increasing enrolment at primary, secondary and tertiary levels is not going to solve the problems. Producing more engineers or more scientists is not the solution to our problems. Putting more money in the system is also not going to solve our problems. Our problems have to do with the quality of outputs, the quality of our graduates at all levels – from primary, secondary to tertiary levels. To make qualitative changes is more difficult than quantitative expansion. Two areas need to be looked at. First, the introduction of technology in our schools and two, our curricula and our assessment have to focus on skills developments. I recommend that the Ministry of Education set up a "think tank" that retunes our education.

### 6.1.2 Make Quality ECD Available for all children

Research has established that the first months and years of life are the most crucial for skill formation. This is when intelligence and learning abilities, the foundations for the development of core cognitive and social skills, are cemented. Brain maturation occurs in steps, with new skills building on earlier ones. If the foundation is strong, higher-order cognitive and social skills can be added later on. This leads to higher adaptability in rapidly changing job environments and the acquisition of job specific techniques. The reverse is also true, poor nutrition in early childhood impairs cognitive development before children get to school, reducing the payoff from subsequent educational investments. In all countries, adults who participated in early childhood

interventions have higher scores for openness to experience which is important for learning, innovation and exploration. Therefore, policies and interventions around Early Childhood Development and Education are of crucial importance.

### 6.1.3 Ensure that learning time is productive so that students can develop their academic, social and emotional skills in a balanced way

It is obvious that more time students are taught more they will learn. School systems differ widely in how much time students spend learning. In Tanzania, children spend around 1,000 hours a year in classroom learning. In reality, due to teacher absenteeism from school and classroom, the actual time may be around half of the stipulated time. There is no data that shows how much time children spend on learning after school, and in how this learning time translates into academic performance. Countries where students do well in time spent on learning, both in and outside the school, affect how much they learn. Learning and performance will improve if teacher absenteeism from schools and from classrooms is reduced.

### 6.1.4 Build a skilled and dedicated teacher workforce

Sustained improvement in the education sector will require skilled and dedicated teachers. The most successful education systems select and retain highly qualified candidates for the teaching profession and ensure that they are constantly improving by providing them with regular and targeted in-service training. Teachers must be valued and paid well (OECD, 2014). In Tanzania teaching is not seen as an attractive career by most youths. Only those who do not perform well in CSEE reluctantly join teacher training colleges (Mkumbo: 2012, 224). The status of the teacher in society is not high and they are not paid well. Unless changes are made in living and working conditions of teachers, it will not be possible to attract bright students to the profession. It will also be difficult to retain them.

### 6.1.5 Autonomy and Accountability:

Although schools are held accountable for the poor performance of their students, they have no decision-making authority related to school operations. What teachers teach, how much time is spent on teaching, how much time is allocated to each subject is not under the control of those who are held accountable. Head teachers have no power to hire or fire a teacher. Giving schools greater control over these matters has been advocated on the grounds that local actors understand their students' needs better than higher administrative bodies, and thus can make better decisions to improve their students' outcomes (OECD: 2015).

### 6.1.6 Provide additional support to disadvantaged schools:

Achieving equity in education means ensuring that students' socio-economic status; location of the school and the ownership of school have little to do with learning outcomes. Learning should not be hindered by whether a child is a male or female, comes from a poor family, is raised by a single parent or has limited resources at home, such as no computer or no quiet room for studying. Successful education systems understand this and have found ways to allocate resources so as to level the playing field for students who lack the material and human resources that students in advantaged families enjoy. When more students learn, the whole system benefits. This can be achieved by providing additional resources to schools that do not perform well. Poorly performing schools, generally, have fewer qualified teachers. Their students not only spend less time in regular lessons than students in advantaged schools, they are also less exposed to quality teaching. The range of learning opportunities beyond regular classes is also much narrower in disadvantaged schools.

### 6.1.7 Avoid Class Repetition

What is the best way of helping students who are not doing well? The current policy in Tanzania is to making a student repeat a class for an additional year. However, a growing body of research points to the negative consequences of grade repetition. Students who have repeated a grade tend to display more negative behaviours and attitudes towards school, are more likely to drop out and may be stigmatised among their classmates. PISA findings have revealed that at the system level, higher rates of grade repetition are associated with lower performance in mathematics and lower levels of equity (OECD, 2013b). PISA 2015 results also show that in

education systems where grade repetition is used more extensively, overall science performance is lower and equity is compromised. From the perspective of an education system as a whole, grade repetition is also a costly policy, requiring an additional year of spending per student with no guaranteed results. Struggling students need support. Additional guidance and learning time inside or outside of school, accompanied by the establishment of clear, challenging and achievable goals can help. Curricula are usually designed to be followed by all students. But designing individualised learning plans may allow students who are struggling to learn the material and to progress at their own pace, ultimately meeting the standards set for all students, but over a longer period of time.

### 6.1.8. Address inequality
There is a significant gap between highest and lowest performing schools. Most of the highest performing schools, both secondary and primary, are privately owned, belonging to a religious organization and urban-based. Rural and remote schools are more likely to serve lower socio-economic status cohorts of students and struggle for resources, including experienced teachers. Achieving greater equity in education is not only a social justice imperative, it is also a way to use resources more effectively, increase the supply of skills that fuel economic growth, and promote social cohesion.

## 6.2    Initiatives at School Level

### 6.2.1  Schools should create a positive learning environment for all:
Studies have shown that students tend to perform better in schools that provide an environment that is conducive to learning. If a school provides a safe and caring learning environment, students attend school regularly, listen to the teacher, treat other students with respect, and do not disrupt the flow of instruction. Teachers co-operate by exchanging ideas or material and support their students by showing an interest in every student, providing extra help or giving students opportunities to express their ideas. Parents participate in a range of school activities, not only when their child has behavioural or academic problems, and interact with other parents.

### 6.2.2  Focus on what goes on in classrooms:
Most of the children's learning happens in a classroom and therefore what happens inside the classroom is crucial for students' learning and career expectations. How teachers teach is strongly associated with students' performance. While changing how teachers teach is challenging, school leaders and governments should try to find ways to make teaching more effective. For instance, in some education systems granting schools more autonomy over the curriculum may give teachers more opportunities to adapt their instruction to students' needs and knowledge.

# References

ATE (2010) "Skills Development Assessment" Arlington, USA: JE Austin Associates for Association of Tanzania Employers.

Delloite (2017) *Tanzania Economic Outlook 2017: Joining the dots.* Dar es Salaam: Delloite and Touche

Delors, J. et al. 1996. Learning: The Treasure Within. Paris, UNESCO.

EQUIP (2015) EQUIP – Tanzania Impact Evaluation: Final Baseline Technical Report. Volume 1: Results and Discussion. Dar es Salaam: Oxford Policy Management.

Hanushek, E. A., and Woessmann, L. (2008). "The role of cognitive skills in economic development". Journal of Economic Literature, 607-668.

ILO (2010) *A Skilled Workforce for Strong, Sustainable and Balanced Growth: A G20 Training Strategy.* Geneva: International Labour Office.

Johanson, R. K., and Adams, A. V. (2004). Skills development in sub-Saharan Africa. World Bank Publications. Washington DC

McClure, E.R., Guernsey, L., Clements, D.H., Bales, S.N., Nichols, J., Kendall-Taylor, N., and Levine, M.H., (2017) *STEM starts early: Grounding Science, technology, engineering, and mathematics in early childhood.* New York: The Joan Ganz Cooney Center at Sesame Workshop.

MOEVT (2007) "Curriculum for Ordinary Level Secondary Education in Tanzania" Dar es Salaam: Tanzania Institute of Education

Mohamedbhai, Goolam (2014) "Quality of graduates in Africa" Centre for International Higher Education.

National Bureau of Statistics (NBS) Tanzania (2014). *Tanzania Integrated Labour Force Survey 2014,* Dar es Salaam, Tanzania: NBS.

Nyerere, Julius (1968) *Freedom and Socialism/ Uhuru na Ujamaa* London: Oxford University Press.

OECD (2014), *PISA 2012 Results: Creative Problem Solving: Students' Skills in Tackling Real-Life Problems (Volume V),* PI SA, OECD Publishing. *http://dx.doi.org/10.1787/9789264208070-en*

OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education, PISA, OECD Publishing, Paris.* http://dx.doi.org/10.1787/9789264266490-en

OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools,* PISA,

OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools,* PISA, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264267510-en
OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264267510-en

Richard Paul and Linda Elder (2008) *The Miniature Guide to Critical Thinking Concepts and Tools,* Foundation for Critical Thinking Press.

Sabarwal, Shwetlana (2013) *Tanzania: Skills for Competitiveness in the Small and Medium Enterprise Sector.* Washington: The World Bank, Human Development, Education Africa Region.

Tafazoli, Dara, Mª Elena Gómez Parra, Cristina A. Huertas Abril (2017) "Computer Literacy: Sine Qua Non for Digital Age of Language Learning and Teaching" *Theory and Practice in Language Studies, Vol. 7, No. 9*, pp. 716-722, September 2017.

Tawil, Sobhi; Marie Cougoureux (2013) Revisiting Learning: The Treasure within Assessing the influence of the 1996 Paris: UNESCO

UNESCO (2012) *Global Monitoring Report 2012: Youth and Skills, Putting Education to Work.* Paris: UNESCO.

UNESCO (2014) *Global Monitoring Report 2013/4: Teaching and Learning: Achieving Quality for All,* Paris: UNESCO

UNESCO (2017) Global Education Monitoring Report 2017/8: Accountability in Education, Meeting our Commitments. Paris: UNESCO.

URT (1996) *Sustainable Industries Development Policy SIDP (1996-2020).* Dar es Salaam: Ministry of Industries and Trade.

URT (1999)

URT (2011) *Integrated Industrial Development Strategy 2025* Dar es Salaam: Ministry of Industry and Trade.

URT (2012) "Tanzania Industrial Competitiveness Report 2012" Dar es Salaam: United Nations Industrial Development Organization.

URT (2013) Key Findings: 2011/12 Household Budget Survey Tanzania Mainland. Dar es Salaam: National Bureau of Statistics, Ministry of Finance.

URT (2014) *The Study on National Skills Development to Facilitate Tanzania to Become a Strong and Competitive Economy by 2025*. Dar es Salaam: President's Office, Planning Commission.

URT (2014b) The Study on National Skills Development to Facilitate Tanzania to Become a Strong and Competitive Economy By 2025. Dar es Salaam: President's Office, Planning Commission.

URT (2015) "National Skills Development in the Five-Year Development Plan- II (2016/17 – 2020/21) Nurturing an Industrial Economy". Dar es Salaam: Ministry of Labour and Employment.

URT (2015a) "National Skills Development in the Five-Year Development Plan- II (2016/17 – 2020/21) Nurturing an Industrial Economy". Dar es Salaam: Ministry of Labour and Employment.

URT (2016) *National Five-Year Development Plan 2016/17 – 2020/21: Nurturing Industrialisation for Economic Transformation and Human Development*. Dar es Salaam: Ministry of Finance and Planning.

URT (2016a) *Formal Sector Employment and Earnings Survey; Tanzanian Mainland*. Dar es Salaam: National Bureau of Statistics

URT (2016b) Pre-Primary, Primary and Secondary Education Statistics in Brief. Dar es Salaam: President's Office, Regional Administration and Local Government.

URT (2018) Pre-primary, Primary, Secondary, Adult and Non-Formal Education Statistics 2017: Regional Data. Dar es Salaam: President's Office, Regional Administration and Local Government.

USAID (2014) EdData II National Baseline Assessment for the 3Rs (Reading, Writing, and Arithmetic) using EGRA and EGMA, and SSME in Tanzania. Dar es Salaam: USAID/Tanzania, Education Division Office of Sustainable Development.

Uwazi (2009) "When school inspection doesn't deliver: Highlights from the CAG audit of the Secondary Schools Inspection Programme in Tanzania". Dar es Salaam: Uwazi at Twaweza.

Uwezo (2015) Are Our Children learning? Literacy and Numeracy in Tanzania 2014. Dar es Salaam: Twaweza East Africa.

Uwezo (2017) Are Our Children Learning? Uwezo Tanzania Sixth Learning Assessment Report. Dar es Salaam: Twaweza East Africa.

World Bank (2015) Tanzania Workforce Development: SABER Country Report 2015. Washington: World Bank Group.