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UNITED REPUBLIC OF TANZANIA  
MINISTRY OF EDUCATION AND  
VOCATIONAL TRAINING

# Enhancing Teacher Education for Bridging the Education Quality Gap in Africa

## The Case of Tanzania

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Needs Assessment Report

Prepared by

**The Ministry of Education and Vocational Training (Tanzania) in collaboration with the National Team, UNESCO Office Dar es Salaam, and UNESCO Regional Office for Eastern Africa (Nairobi, Kenya)**

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## ABBREVIATIONS

ADEM	Agency for Development of Educational Management
AIDS	Acquired Immune Deficiency Syndrome
A-Level	Advanced Level
BEST	Basic Education Statistics in Tanzania
BRN	Big Results Now
CAS	Central Admission System
CBO	Community Based Organization
CFIT	Chinese Funds-in-Trust
COBET	Complementary Basic Education in Tanzania
DFATD	Department of Foreign Affairs, Trade and Development
DLRs	Digital Learning Resources
EAC	East African Community
EACM	East African Common Market
ECD	Early Childhood Development
EFA	Education for All
EMIS	Education Management Information System
ESDP	Education Sector Development Plan
ESMIS	Education Sector Management Information System
ETP	Education and Training Policy
EU	European Union
FAWE	Forum for African Women Educationalists
FEDP	Folk Education Development Programme
FYDP	Five Years Development Plan
GBS	General Budget Support
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GeSCI	Global e-School and Community Initiative
GIR	Gross intake rate
Govt	Government
GPE	Global Partnership for Education

GPI	Gender Parity Index
HEDP	Higher Education Development Programme
HIPC	Highly Indebted Poor Countries
HIV	Human Immunodeficiency Virus
IAE	Institute of Adult Education
ICBAE	Integrated Community-Based Adult Education
ICDL	International Computer Driving License
ICS	Information and Computer Studies
ICT4D	Information and Communication Technologies for Development
ICT4E	Information and Communication Technologies for Education
ICTs	Information and Communication Technologies
INSET	In-service Training
ISP	Internet Service Providers
IYF	International Youth Foundation
JICA	Japan International Cooperation Agency
LGAs	Local Government Authorities
LTPP	Long Term Perspective Plan
MCDGC	Ministry of Community Development, Gender and Children
MDAs	Ministries, Departments and Agencies
MDGs	Millennium Development Goals
MIC	Middle Income Country
MKUKUTA	Mpango wa Kukuza Uchumi na Kupunguza Umaskini Tanzania (National Strategy for Growth and Reduction of Poverty)
MoEVT	Ministry of Education and Vocational Training
MTEF	Medium Term Expenditure Framework
MTHRESP	Medium Term Human Rights Education Strategic Plan
MTSP	Medium Term Strategic Plan
NAR	Net Attendance Ratio
NBS	National Bureau of Statistics
NECTA	National Examination Council of Tanzania
NER	Net Enrolment Ratio

NGOs	Non-Governmental Organizations
NIR	Net Intake Rate
NKAR	National Key Results Areas
NSGRP	National Strategy for Growth and Reduction of Poverty
NSIE	National Strategy for Inclusive Education
ODL	Open and Distance Learning
O-Level	Ordinary Level
OSC	Out-Of-School
OUT	Open University of Tanzania
PEDP	Primary Education Development Programme
PER	Public Expenditure Review
PHC	Population and Housing Census
PMO	Prime Minister's Office
PMO-RALG	Prime Minister's Office, Regional Administration and Local Government
PQTR	Primary Qualified Teachers Ratio
PRP	Public Reform Programme
PSLE	Primary School Leaving Examination
PSPIP	Public Service Pay and Incentive Policy
PTR	Pupil-Teacher Ratio
R&D	Research and Development
REO	Regional Education Officer
SADC	Southern Africa Development Community
SEDP I	Secondary Education Development Programme I
SEDP II	Secondary Education Development Programme II
Sida	Swedish International Development Agency
TCs	Teachers' Colleges
TCU	Tanzania Commission for Universities
TDMS	Teachers Development and Management Strategy
TDV	Tanzania Development Vision
TEP	Teacher Educators' Programme

TIE	Tanzania Institute of Education
TLSB	Tanzania Library Services Board
ToTs	Trainers of Trainers
TPD	Teacher Professional Development
TRCs	Teachers' Resource Centres
TTC	Teacher Training College
TTCL	Tanzania Telecommunications Corporations Limited
TVEDP	Technical and Vocational Education Development Programme
UNDAP	United Nations Development Assistance Plan
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children and Emergency Fund
URT	United Republic of Tanzania
USAID	United States Agency for International Development
USD	United States Dollar
VETA	Vocational Education and Training Authority
WFP	World Food Programme
VSAT	Very Small Aperture Terminals

## INTRODUCTION – METHODOLOGICAL CONSIDERATIONS

This report has been prepared by the Ministry of Education and Vocational Training (Tanzania) in collaboration with the National Team, UNESCO Office Dar es Salaam and UNESCO Regional Office for Eastern Africa (Nairobi, Kenya) in accordance with the guidelines stipulated in the Needs Assessment template issued by UNESCO for implementing the UNESCO-CFIT Project: ***“Enhancing Teacher Education for Bridging the Education Quality Gap in Africa, the Case of Tanzania.”***

The full report has been compiled using reports prepared on the various sections of the assessment template by individuals or groups of members of the National Team.

In carrying out the assignment, members of the Team adopted various methods of collecting the information that has been synthesized in this report. The methods included extraction of information from official Government documents (secondary sources) as well as discussion with various stakeholders in a number of institutions (primary sources).

### The National Team

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# 1. OVERALL CONTEXT AND NATIONAL DEVELOPMENT PRIORITIES

## 1.1 Demographic and socio-economic context

### 1.1.1 Population

The latest official demographic statistics of the United Republic of Tanzania (URT) are found in the 2012 Population and Housing Census (PHC) published by the National Bureau of Statistics (NBS) in September 2013. In 2012 the population of Tanzania was 44,928,923 (M 21,869,990, F 23,058,933: 48.7% and 51.3%). The population on the Mainland was 43,625,354 (M 21,239,313 and F 22,386,041: 48.7% and 51.3%), while that of Zanzibar Islands was 1,303,569 (M 630,677 and F 672,892: 48.4% and 51.6%). A prominent feature of the population is the enormous ethnic and linguistic diversity. There are 120 ethnic groups, each with its own local language. However, the national language, Kiswahili, is spoken across the country, and serves as the medium of instruction in primary education. English is used as the second official language.

Tanzania's population is also characterized by a rapid and sustained growth, with the youth accounting for the bulk of the increase. In just 45 years the population nearly quadrupled, increasing from 12 million in 1967 to almost 45 million in 2012. 44% (19,725,456) of the population is 14 years old or younger. The figure rises to over 63% (28,305,221) if youth of up to the age of 25 years are counted. The 2012 PHC further revealed that 79% (35,493,849) of the total population fall within the age groups classified as 'young population' aged 0-14 (22,504,526) and 'youth population' aged 15-35 (15,587,621). This makes Tanzania a country with an overwhelmingly young population. With a population growth rate estimated at 2.7 (2012) and a high fertility rate, Tanzania's population is projected to double in the next 26 years.

Tanzania's population is predominantly rural (70%) and is unevenly distributed in the country's 30 Regions. Twelve Regions have between 1.1 and 1.7 million inhabitants. Eight have residents ranging from 2 to 2.8 million. Dar es Salaam Region has the largest population, estimated at 4.4 million, or almost 10% of the total population. The remaining 9 Regions, 4 on the Mainland and all 5 Regions on the Islands of Zanzibar, have less than 1 million each, with varied estimates ranging from just over 115,000 to 900,000 inhabitants.

In the critical areas of governance and national cohesion, Tanzania has had an impressive track-record. The country went through three decades of one-party rule, a short but testing period of change and transition, and now 22 years of multi-party democracy. Tanzania has remained a unified nation with a long tradition of peace and political stability. This is a rare achievement in a region blighted by decades of turmoil, protracted conflicts and wars. However, this does not mean that the country is in a hermetically sealed environment that completely shields it from adversity. In fact Tanzania has internally encountered formidable challenges (tensions that occasionally flare up within the Union), and externally (exposure to risks and threats emanating from its conflict-

prone and troubled neighborhood). However, by and large, Tanzania has managed to overcome these difficulties through a combination of good leadership, unity, and luck.

With regard to the state of the national economy and human development, Tanzania has not escaped the chronic afflictions with which most of the countries in sub-Saharan Africa have been saddled. This is rather unfortunate, even tragic, given the fact that Tanzania had greater potential and better opportunities to move ahead of others. Tanzania has been blessed with a wide range of strategic assets, natural resources and unique enabling factors.

### **1.1.2 Major constraints and challenges**

Since independence Tanzania has shown a great deal of determination to mobilize all the resources at its disposal to achieve rapid economic growth with emphasis on improving the quality of life and well-being of its people. Adoption of the Education for All (1990, 2000) and the United Nations Millennium Declaration (2000), reinvigorated and further accelerated the national development agenda, resulting in considerable achievements in the areas of economic growth, education, and health.

However, 53 years after independence, huge challenges remain in a number of critical areas that lie at the core of sustainable development. Tanzania had enjoyed an impressive and sustained economic growth during the past fifteen years. Yet the impact on poverty reduction, the core and major thrust of the development agenda, has been minimal. Between 2001 and 2007 the GDP grew on average by 7.1% while poverty levels fell only marginally from 35.7% to 33.6% during the same period (URT 2011:12). Poverty is therefore widespread, with the bulk of the burden falling on the rural population who account for 70% of the population. The poor also disproportionately suffer from disparities related to domicile, region, income, employment, gender, and public service delivery. Although life expectancy increased overall, the vast majority of the population continues to face significant challenges related to health, with great variations between and within Regions. Only 57.8% of the vast rural population has access to **safe drinking water** compared to 86% in urban areas. Access to **quality sanitation** is also low, and currently stands at 50 %. According to the Government's own assessment, Tanzania lags behind all other countries within the East African Community (EAC) with respect to these two important indicators (URT, 2011:62). HIV/AIDS remains a serious menace, with a prevalence rate of 5.7% (6.6 female and 4.6 male) amongst the sexually active population nationwide. In 2009, Tanzania was ranked 12th and 4th in the world regarding adult prevalence rate and deaths related to HIV/AIDS.

The education and employment landscape displays a similar trend according to the findings of the 2010 Tanzania Demographic and Health Survey. The net attendance ratio (NAR) in primary schools ranges from 88% in urban localities to 78% in rural areas. On the Mainland, Kilimanjaro Region has a NAR of 91% compared to only 66% for Tabora Region. At the secondary school level, the enrolment ratios among urban and rural populations stand at 44% and 19% respectively. Although

overall unemployment rate is relatively low (14.9%), 60% of the youth, especially those from rural areas and the urban poor, are without jobs.

Overall, the disparities and inequities evident in most sectors affect girls and women disproportionately. They account for the majority of the rural population and are often the poorest among the poor.

### **1.1.3 Organizational and administrative context of the country**

From independence in 1961 to date, Tanzania has undergone a great deal of change in the way the country's affairs have been organized and run. From 1961 to 1992 a one-party rule dominated the political and administrative landscape. This was followed by a profound change of direction and relatively smooth transition into a multi-party democracy that has transformed the country into one of the most stable and peaceful democracies in sub-Saharan Africa. The Government comprises an executive branch headed by a President, a legislative assembly, and an independent judiciary. Administratively, the country is divided into 30 administrative regions, 25 on the Mainland and 5 on the Islands of Zanzibar.

## **1.2 National development priorities and strategies**

### **1.2.1 National development frameworks: policies, plans and strategies**

Over the decades Tanzania has prepared a series of detailed long-term and medium-term development plans to guide and underpin implementation of its myriad and ambitious programmes. The Government's broad policy framework is set by *the Tanzania Development Vision 2025* (TDV) which was launched in 1999. The core priority and central thrust of TDV is to transform Tanzania into a 'middle-income country (MIC) status, with a per capita income of USD 3,000 by 2025' (FYDP: 2011). Special emphasis is placed on eradication of poverty.

All the development plans adopted and implemented since independence reflect many aspects of the vision and aspirations outlined in the current TVD, but achieving such noble but ambitious goals proved elusive mainly due to a combination of debilitating internal constraints and a myriad of external factors. This has created a state of flux that prompted the Government to constantly review or completely overhaul some existing plans. For example, shortly after the adoption of TDV 2025, Tanzania began to develop a series of short and medium-term poverty reduction strategies: the Poverty Reduction Strategy (2000-2003), and the first five year National Strategy for Growth and Reduction of Poverty (NSGRP 2005/6-2009/10) known as MKUKUTA I in Kiswahili.

These strategies were inspired partly by a desire on the part of the Government to benefit from the debt relief initiative designed to help Highly Indebted Poor Countries (HIPC), and in the process introduce a wide range of reforms; and partly to align the TDV with the Millennium Development Goals (MDGs) as well as other international development frameworks. Although

initially these successive plans were not envisaged as strategic roadmaps tailor-made for the implementation of the TDV 2025, they nevertheless ended up becoming exactly that.

In 2009 the Government found itself catapulted into a situation that called for a major review of the state of development in the country and the prospects of achieving the goals set in TDV 2025. Once again a complex web triggered and informed this comprehensive reassessment: country-specific constraints and shortcomings, important developments pertaining to Tanzania's integration into regional economic entities such as the East African Common Market (EACM), the Southern Africa Development Community (SADC), and critical issues related to world trade, key global factors such as globalization, the 2008 financial and economic crisis, as well as climate change.

Once again the findings of the review confirmed that Tanzania was 'off-track' in achieving the targets set in TDV 2025 (URT, 2011:5); necessitating the development of yet another set of new strategic frameworks to address the shortcomings and accelerate progress toward the status of a solid middle-income country by 2025. This has resulted, among other things, in the formulation of the second National Strategy for Growth and Reduction of Poverty (2010/11-2014/15) known locally as MKUKUTA II and the development of the Long Term Perspective Plan, 2010-2025 (LTPP). The latter has been envisaged to be implemented through three successive medium-term plans. MKUKUTA II and the first Tanzania Five Year Development Plan (2011/12-2015/16) constitute the two main frameworks underpinning implementation of the long-term national vision.

The Plans focus on the following core priorities and associated strategic interventions:

- **Infrastructure** comprising hard infrastructure (energy, ports, railways, roads, airports/air transport, water and sanitation) and soft infrastructure (science, technology and innovation with a heavy emphasis on ICTs and R&D facilities).
- **Agriculture** (crops, fisheries, forestry, livestock).
- **Industry** (manufacturing, mining).
- **Human capital development and social services** (education, skills development and quality and accessible health services).
- **Tourism, trade and financial services**  
The investment envelop is heavily tilted in favour of hard infrastructure, especially the transport and energy sectors.

### 1.3 National education priorities and strategies

Education has been at the center of a myriad of nation-building and economic development schemes that have evolved in Tanzania since achieving independence in the 1961. The profound belief in the efficacy of education has been promoted and championed by the first and founding President of the nation, Julius K. Nyerere, whose long association with and passion for teaching,

earned him the popular title *Mwalimu*, or ‘Teacher’ in Kiswahili, which eclipsed and outlived his politically more prestigious title as President.

At the global level Tanzania is signatory to all international frameworks that establish education as a basic human right and a powerful engine for empowerment. These include the Jomtien Declaration on Education for All (1990), the Convention on the Rights of the Child (1990), the Dakar Framework for Action (2000), and the Millennium Development Goals (2000). Nationally, the right to education is in principle enshrined in the *Constitution* of the United Republic of Tanzania and further underlined in *The Education Act* (2002).

The country’s first post-independence Three-Year Development Plan (1961-1964) placed education at the top of the hierarchy of national priorities, a position it has largely maintained to date. Currently, all key strategic documents outlining national development vision, policies, goals and targets, underscore education as a powerful vehicle for achieving inclusive and sustainable progress. These include the Tanzania Development Vision 2025, the Second National Strategy for Growth and Reduction of Poverty (NSGRP II 2010/11-2014/15), the United Nations Development Assistance Plan (UNDAP) 2011-2015, and the Tanzania Five Year Development Plan (2011/12-2015/16).

Within the framework of NSGRP II (2010/11-2014/15), education falls under Cluster II ***Improvement of Quality of Life and Social Well-being*** and sets two national goals and operational targets as shown below.

Education Goals	Operational Targets
Ensuring equitable Access to Quality Early Childhood Development (ECD) Programmes, Primary and Secondary Education for all girls and boys	Early Childhood Development (ECD) facilities and number of young children prepared for schools increased
	Universal access for boys and girls to quality pre-primary and primary education achieved (NER to 100 percent for pre-primary and primary)
	Access to lower and upper secondary for male and female students increased (NER to 45 percent for lower secondary and 5 percent for upper secondary)
	Primary school survival rate for boys and girls (Std I to Std VII) improved
	Secondary school survival rates for boys and girls (Form 1 to 4; Form 5 to 6) improved
	Improved pass rate for boys and girls at primary and secondary schools
	Improved primary and secondary school transition rates

	Quality teachers trained, deployed, and retained to achieve recommended students – qualified teacher ratio at all levels (Primary=1:45 and secondary=1:25)
Ensuring Expansion of Quality Technical and Vocational Education and Training, Higher Education, and Adult, Non-formal and Continuing Education	Enrolment expansion, quality, and relevance of Technical and Vocational Education and Training ensured;
	Enrolment expansion, quality, and relevance of Higher education ensured;
	Enrolment expansion, quality, and relevance in provision of adult, non-formal and continuing education ensured;
	Adult illiteracy rate reduced by 50 percent from 31 percent in 2009 to 16 percent in 2015.

**Source:** *Second National Strategy for Growth and Reduction of Poverty (NSGRP II 2010/11-2014/15)*

The UNDAP (2011-2015) places education among the five priority programmes areas under Cluster II and underlines the same goals in complete alignment with the National Strategy for Growth and Reduction of Poverty, with UNESCO being the lead agency for UN Education group (United Nations Tanzania 2011).

The broader vision and goals outlined in international and national frameworks have been further elaborated and translated into specific sets of policies, programmes, plans and priorities designed to guide and underpin education's contribution to the national development agenda. These comprise of strategies that cover the education sector as a whole, including the Education and Training Policy (1995), the Education Sector Development Programme (2008-2017), the Medium-Term Strategic Plan (2011-2015), and the Medium-Term Expenditure Framework (2012-2015). These were complemented by a series of initiatives designed for the development of specific sub-sectors:

- The Primary Education Development Programme (PEDP) 2012 – 2016.
- The Secondary Education Development Programme (SEDP) 2010 – 2014.
- National Strategy on Inclusive Education (NSIE) 2013 -2017
- Medium Term Human Rights Education Strategic Plan (MTHRESP) 2011/12 - 2015/16
- The Teacher Development and Management Strategy (TDMS) 2008 – 2013.
- The Folk Education Development Programme (FEDP) 2008 – 2013.
- The Adult and Non Formal Education Development Plan 2012 – 2017;
- The Technical and Vocational Education Development Programme (TVETDP) 2013/14 – 2017, and
- The Higher Education Development Programme (HEDP) 2010 – 2015.

There is widespread consensus that Tanzania has had a good track-record in conceptualization and timely preparation of strategic documents that set the vision, goals and targets that guide and underpin the national education development agenda. The many strategies and programmes mentioned above bear testimony to this reality. However, complete, timely and successful implementation of such plans has been very challenging as will be shown in the course of this assessment.

Currently the Government is implementing the Big Results Now (BRN) from 2013 to 2015, where six national key results areas (NKRA) have been identified, education being among them. The key education initiatives include:

- Official school ranking
- School initiative scheme
- School improvement toolkit
- National 3R assessment
- 3R teacher training
- Student Teacher Enrichment Programme (STEP)
- Basic facilities construction
- Capitation grants
- Teacher motivation.

### **1.3.1 Structure and organization of the education system**

The Tanzanian education system has a complex structure that evolved over a long period of time, combining formal schooling with non-formal and adult education streams. Formal education comprises pre-primary (2 years), primary school (7 years), and ordinary level secondary (4 years), advanced level secondary (2 years), teacher training colleges (2 years), and technical and higher education (3+ years) which also includes a technical and vocational stream.

At the primary school level two national examinations are administered, one at the end of standard 4 and another at the end of standard 7. At the secondary education level two national examinations are held, one at the end of Form 4 (O-Level) and another at the end of Form 6 (A-Level).

There is also adult and non-formal education stream encompassing:

- a) Integrated Community-Based Adult Education (ICBAE) that provides basic and post-literacy programmes combined with vocational training for adult illiterates aged 19 years and above, and
- b) Complementary Basic Education in Tanzania (COBET) directed at out of school children and youth aged 11-18 years.

In terms of administration and management, the education sector falls under the portfolios of three different ministries: The Ministry of Education and Vocational Training (MOEVT), the Prime Minister's Office-Regional Administration and Local Government (PMO-RALG), and the Ministry of Community Development, Gender and Children (MCDGC). This arrangement has posed some serious challenges in key areas such as planning, coordination, management, and monitoring. The sector-wide approach and related innovations introduced within the framework of the ESDP (1997), outlined strategies aimed at addressing these challenges by, among other things, expanding and enhancing the role and mandate of the MoEVT as the parent Ministry. However, the proposed changes have not yet been fully implemented or adequately enforced.

The education system in Tanzania has undergone a series of reforms since independence. These reforms have been inspired by a number of factors, ranging from country- and context-specific dynamics to external influences spawned by rapidly changing regional and global developments. The first set of reforms was introduced as a result of the progressive policies adopted by the country in the 1960s, the highlights of which included the *Education for Self-Reliance* of 1967 that focused on eradication of illiteracy and universalization of primary education across the country, especially in rural areas. By the late 1980s and early 1990s, the country confronted multiple challenges, including the shortcomings and bottlenecks created by the ambitious policy of the 1960s and the serious economic crisis in the 1980s that led to deep cuts in the share of the government budget allocated to education. In addition, there was a widespread feeling that Tanzania's development efforts were fragmented and piecemeal; and that the country urgently needed a comprehensive and coherent long-term national vision.

These constraints stimulated a process of serious stock-taking and rethinking that led to the initiation and launching of a second wave of reforms in 1995. The development and adoption of the **1995 Education and Training Policy** (ETP) and the national debate that spearheaded the evolution of the **Tanzania Vision 2025** in the same year, provided a broad framework for the elaboration and implementation of the reforms. The new and transformative agenda outlined in the two documents gave birth to the 1997 **Education Sector Development Programme** (ESDP), widely believed to be the most comprehensive and most credible reform in the education sector to date. The Dakar Framework for Action on Education for All (2000), the Millennium Development Goals (MDGs), and issues driven by strategies related to regional (African Union) and/or sub-regional (East African Community and Southern African Development Community) integration, inspired in 2001 additional efforts to revise and consolidate the ESDP and align it to the goals and targets envisaged in the EFA and education-related MDGs. Revised once again in 2008 and extended up to 2016, the ESDP introduced a series of new and ground-breaking innovations: adoption of a sector-wide approach, effective mobilization and coordination of international assistance, equitable and gender-sensitive access, robust monitoring, and outcome-based results. More importantly, many of the reforms introduced subsequently and directed at specific sub-sectors of the education, evolved from and are informed by the ESDP (2008-2016).

### 1.3.2 Access and participation

Table 1 shows age-wise the 2013 estimated total school population at pre-primary, primary, and secondary levels.

**Table 1: Pre-primary, primary and secondary school population by level, age, sex, enrolment and parity (2013)**

Level	Age	Male	Female	Total	Actual Enrolment	GER	NER	GPI
Pre-primary	5-6	1,387,106	1,368,419	2,755, 525	1,026,466	37.3	35.5	1.0
Primary	7-13	4,275,601	4,284,764	8,560,364	8,231,913	96.2	89.7	1.0
Secondary	14-19	2,740,940	2,877,428	5,618,368	1,804,056	32.1	29.0	

**Source:** Basic Education Statistics in Tanzania (BEST) 2013 – derived from NBS

The data in Table 1 depicts a complex picture, showing remarkable progress coupled with many shortcomings and worrisome trends. In terms of access and participation at primary level, Tanzania has performed quite well. In fact the country had embraced and aggressively pursued the universalization of primary education and achieved impressive results in the 1960s and 1970s, long before Jomtien, Dakar, and New York pioneered and spread the gospel of Education for All and the MDGs across the world in 1990 and 2000. By the beginning of the 1980, every village in Tanzania had a primary school. More importantly, the Mid-Way Evaluation Report 2000-2008 on the status of MDGs in Tanzania, confidently asserted that the country was on track to attain 100% NER by 2015. The latest available basic education data in Tanzania confirms that 8.2 of the 8.5 million primary school age population in the country were enrolled in school in 2013 with a 90% NER and a Gender Parity Index (GPI) of 1, tempting one to broadly agree with the overall assessment that the country is indeed firmly on course to achieve UPE by the target date. Furthermore, according to the Ministry of Education and Vocational Training (MoEVT), the size of the primary school age population is projected to grow steadily in the coming 7 years, increasing from the current 8,903, 965 (2014) to 10,082,430 in 2020 (BEST 2013). The Ministry intends to enrol the over 1.5 million expected additional pupils into schools, to achieve a GER of 100%.

However, a closer look at the situation during the past four years clearly reveals that all is not well.

**Table 2: Changes in primary school gross and net intake and enrolment rates (2010-2013)**

Year	Gross Intake	Net Intake	Gross Enrolment	Net Enrolment
2010	110	68	106	95
2011	109	68	103	94
2012	107	73	98	92
2013	103	73	96	90

**Source:** Basic Education Statistics in Tanzania (BEST 2013)

As shown in Table 2, gross and net intake and enrolment rates from 2010 to 2013 fluctuated, stagnated or decreased. The GIRs steadily decreased over the period while the NIRs remained the same in 2010 and 2011. It rose to 73% in 2012 but stagnated the following year. Both GERs and

NERs steadily declined. To shed more light on the problem, it is worth looking specifically at statistics of the most recent years. At the *pre-primary* level the NER is very low to begin with, currently standing at 35%. This means that about 65% of the 2,755, 525 pre-primary school population were not in school in 2013. To make matters worse, enrolment rates have been declining since 2011, dropping by nearly 1% in 2013 alone. Enrolment at the *primary level* displays a similar trend, decreasing from 8,363,386 in 2011 to 8,247,172 in 2012.

Enrolment in secondary schools (form 1 to form 6) has shown a steady increase during three of the last four years. The total number of students increased from 1,638,699 in 2010 to 1,884,272 in 2012. However, secondary school enrolment registered a significant decrease estimated at 4.2% in 2013 (BEST, 2013). In addition, both gross and net enrolment rates are very low, currently standing at 32% and 29% respectively. Out of a total secondary school population of 5,618,367, only 1,629,326 were enrolled in 2013 (BEST - 2013).

### 1.3.3 Completion, repetition, and drop-out rates

Tanzania has made remarkable progress in expanding and democratizing access to primary education for all, and on many occasions, it came close to achieving UPE. However, the country's prospects of reaching this goal by the target time are undermined primarily by:

- a) The inability to retain the 90-92 per cent of those already enrolled in school and ensure they timely complete the primary level; and
- b) The failure to reach the hard-to-reach 8% who never enrolled in school before.

**Table 3: Evolution of gross and net completion rates at primary and secondary levels (2009-2012)**

	2009		2010		2011		2012
Primary	Gross	Net	Gross	Net	Goss	Net	Gross
	95.1	53.0	100.2	62.6	86.1	54.8	87.2
Secondary (form 4)			36.1	6.5	35.8	7.5	42.2
Secondary (form 6)			3.9	0.9	4.2	0.9	4.5

**Source:** Basic Education Statistics in Tanzania (BEST) 2013

As indicated in **Table 3**, gross and net completion rates in primary and secondary (forms 4 and 6) from 2009 to 2012 fluctuate from year to year and fall far short of expectations. Primary education is also riddled with persistent repetition and drop-out rates currently estimated at 2.8% and 3.0%, respectively. The number of repeaters is highest in standard I, and decreases steadily as pupils move to higher grades. As a result, in 2012, only 54.8% of the relevant age group reached standard 7, the final grade in primary school.

The situation at the secondary level is depressingly bleaker. To begin with, transition rates from primary to secondary have been quite low, and underwent a sharp decline from 67.5% in 2006 to 43.9% in 2009, followed by a slight recovery in 2010 (BEST, 2013). Secondary education has also been weighed down by tens of thousands of repeaters estimated in 2013 at 79,384, the largest number since 2009, and nearly four times the figure in 2012. In addition, only 42.2% of the appropriate age group (17 years) reached Form 4 in 2012. The problem is further exacerbated by high drop-out rates, especially in Forms I, II, and III. For example the drop-out in Form II alone was 27.4 % in 2013 compared to only 7.5% in 2012, the main reason being a sharp decline in secondary enrolment in 2013 (BEST, 2013).

#### **1.3.4 Situation of out-of-school children**

Tanzania is among a small number of countries in sub-Saharan African with a solid track-record in tackling the difficult issue of out-of-school children (OSC). The country managed to reduce the number of OSC from 3,011,000 in 2000 to just 137,000 in 2010 (UNESCO, 2012). The Complementary Basic Education in Tanzania (COBET) caters for the educational needs of the OSC aged 11-18 years old through an innovative non-formal course taking 2 to 3 years to complete.

However, cohort I (11-13 years) enrolment in COBET (Cohort I) began decreasing recently, dropping from 69,245 (38,799 boys and 30,446 girls) in 2008 to 55,889 (30,165 boys and 25,724 girls) in 2011. In 2011, a total of 8,214 COBET learners (3,558 girls, 4,656 boys) sat for the National Standard IV Examination. Out of these, 7,192 (3,124 girls, 4,068 boys), which is 87.6%, were mainstreamed into the formal primary education. In the same year, a total of 4,518 (1,912 girls, 2,606 boys) COBET learners sat for PSLE, of whom 2,776 (1,058 girls, 1,718 boys), (61%), were selected to join Form I (BEST, 2011).

#### **1.3.5 Issues related to quality and equity**

The education system in Tanzania has suffered from multiple challenges related to quality. As explained in section 1.3.3, primary and secondary education is blighted by high repetition and drop-out rates coupled with low transition and completion rates. The problem is further exacerbated by severe shortages of teaching and learning materials, and high teacher-pupil ratios in many parts of the country.

Only 54.8 % of the relevant age group (13 years) estimated at 1.1 million reached Standard 7 in 2012. In 2011, 973,809 sat for the Primary School Leaving Examination (PSLE), in which only 58.3% passed, with huge variations between and within Regions (NECTA, 2011). 75.5% of those selected for secondary Form I came from Kilimanjaro Region compared to only 38.2 % from Mara. Of the 339,330 who sat for the Form 4 examination, only 53.6% passed in 2011.

The bulk of challenges in quality can be attributed to issues related teachers: inadequate supply of teachers, especially those competent in languages, mathematics and science<sup>1</sup>; lack of orientation of teachers on the new approach to teaching (competence-based approach); inadequate in-service training opportunities; inadequate supply of teaching materials; inadequate skills and competences of pre-primary and primary school teachers on literacy and numeracy; imbalances in teacher deployment.

Comparisons across wealth quintiles underline the direct and lethal correlation between poverty and inequity. 90% of children from the richest households attend primary schools compared to only 68% of the poorest children. The corresponding figures at the secondary level are 49% and 19%, respectively. The literacy rate in urban areas is estimated at 88% for females and 94% for males. The corresponding figures in rural areas are 66 and 78%, respectively. In rural areas, girls and women, and children with special needs suffer disproportionately from inequity and disparities at all levels of the education system.

### **1.3.6 Status and capacity of the private education system**

Compared to public schools, the private education sector is relatively small. In 2012 there were 227,424 pupils in non-government primary schools compared to 8,019,748 in government schools (BEST, 2013). The corresponding figures at the secondary level were 281,520 and 1,602,752, respectively. However, the non-government sector has been expanding steadily, and in general, with better facilities and higher quality standards. The role of the Government is largely confined to policy development and coordination, quality assurance through the inspectorate department, setting national standards, and monitoring and evaluation.

### **1.3.7 Partners and partnerships in support of education**

Tanzania has chosen partnership as a key strategy for educational development, and over the years has done quite well in mobilizing and coordinating partners, especially bilateral and multi-lateral organizations and international NGOs and philanthropic foundations. The World Bank, African Development Bank, EU, Sida, DFATD, USAID, JICA, the Netherlands and the UN, especially UNESCO, UNICEF, and WFP, have played critical roles in complementing the Government's efforts to strengthen the education system. Many partners have made significant contributions to the major reforms and programmes recently implemented in the education sector, including the ESDP, the PEDP, and the SEDP.

The United Nations system pooled the resources of its members within the framework of the United Nations Development Assistance Plan (UNDAP) 2011-2015 in support of and alignment with the national development agenda. UNESCO is the lead agency in education for the UN Education Working Group that is made of UNICEF, WFP and UNESCO.

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Science subjects include: Chemistry, Biology, Physics, Agriculture and Food nutrition.<sup>1</sup>

Tanzania also benefits from the GPE programme with the funding of USD 94.8 million to implement Literacy and Numeracy Education Support (LANES) programme endorsed by the Local Education Group (LEG) in 2013. The involvement of the private sector is still in its infancy, but has recently become more active, especially in ICTs in education.

The international development partners have a forum to coordinate their inputs, exchange information, and engage the Government.

### 1.3.8 Integration and use of ICTs in education

Tanzania is among the countries that have recognized early the value and efficacy of ICTs as vehicles for improving access and quality in the education system, as well as the development of the overall national economy. However, the Government’s efforts have been undermined by a shortage of key critical elements, like infrastructure, electricity, computers, etc. The table below summarizes the state of ICT in education in Tanzania in a number of critical areas.

**Table 4: State of ICTs in Education**

	<b>Current situation</b>	<b>Gaps/ challenges</b>
<b>Strategic Frameworks, Leadership, commitment, and Organizational structures</b>	<p>Policies and plans in place (e.g. National ICT policy, ESDP, SEDP, PEDP)</p>	<ul style="list-style-type: none"> <li>• Limited strategic leadership to pioneer and champion activities related to ICT4E</li> <li>• Although policies and plans are in place, efforts are largely uncoordinated and piecemeal.</li> <li>• Ministries have no appropriate structures to effectively handle ICT deployment and integration</li> <li>• No unified vision and limited coordination of strategies and activities.</li> <li>• Quality assurance and control for ICT lacking</li> </ul>
<b>Human resources</b>	<ul style="list-style-type: none"> <li>• The ICT unit activities are carried out by the information and planning department which is also in charge of EMIS. Each department in the ministry has an ICT focal person</li> <li>• No personnel dedicated to ICT in Education in the</li> </ul>	<ul style="list-style-type: none"> <li>• Initiatives in units largely technology driven as staff consists mainly of IT professionals</li> <li>• Insufficient staff in units resulting in overstretching of such staff</li> <li>• Insufficient coverage of the end-to-end components of ICT in Education initiatives.</li> <li>• Lack of capacity in strategic ICT4E areas</li> </ul>

	Ministry	e.g. policy formulation, e-learning, TPD using ICTs, digital content development. <ul style="list-style-type: none"> <li>Lack of coherent framework to address capacity gaps</li> </ul>
<b>Financial resources</b>	<ul style="list-style-type: none"> <li>ICT deployment and support dependent on development partners, private sector and civil society organizations</li> </ul>	<ul style="list-style-type: none"> <li>Although it is appreciated that ICT has the potential of addressing ICT4D and ICT4E challenges, there is limited budgetary allocation for ICT in education.</li> <li>Infrastructural challenges (electricity, connectivity) not addressed yet</li> </ul>
<b>Physical infrastructure and technology</b>	<ul style="list-style-type: none"> <li>Infrastructural challenges are huge in regions</li> </ul>	<ul style="list-style-type: none"> <li>ICT infrastructure and systems at agencies outside the HQ and in regions poor.</li> <li>Challenges in information sharing on what is going on in the education sector from the regions, between departments, and the MoEVT agencies</li> </ul>
<b>Management and coordination</b>	<ul style="list-style-type: none"> <li>EMIS data collection timely and distribution through the BEST catalogue and the website</li> </ul>	<ul style="list-style-type: none"> <li>Baseline data on ICTs in institutions unavailable</li> <li>Coordination is either weak or totally lacking</li> </ul>
<b>Partnerships</b>	<ul style="list-style-type: none"> <li>Many partner who are active and willing to make generous contributions</li> </ul>	<ul style="list-style-type: none"> <li>National Policy on Public-Private Partnership (2009) remains unimplemented</li> </ul>
<b>ICTs in teacher training</b>	<ul style="list-style-type: none"> <li>All teacher training colleges equipped with computers</li> <li>ICT Competence framework for teachers developed</li> </ul>	<ul style="list-style-type: none"> <li>Funding</li> <li>Continuous professional training</li> <li>Shortage of electricity and internet</li> </ul>

Source: National ICT Policy (2003)

## 2. TEACHER REQUIREMENTS: ANALYSIS OF EXISTING STOCK AND ESTIMATES OF CURRENT AND FUTURE NEEDS

### 2.1 Demographic pressure

Tanzania conducts a national population census every 10 years. The most recent census was conducted in 2012. The 2012 population census gives the total population of the United Republic of Tanzania as 44,928,923. According to records published by the National Bureau of Statistics (NBS) the annual rate of growth of the population of Tanzania is gradually declining. While in 1967 the rate was 3.3%, in 2002 it dropped to 2.9%, and that of 2012 was 2.7%. The official forecast trend in the rate of growth of the population is continued, but moderate steady decline.

### 2.2 Educational coverage and its evolution

#### Enrolment in Primary Schools

Primary education in Tanzania lasts for 7 years. Primary education is both universal and compulsory to all children aged between 7 and 13 years, and ranges from Standard I to Standard VII. At the end of Standard VII pupils sit for the Primary School Leaving Examination (PSLE), which is used for selecting students to enter Form I at the basic secondary school level. The total number of pupils enrolled in Primary Schools during the 5 years period 2009 – 2013 is as shown in table 5.

**Table 5: Primary School Enrolment in Tanzania 2009 - 2013**

	2009	2010	2011	2012	2013
M	4 248 764	4 203 269	4 159 740	4 086 280	4 066 287
F	4 192 789	4 216 036	4 203 646	4 160 892	4 165 626
Total	<b>8 441 553</b>	<b>8 419 305</b>	<b>8 363 386</b>	<b>8 247 172</b>	<b>8 231 913</b>

**Source:** *Basic Education Statistics in Tanzania (BEST) (2009-2013)*

Table 5 shows that there is a clear trend of slow but gradual decline in enrolment during the five year period, from 8,441,553 in 2009 to 8,231,913 in 2013. The decline is due to dropout, which increases as one goes from lower grades (Standard I) to higher grades (Standard VII).

About 71.8% of Standard I enrolments are 7 year old. In this context, the gross intake rate (GIR) is the total number of new entrants expressed as a percentage of the official school entrance age population. Likewise, the net intake rate (NIR) is the number of new entrants in Standard I who are of official school-entrance age expressed as a percentage of the official school entrance age. The gross intake and net intake rates in Standard I during the four year period 2010–2013 are as given in table 6.

**Table 6: Gross and net Intake rates in Standard I (2010 – 2013)**

	2010	2011	2012	2013
GIR	109.6	109.0	107.2	105.5
NIR	67.8	68.6	72.7	74.8

*Source: Basic Educational Statistics in Tanzania (BEST) (2009-2013)*

### Dropouts in Primary Schools

The total number of dropouts in 2012 was 55,302. The main causes of dropout are truancy (75%), lack of basic needs such as shelter, food, clothing, stationery (5.8%), early marriage, and pregnancy.

Closely related to the dropout phenomenon is the survival rate to Standard VII. **Table 7** shows that on the average, less than 75% of all pupils who enter Standard I go on to complete Standard VII. The data given in the Table covers the 4 years period 2009–2013.

**Table 7: Survival rate to Standard VII (2009 – 2013)**

	2009 - 2010	2010 - 2011	2011 - 2012	2012 - 2013
M	66.6%	64.0%	68.1%	65.1%
F	72.1%	68.8%	76.5%	72.8%
Overall	<b>69.3%</b>	<b>66.4%</b>	<b>72.3%</b>	<b>68.9%</b>

*Source: Basic Education Statistics in Tanzania (BEST) (2009-2013)*

### Projections of Primary School Intake

As given in **Table 8**, projections of primary school intake for the 6 years period (2014-2020) show a rapid increase in enrolment in Primary Schools. The figures were calculated using an assumed annual growth rate of about 3%.

**Table 8: Projections of Primary Intake (2014–2020)**

Year	Projected Intake
2014	8,903,965
2015	9,165,107
2016	9,331,813
2017	9,672,481

2018	9,814,772
2019	9,953,114
2020	10,082,430

**Source:** *Basic Education Statistics in Tanzania (BEST) (2009-2013)*

### Number of Primary School Teachers

The number of teachers in primary schools has steadily been increasing with the increasing number of schools. However, their distribution among rural and urban schools is very uneven.

**Table 9** gives the number of teachers in Primary Schools for the 5 years period 2009–2013.

**Table 9: Teachers in Primary Schools and Pupil/Teacher Ratio (2009–2013)**

Year	Projected Intake	Pupil/Teacher Ratio (PTR)
2009	157,185	1:54
2010	165,856	1:51
2011	175,449	1:48
2012	180,987	1:46
2013	189,487	1:43

**Source:** *Basic Education Statistics in Tanzania (BEST) (2009-2013)*

The teacher attrition in 2013 stood at 3,973. The main causes of this loss of manpower are retirement (2,833 or 71.3%), deaths (731 or 18.4%) and dismissals for various disciplinary reasons (409 or 10.3%).

### 2.3 Managing the flow of students: The case of grade repetition

Formal secondary education in Tanzania consists of two sequential cycles. The first cycle is a 4 year programme known as “Ordinary Level” or simply, O-Level. The second cycle is a two year programme known as “Advanced Level” or simply, A-Level. The O-Level secondary education programme constitutes what is known as basic secondary education. Basic secondary education begins with Form I and ends with Form IV. Entrance to Form I is based on performance in the Primary School Leaving Examination (PSLE). The enrolment in the 4 Forms during the 5 years period 2009–2013 is as given in Table 10.

**Table 10: O-Level enrolment by Forms (2009–2013)**

Forms	2009	2010	2011	2012	2013
Form I	524, 784	438, 827	467, 155	522, 379	514, 592
Form II	344, 515	456, 746	463, 929	455, 653	583, 443
Form III	330, 844	344, 297	446, 387	420, 193	261, 899
Form IV	201, 416	326, 815	333, 638	404, 585	368, 600

**Source:** Basic Education Statistics in Tanzania (BEST) (2009–2013)

As shown in Table 11, the figures for the gross and net enrolment ratios (GER and NER) in Forms I - IV for the period 2009-2013 are significantly lower in basic secondary education compared to those at the primary level.

**Table 11: GER and NER in Forms I - IV for the period 2009–2013**

	2009	2010	2011	2012	2013
GER	43.6	47.3	50.2	51.4	45.5
NER	29.1	30.8	34.5	36.6	33.7

**Source:** Basic Education Statistics in Tanzania (BEST) (2009–2013)

In 2013, the GER in Forms I – IV decreased by as much as 11.5% while the NER decreased by 7.8%. The main cause for the drop is the decrease in enrolment while the population maintained an increase.

### Dropouts at Basic Secondary Level

In 2012 the total number of dropouts was a staggering 94,986. Form II recorded the highest dropouts, 31,253 (32.9%). The major reason for dropout is truancy (76%) followed by lack of basic needs (12.9%). In basic secondary education, the promotion rate from one Form to the next is reasonably high. In 2011–2012 the rate was 94.7%, and in 2012–2013 it was 80.5%, recording a drop by 13.9%. On the other hand, the survival rate (students going through the four Forms without repeat) experienced a similar drop, from 77.3% in 2011–2012 to 70.2% in 2012–2013. The total number of repeaters in 2013 was 87,222. The highest number was recorded in Form II which was 74,246 (85.1%).

## 2.4 Determining the Pupil-Teacher Ratio

To qualify to be a teacher at O-Level one must be holder of a Diploma in Education or above. The number of teachers in secondary schools for the 5 years period 2009–2013 is as given in table 12.

**Table 12: Teachers in Secondary Schools (2009–2013)**

Year	Projected Intake
2009	33,-954
2010	40,-517
2011	52,-146
2012	65,-086
2013	73,-409

**Source:** *Basic Education Statistics in Tanzania (BEST) (2009-2013)*

The standard student/teacher ratio is 1:40. However, there is a shortage of qualified teachers per subject, especially in science subjects and in mathematics. Teacher attrition in 2013 stood at 1964. The main causes are terminations (1516 or 77.2%), retirement (328 or 16.7%), and deaths (328 or 16.7%).

### **3. TEACHER WORKFORCE MANAGEMENT: RECRUITMENT, DEPLOYMENT, ABSENTEEISM, AND ATTRITION**

#### **3.1 Teacher recruitment**

Act No. 8 of 2002 as amended by Act No. 18 of 2007 and supported by the Public Service Regulations of 2003 confers the powers to recruit teachers to the Department of Teachers' Service of the Public Service Commission. The Act also provides the Department of Teachers' Service the opportunity to delegate such powers to another central government institution. This has made it possible for the powers to recruit teachers in schools in Tanzania to be delegated to MoEVT for college tutors in teachers' colleges and practicing primary and secondary schools; and PMO-RALG for pre-primary, primary and secondary schools.

The teaching manpower falls into three categories; teachers with certification in primary education teach in primary schools, teachers with diploma in secondary education teach in secondary schools and graduate teachers with first degree teach in secondary and teachers' colleges. However, there are licensed teachers who are allowed to practice teaching in secondary schools. This cadre was agreed by the Government in order to address the shortage of teachers in schools, particularly teachers of science, mathematics and technical subjects in secondary schools. These includes licensed graduates without education courses and form six leavers who attended short term training/induction courses to enable them teach in secondary schools.

Each Ministry is responsible for coordination of teachers' recruitment, where MoVET through Teacher Education Department coordinates recruitment of tutors for teachers' college and teachers for practicing primary and secondary schools; and PMO-RALG liaises with Regions through Regional Education Officers (REOs) to recruit teachers for the mentioned sub-sectors. District Education Officers (DEOs) at Local Government establish teachers' requirement by collecting the actual teaching manpower from schools, prepare their actual teaching manpower needs and submit them to the Regional Education Office. After compilation of the Regional requirements, the Regional Education Officer (REOs) submits the requirements to the PMO-RALG which liaises with MoEVT for preparation of estimates, showing the number of teachers required for and the associated costs (personnel emoluments).

The recruitment and deployment of the teachers to districts is done by PMORALG and those for college tutors and teachers for practicing schools is done by MoEVT after getting approval and employment permits from the Public Service Management unit in the President's Office. However, the recruitment of school inspectors is done by the MoEVT through the Inspectorate Department, where experienced and competent teachers from schools and colleges tutors with minimum of diploma (for primary school inspection) and first degree (for secondary and teachers' colleges inspection) are identified and proposed to the Permanent Secretary for approval and appointment.

The distribution of teachers in both Government and Non-Government schools in terms of numbers, and type of teaching staff, is as given in Table 13.

**Table 13: Teaching Staff and Number of Schools, in Government and Non-Government Secondary Education (2009–2013)**

ITEM	2008	2009	2010	2011	2012	2013
<b>Government Teaching Staff</b>	24971	26432	30252	39934	51469	58028
<b>Non-Government Teaching Staff</b>	7864	7522	10265	12212	13617	15379
<b>Total Teaching Staff</b>	<b>32835</b>	<b>33954</b>	<b>40517</b>	<b>52146</b>	<b>65086</b>	<b>73407</b>
<b>Qualified Teachers</b>						
<b>Government</b>		26432	30252	31464	44635	53484
<b>Non-Government</b>		7522	10265	8742	10475	12029
<b>Total</b>		<b>33954</b>	<b>40517</b>	<b>40206</b>	<b>55110</b>	<b>65513</b>
<b>Number of Schools</b>						
<b>Government</b>		3283	3397	3425	3508	3528
<b>Non-Government</b>		819	869	942	1020	1048
<b>Total</b>	<b>3798</b>	<b>4102</b>	<b>4266</b>	<b>4367</b>	<b>4528</b>	<b>4576</b>

*Source: Basic Education Statistics in Tanzania (BEST) 2013*

### 3.2 Teacher Deployment and Geographical Distribution

The deployment of teachers is a challenging education management issue. As shown in **Table 14** and **Table 15**, some Regions have better Pupil/Teacher Ratios (PTR) than others. Similarly, some Regions have more and better qualified teachers than others. It is worth noting that only three Regions have a lower PTR than the national benchmark of 1:40 (Kilimanjaro, Dar es Salaam and Arusha). With the exception of the Coast Region, all other Regions have a PTR above the national benchmark. Statistics show that Singida Region has the worst PTR of the 1:70.

It should be recognized that geographical location has a bearing on teacher distribution in the country. It appears that efforts to distribute teachers more equitably in the Regions have been hampered by two factors, namely:

- (i) Centrally recruited teachers do not always accept being sent to some Regions or Districts due to alleged unattractive living conditions in those areas; and
- (ii) Teachers in such regions and districts are vying to get transferred to other regions and districts.

The minimum qualification for a teacher in secondary school is the possession of a Diploma in Secondary Education. The benchmark index for Pupil/Qualified Teacher Ratio (PQTR) in secondary schools is 1:40 per subject. However, there is a serious shortage of qualified teachers per subject, especially in science and mathematics subjects. Because of the shortage, teachers in these subjects are usually concentrated in regions and districts of their preferences. In general, mathematics, science as well as English Language subjects lack teachers. The issue of scarcity of teachers in some subjects leads to another issue of teacher absenteeism and attrition. This is discussed in sub-section 3.3.

Attracting and retaining teachers in rural areas is a big challenge. There is a wide gap between rural and urban areas in terms of availability of social services, including living and teaching facilities for teachers. In general, rural areas are relatively poorly served. As a result, teachers do not want to work in such areas. Consequently, urban schools have more qualified teachers than rural schools. Rural schools rely mainly on the locally recruited licensed teachers who are more likely to stay in such areas. New teachers posted to schools in rural areas do not show up or seek transfer to urban areas. If transfer is not granted, some teachers drop out of the profession altogether. This trend has led to urban schools having more teachers than rural ones. Lack of incentives, teachers' motivation and working environment where there are inadequate basic social services in rural areas are the main reasons for teachers' disinterest in working in rural schools. However the Government has taken the initiative of constructing houses for teachers under PEDP and SEDP as one of the means to attract and retain teachers in rural areas.

Currently plans are underway to mitigate the problem. Recently the Government has formulated the Public Service Pay and Incentive Policy (PSSIP, 2012/13-2016/17) as a result of the implementation of the Public Reform Program (PRP). The main focus of the policy is to have an attractive, transparent and appropriate pay and incentive package that will motivate and retain government staff, education personnel inclusive, as a prerequisite for a better performing public service. This policy, apart from

dealing with issues related to personal emoluments, addresses broader issues related to Human Resources Management. The policy also acts as a catalytic for equitable distribution of public service employees, teachers inclusive, for improved service delivery across the country, especially in difficult and hard-to-reach areas. Implementation of the policy to teachers is yet to start. However, it is important to address the problems that are likely to emerge in adopting the policy, especially regarding how to identify the teachers to be paid the incentives, bearing in mind that, teachers in urban areas are increasingly finding themselves in some very difficult working environment, particularly pertaining to skyrocketing accommodation costs and commuting problems.

**Table 14: Number of Primary Teachers and Pupil Teacher Ratio (PTR) in Government and Non-Government Primary Schools by qualification and Region, 2012**

Region	Number of Schools	Teachers							Total Qualified Teachers	PTR	PQTR
		Grade B/C	Grade A	Diploma	Bachelor	Masters	PhD	Total			
Arusha	608	278	7793	632	179	4	0	8886	8608	37	38
Dar es Salaam	622	269	11846	1827	650	55	3	14650	14381	35	36
Dodoma	734	303	7442	266	97	2	0	8110	7807	47	49
Iringa	948	200	7936	391	222	3	0	8752	8552	42	43
Kagera	1032	428	10089	318	57	3	2	10897	10469	48	50
Kigoma	637	335	6239	160	51	0	0	6785	6450	50	53
Kilimanjaro	935	113	8658	278	105	3	0	9157	9044	32	33
Lindi	480	214	2999	61	17	1	0	3292	3078	49	52
Manyara	589	59	5460	166	46	1	0	5732	5673	44	44
Mara	725	300	7814	241	31	1	0	8387	8087	50	52
Mbeya	1082	608	10754	308	322	4	0	11996	11388	45	48
Morogoro	855	382	8880	396	133	5	0	9796	9414	41	42
Mtwara	631	317	3750	1025	46	0	0	5138	4821	46	49
Mwanza	1244	271	15753	688	277	3	0	16992	16721	52	53
Pwani	552	50	5113	289	85	4	0	5541	5491	40	40
Rukwa	518	159	5289	178	44	0	0	5670	5511	49	51
Ruvuma	742	158	5715	187	40	3	0	6103	5945	48	49
Shinyanga	1166	103	13166	301	92	2	0	13664	13561	49	49
Singida	512	22	3441	78	29	2	0	3572	3550	70	71
Tabora	732	336	6944	170	28	1	0	7479	7143	56	59
Tanga	987	1248	8764	275	98	3	0	10388	9140	46	53
Grand Total	16331	6153	2E+05	8235	2649	100	5	2E+05	2E+05	46	47

Source: Basic Education Statistics in Tanzania (BEST) -2012

**Table 15: Student Qualified Teacher Ratio in Government and Non-Government Secondary Schools, 2012 - Secondary Education**

Region	Total Enrolment Form I - 6	Total Teachers							Qualified Teachers					PT R	PQ TR
		PhD	Master	Degree	Diploma	Licence	Others	Total	PhD	Master	Degree	Diploma	Total		
Arusha	110336	11	114	1540	1717	310	80	3772	9	79	1317	1717	3122	1:29	1:35
Dar es Salaam	178343	32	263	2879	3608	374	167	7323	31	187	2511	3608	6337	1:24	1:28
Dodoma	65441	0	31	1072	1518	218	55	2894	0	19	948	1518	2485	1:23	1:26
Iringa	114406	10	73	1668	1916	308	130	4105	9	49	1484	1916	3458	1:28	1:33
Kagera	97990	3	41	885	1482	248	134	2793	1	26	717	1482	2226	1:35	1:44
Kigoma	57813	1	10	519	962	217	136	1845	1	4	443	962	1410	1:31	1:41
Kilimanjaro	137727	21	102	2131	2658	306	180	5398	18	38	1875	2658	4589	1:26	1:30
Lindi	30016	5	1	233	521	75	17	852	1	1	215	521	738	1:35	1:41
Manyara	57063	2	17	584	944	204	79	1830	2	10	473	944	1429	1:31	1:40
Mara	86537	1	16	822	1161	233	137	2370	1	13	758	1161	1933	1:37	1:45
Morogoro	156156	1	107	2186	2465	404	75	5238	0	40	1921	2465	4426	1:30	1:35
Mbeya	92397	7	71	1344	1895	235	39	3591	5	49	1178	1895	3127	1:26	1:30
Mtwara	43765	5	30	489	795	60	22	1401	1	29	419	795	1244	1:31	1:35
Mwanza	181988	8	30	1969	2718	282	104	5111	5	19	1805	2718	4547	1:36	1:40
Pwani	65168	4	57	1475	1218	115	59	2928	1	35	1316	1218	2570	1:22	1:25

Ruvuma	41846	2	7	558	874	122	35	1598	2	6	525	874	1407	1:2 6	1:3 0
Rukwa	59119	1	17	720	1234	203	36	2211	1	16	640	1234	1891	1:2 7	1:3 1
Singida	93522	2	17	831	1728	247	177	3002	2	14	716	1728	2460	1:3 1	1:3 8
Shinyanga e	46473	0	10	497	821	142	60	1530	0	5	404	821	1230	1:3 0	1:3 8
Tabora	61502	0	17	567	1100	215	48	1947	0	10	470	1100	1580	1:3 2	1:3 9
Tanga	10666 4	1	39	1226	1814	179	88	3347	0	27	1105	1814	2946	1:3 2	1:3 6
Total	18842 72	11 7	1070	2419 5	3314 9	4697	1858	6508 6	9 0	67 6	2124 0	3314 9	5515 5	1:2 9	1:3 4

**Source:** *Basic Education Statistics in Tanzania (BEST) 2012*

### 3.3 Teacher Absenteeism and Attrition

#### 3.3.1 Absenteeism

In sub-section 3.2 it was observed that many schools have a serious shortage of teachers, especially in science and mathematics. It is reported that such shortages may be one of the reasons for teachers in these subjects to absent themselves from their workplaces and teach in private schools and earn extra-pay, or conduct tuition sessions in their private tuition centers. Low pay in the education sector is usually compensated for by teachers conducting private tuition, a growing business that has erupted in the country, whereby a whole school or solo teachers establish private tuition centers to earn extra income. This is one big reason for teachers' irregular attendance in schools and even attrition.

Poor working environment is another factor for teacher absenteeism and attrition. In cities, like Dar es Salaam, it has been observed that teachers take a long time commuting, since schools have no houses for teachers. Teachers find it difficult to get essential social services, such as banking, health services, and of particular importance, chances for further education. When teachers struggle to get these services, their time on duty is reduced considerably.

Job dissatisfaction among teachers has also been reported. Their morale is generally low because they feel that they are not valued. They cite low salaries and lack of incentives as de-motivating factors. With such feelings, job dissatisfaction, absenteeism and attrition are likely to surface. The worst situation is where dissatisfied teachers do not quit the profession, and yet are counted as teachers, while in reality they are doing very little as teachers.

Health problems are increasingly becoming a serious factor for teachers' absenteeism. The commonest health issues are illness, and pregnancy. The most common disease is malaria, but HIV/AIDS is also a big contributing factor. As shown in **Table 16**, both short-term and long term illnesses among teachers are the major causes of teachers' deaths. Long-term teacher sickness has resulted into schools being without some teachers for prolonged periods. The real problem is that, schools or local governments have no authority to replace on temporary basis long-term sick teachers, or any other teacher shortage, for that matter.

### 3.3.2 Attrition

Teaching is regarded as one of the leading professions with high rate of attrition. The major cause of attrition is voluntary quitting. Teachers are among the groups of people who are better positioned to change jobs, and beginning teachers are more likely to quit than experienced ones. The reason for this phenomenon is that teaching is a developmental process, passing through three main stages: self-survival, instruction, and impact on students. Beginning teachers are in the self-survival stage. Their concerns are not on instruction or the learning of their students, but building a sense of belonging within the school, including learning self-management, building self-confidence, learning through models of good practice and collegial support and encouragement, and adopting an outlook of continuous improvement through self-reflection. If the school community does not support beginning teachers to stay, and develop the appropriate teacher professional ethics, a beginning teacher is likely to quit, or even worse, stay on but without professional integrity.

As shown in **Tables 16** and **17**, the causes of attrition are categorized as retirement, death, and dismissal/termination. While at the primary school level, the major cause of attrition is retirement; at the secondary school level, attrition is mainly due to termination of teachers who leave the teaching profession and those who are truant. Whereas attrition for teachers at lower levels may be low, it is relatively high among graduate teachers who are usually posted to teach in secondary schools. At primary school level (Table 16) **retirement** contributes (71.3%) of total teacher attrition followed by death (18.4%) and termination (6.1%). At secondary school level (Table 17), **termination** contributes 77.2% of total teacher attrition, followed by retirement (16.7%) and death (10.3%).

**Table 16: Teacher Attrition by Qualification, Sex and Reason, 2013 – Primary Education**

Reasons		Qualification								Grand Total			% Attrition
		Bachelor		Diploma		Grade A		Grade B/C					
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	
Retirement	Leaving teaching Profession	43	8	292	101	71	49	19	5	425	163	<b>588</b>	<b>14.8</b>
	Prolonged Sickness	2	0	23	19	9	11	2	2	36	32	<b>68</b>	<b>1.7</b>
	Retirement Age	154	59	869	443	244	234	61	19	1328	755	<b>2083</b>	<b>52.4</b>
	Short term sickness	1	3	5	3	0	0	0	0	6	6	<b>12</b>	<b>0.3</b>
	Others	5	2	19	11	3	40	2	0	29	53	<b>82</b>	<b>2.1</b>
	<b>Total</b>	<b>205</b>	<b>72</b>	<b>1208</b>	<b>577</b>	<b>327</b>	<b>334</b>	<b>84</b>	<b>26</b>	<b>1824</b>	<b>1009</b>	<b>2833</b>	<b>71.3</b>
Death	Accident	6	4	32	12	6	2	2	2	46	20	<b>66</b>	<b>1.7</b>
	Prolonged Sickness	16	15	104	89	31	34	2	12	153	150	<b>303</b>	<b>7.6</b>
	Short-term Sickness	22	10	116	86	33	39	4	14	175	149	<b>324</b>	<b>8.2</b>
	Others	4	3	6	6	7	6	2	4	19	19	<b>38</b>	<b>1.0</b>
	<b>Total</b>	<b>48</b>	<b>32</b>	<b>258</b>	<b>193</b>	<b>77</b>	<b>81</b>	<b>10</b>	<b>32</b>	<b>393</b>	<b>338</b>	<b>731</b>	<b>18.4</b>
Dismissal/ Termination	Leaving Teaching Profession	5	8	48	29	16	23	3	5	72	65	<b>137</b>	<b>3.4</b>
	Misbehavior	1	0	11	8	1	4	2	0	15	12	<b>27</b>	<b>0.7</b>
	Prolonged Sickness	0	2	3	7	8	36	0	1	11	46	<b>57</b>	<b>1.4</b>
	Short term sickness	0	0	1	3	0	0	0	0	1	3	<b>4</b>	<b>0.1</b>
	Truancy	7	2	74	27	10	6	3	0	94	35	<b>129</b>	<b>3.2</b>
	Others	0	2	20	7	14	6	2	4	36	19	<b>55</b>	<b>1.4</b>
	<b>Total</b>	<b>13</b>	<b>14</b>	<b>157</b>	<b>81</b>	<b>49</b>	<b>75</b>	<b>10</b>	<b>10</b>	<b>229</b>	<b>180</b>	<b>409</b>	<b>10.3</b>

<b>Grand Total</b>	26 6	11 8	1623	85 1	45 3	49 0	10 4	68	2446	1527	3973	100.0
<b>% Attrition by Qualification</b>	6.7	3.0	40.9	21. 4	11. 4	12. 3	2.6	1.7	61.6	38.4	100.0	

**Source:** *Basic Education Statistics in Tanzania (BEST) 2013*

**Table 17: Secondary Education: Teacher Attrition by Qualification and Reasons for Attrition, 2013**

Reasons for Teacher Attrition		PhD		Masters		Degree		Diploma		License (Form 6)		Others		Total			% Attrition
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	T	
Retired	Leaving teaching profession	3	2	0	0	29	12	25	11	11	6	2	0	70	31	101	5.1
	Prolonged Sickness	1	0	0	1	2	1	7	0	5	0	0	0	15	2	17	0.9
	Short term sickness	5	0	0	1	39	11	47	15	2	0	5	1	98	28	126	6.4
	Retirement Age	0	0	0	0	2	1	2	0	1	0	0	0	5	1	6	0.3
	Others	2	2	2	0	18	6	12	9	12	6	5	4	51	27	78	4.0
	<b>Total</b>	<b>11</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>90</b>	<b>31</b>	<b>93</b>	<b>35</b>	<b>31</b>	<b>12</b>	<b>12</b>	<b>5</b>	<b>239</b>	<b>89</b>	<b>328</b>	<b>16.7</b>
Dead	Accident	0	1	0	0	1	3	0	11	0	0	0	0	1	15	16	0.8
	Long Illness	0	0	0	1	2	8	3	8	4	9	0	0	9	26	35	1.8
	Short Illness	0	3	0	0	6	19	4	26	0	2	0	0	10	50	60	3.1
	Others	0	0	0	0	1	3	0	5	0	0	0	0	1	8	9	0.5
	<b>Total</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>10</b>	<b>33</b>	<b>7</b>	<b>50</b>	<b>4</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>99</b>	<b>120</b>	<b>6.1</b>
Terminated	Leaving Teaching Profession	10	6	11	4	220	64	126	49	50	15	8	7	425	145	570	29.0
	Misbehave	0	0	0	0	22	4	37	12	10	1	0	0	69	17	86	4.4
	<b>Others</b>	0	0	0	0	13	0	14	1	20	11	7	3	54	15	69	3.5
	Prolonged Sickness	7	0	5	4	213	50	114	32	74	8	4	1	417	95	512	26.1
	Truancy	2	0	1	1	82	32	64	20	43	18	12	5	204	76	280	14.2
	<b>Total</b>	<b>19</b>	<b>6</b>	<b>17</b>	<b>9</b>	<b>550</b>	<b>150</b>	<b>355</b>	<b>114</b>	<b>197</b>	<b>53</b>	<b>31</b>	<b>16</b>	<b>1169</b>	<b>348</b>	<b>1517</b>	<b>77.2</b>
<b>Grand Total</b>		<b>30</b>	<b>14</b>	<b>19</b>	<b>12</b>	<b>650</b>	<b>214</b>	<b>455</b>	<b>199</b>	<b>232</b>	<b>76</b>	<b>43</b>	<b>21</b>	<b>1429</b>	<b>536</b>	<b>1965</b>	<b>100.0</b>

Source: Basic Education Statistics in Tanzania (BEST) 2013

### 3.4 Teacher shortage

The main challenges facing the teacher education system is the production and retention of enough teachers. Training enough teachers in time and with the required mix of qualifications to meet the needs of each subject is the big challenge. The shortage of teachers is at all levels and in almost all subjects. The situation is worse in science, mathematics subjects and English language. Schools in remote rural areas are particularly afflicted by the shortage of teachers.

A new phenomenon has emerged and requires urgent attention. Fewer and fewer school leavers are opting to join the teaching profession. Universities and colleges are unable to attract enough students to enrol in education programmes, even though entry qualifications have been lowered. We have a situation where the best students reluctantly opt to become teachers only when they have failed to get anything else. This is due to the unattractive nature of the teaching profession. Something needs to be done, and to be done fast, to attract more student teachers.

**Table 18** gives projections on teacher shortages/excess up to 2015/16. It is obvious that, unless immediate efforts are made to expand the enrolment capacity of teacher education institutions and in attracting more school leavers with good passes to join teacher education programmes, and retain them in service, shortages are likely to prevail at all levels, except at secondary level by 2015/16,. The projections given at the secondary level assume that teachers are evenly distributed across subjects. However, the fact is that, unlike primary school teachers, secondary school teachers specialise in at most two subjects. Numerically, the number of teachers in a school may be high, but many of the teachers may be in the same subject, hence creating shortages in the rest of the subjects.

**Table 18: Teacher shortage/excess projections**

Level of Education	2010	2011	2011/12	2012/13	2014/15	2014/15	2015/16
Primary level			27907	3402	7115	9342	7193
Secondary level	28,582	29,200	25,809	21,357	11,040	4,985	(2,985)

**Source:** *Primary Education Development Programme (PEDP) & Secondary Education Development Programme (SEDP II) 2010*

### 3.5 Projected need for teachers up to 2015

There are various models for projecting the need for teachers. The common elements of such models are Pupil-Teacher Ratio (PTR), enrolment, and current number of teachers. Hence,

Number of Teachers = Total enrollment divided by Pupil-Teacher Ratio (PTR). PTR is obtained from Enrollments divided by the number of teachers. However, the assumption used differs from one education level to another. At the pre-primary level, the assumption is PTR 1:25 and Teacher Attrition Rate of 3%. At the primary education level the assumption is: PTR 1:40 and Teacher Attrition Rate of 1.5% and at the secondary education level the assumption is: PTR 1:40 and Teacher Attrition Rate of 8% (see **Tables 19, 20** and **21**, respectively).

**Table 19: Projected Need for Pre- Primary Education Teachers (2012-2016)**

Item	2011/12	2012/13	2013/14	2014/15	2015/16
Enrolment	1034729	1221900	1417404	1620239	1830621
Pupil Teacher Ratio	25	25	25	25	25
Requirement	41389	48876	56696	64810	73225
Existing Teachers	8768	41389	48876	56696	64810
Shortage	32621	7487	7820	8113	8415
Attrition 3%	263	828	978	1134	1296
Total Shortage	32884	8315	8798	9247	9711
Annual Recruitment	6577	14892	15375	15824	16288

Assumption: PTR 1: 25 and Teacher Attrition Rate of 3%

**Source:** *Primary Education Development Programme (PEDP III)*

**Table 20: Projected Need for Primary Education Teachers (2012-2016)**

Item	2011/12	2012/13	2013/14	2014/15	2015/16
Enrolment	8,247,172	8,259,546	8,420,256	8,667,638	8,825,326
Pupil Teacher Ratio	40	40	40	40	40
Requirement	206,179	206,489	210,506	216,691	220,633
Existing Teachers	180,987	206,179	206,489	210,506	216,691
Shortage	25,192	309	4,018	6,185	3,942
Attrition 1.5%	2,715	3,093	3,097	3,158	3,250
Total Shortage	27,907	3,402	7,115	9,342	7,193
Annual Recruitment	7,004	12,344	12,344	12,344	12,344

**Source:** Primary Education Development Programme (PEDP III)

Assumption: PTR 1:40 and Teacher Attrition Rate of 1.5%

The 2011/12 recruitment (7004) is the expected TTC output of 2012 and total shortage distributed equally in the remaining years

**Table 21: Secondary School Teacher Requirement and Availability Projections, 2010–2015**

Year		2009	2010	2011	2012	2013	2014	2015
<b>Projected Secondary School Enrolment</b>		1,466,402	1,691,576	1,835,286	1,955,121	1,951,183	2,028,602	2,066,417
<b>PTR Form I - IV</b>		20	20	20	20	20	20	20
<b>Total Teacher Requirements</b>		73,320	84,579	91,764	97,756	97,559	101,430	103,321
Diplomas	75%	54,990	63,434	68,823	73,317	73,169	76,073	77,491
Graduates	25%	18,330	15,859	17,206	18,329	18,292	19,018	19,373
<b>Teachers on post:</b>								
Diplomas	75%	20,032	33,553	41,534	49,466	57,299	64,889	72,334
Graduates	25%	5,836	11,184	13,845	16,489	19,100	21,630	24,111
Licensee and others	0%	8,086	0	0	0	0	0	0
<b>Total Teachers on post</b>		<b>33,954</b>	<b>44,738</b>	<b>55,379</b>	<b>65,954</b>	<b>76,399</b>	<b>86,519</b>	<b>96,446</b>

<b>Teachers graduating from Colleges:</b>								
Diplomas		7,000	7,070	7,141	7,069	6,716	6,380	6,061
Graduates		6,500	7,150	7,865	8,652	9,517	10,468	11,515
<b>Total Teachers Graduating</b>		<b>13,500</b>	<b>14,220</b>	<b>15,006</b>	<b>15,721</b>	<b>16,232</b>	<b>16,848</b>	<b>17,576</b>
Aggregate Teacher Attrition	8%	2,716	3,579	4,430	5,276	6,112	6,922	7,716
<b>Total Teacher Availability</b>		<b>44,738</b>	<b>55,379</b>	<b>65,955</b>	<b>76,399</b>	<b>86,519</b>	<b>96,445</b>	<b>106,306</b>
<b>Additional Teacher (Shortage)/Excess</b>		<b>(28,582)</b>	<b>(29,200)</b>	<b>(25,809)</b>	<b>(21,357)</b>	<b>(11,040)</b>	<b>(4,985)</b>	<b>2,985</b>

**Source:** *Secondary Education Development Programme (SEDP II) 2010*

## **4. TEACHER: OVERVIEW OF TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT**

Teacher education and professional development in Tanzania is supervised by the Ministry of Education and Vocational Training (MoEVT). Teacher Education and Professional development is achieved in two phases: pre-service and in-service teacher education. Pre-service teacher education programmes are run by both government and non-government training institutions. In-service teacher education programmes are mainly run by public institutions and are either upgrading or non-upgrading programmes. Most upgrading programmes are run by the same training institutions that offer pre-service programmes. These types of in-service programmes are mainly academic and less professional, and attract many teachers due to the fact that they are recognized for promotion. Non-upgrading programmes are not recognized for promotion, and therefore attract teachers only when they are associated with allowances. However, the current upgrading programmes do not provide opportunities for the teacher's cumulative career advancement along the same specialization.

The MoEVT and sister institutions such as the Tanzania Institute of Education (TIE), Agency for Development of Educational Managers (ADEM), and the School Inspectorate Section, provide most of the non-upgrading in-service programmes, in collaboration with NGOs, universities and teachers' colleges. In most cases, such programmes are inequitably accessible, ad-hoc, non-continuous and uncoordinated, and therefore, limited in their potential to contribute towards the professional advancement of teachers. Moreover, many ICT-in-education projects, such as the Bridge IT, TZ 21 and Badiliko, exist in the country, and serve different levels of education. These initiatives need to be harmonized and coordinated in order to realize the sector objective on ICT use and integration in education.

### **4.1 Pre-Service (initial) teacher training**

In many countries, Initial Teacher Education and Training, also known as Pre-service Teacher Education, takes place largely in tertiary institutions. Its aim is to prepare a person for a teaching career. Pre-service teacher education provides the foundation skills to student teachers in areas such as educational theories, education philosophy, and educational psychology, as well as pedagogical subjects. However, a difference prevails regarding the balance between academic and pedagogical content knowledge among teacher training institutions. The quality of initial teacher education programmes has been criticized in many countries, particularly the training programmes for primary school teachers. The criticism is

with regards to the qualifications of new entrants, duration of the programmes, qualification of tutors, and the quality of the curriculum.

In the Tanzania context, initial teacher education and training is offered at three levels, namely:

- i. ***Certificate in Teacher Education*** produces teachers for pre-primary and primary schools. The certificate teacher training programmes are of two years duration and admit holders of the Certificate of Secondary Education Examination.
- ii. ***Diploma in Teacher Education*** produces mainly ordinary level secondary school teachers. The two year diploma programmes admit holders of the advanced certificate of secondary education examination with relevant passes. A few universities train pre-primary and primary school teachers at a diploma level.
- iii. ***Degree in teacher education*** offered by universities and university colleges of education. These are university based three year programmes and produce teachers for ordinary and advanced secondary schools, as well as tutors for teachers' colleges.

Certificate and diploma programmes are offered by teachers' colleges, both government and non-government. The curricula for these programmes are developed by the TIE and examined by the NECTA. A few universities also offer diploma in education programmes. The school inspectorate is responsible for quality assurance by monitoring implementation of the curriculum in teacher education training institutions.

The Management and supervision of Pre-service Teacher Education and Training is under the MoEVT through the Department of Teacher Education. However, non-government teacher education and training institutions are responsible for managing their own institutions in terms of resources and infrastructure. MOEVT provides policy and guidelines in all institutions for the purpose of quality control.

#### **4.1.1 Teacher-training capacities**

Initial Teacher Education and training is provided by both public and private institutions. There are 34 government teachers' colleges that are evenly distributed in the country's education zones. In 2013 there were 92 private teachers' colleges, almost three times the number of public teachers' colleges. These are mainly situated in cities and big towns depending on the owners' interests. **Table 22** shows the status of Teachers' Colleges from the year 2008–2013.

**Table 22: The Status of Teachers' Colleges – 2008–2013**

	Year	2008	2009	2010	2011	2012	2013
Number of Teachers' Colleges	Government	32	34	34	34	34	34
	Non-Government	34	43	58	69	71	92
	<b>Total</b>	66	77	92	103	105	126

**Source:** *Basic Education Statistics in Tanzania 2013*

The initial teacher-training institutions' current capacity in terms of the number of persons trained yearly varies largely from one college to another. **Table 23** below shows the country's teachers education training capacity for the past four years.

**Table 23: Teachers' Training Capacities for the Past 4 years**

Category	2009			2010			2011			2012		
	M	F	T	M	F	T	M	F	T	M	F	T
Diploma Pre-Service	1469	679	2148	8229	5450	13679	6514	3959	10473	5617	3832	9449
Diploma In-service	1469	665	2148	1723	932	2655	911	459	1370	645	281	926
Certificate (Pre-service)	5	21	26	4288	4734	9022	5995	6065	12060	8753	7468	16221
Certificate Special Education	5	21	26	338	120	458	171	169	340	16	14	30
In-service Grade B/C - A	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	12409	9300	21723	14578	11236	25814	13591	10652	24243	15031	11595	26626

**Source:** *Basic Education Statistics in Tanzania (BEST – 2012)*

The system of teacher education and training in Tanzania does not attract qualified applicants in sufficient numbers. The teaching profession in the country does not attract highly qualified applicants to join the teachers' colleges, and as a result, the Government has systematically been lowering the admission qualifications for student teachers at various levels. It is fortunate that employment opportunities for teachers are still high, and therefore a majority of teacher education entrants are motivated by the "no choice" opportunity. However, the increased failure rate at both ordinary and advanced level secondary schools has substantially reduced the number of applicants for teacher education programmes.

The government of Tanzania with support from the government of Sweden through Sida, implemented an ICT project in all 34 Government TCs from 2005 up to 2009. The aim of the project was to build capacity of the college tutors to use ICT as a teaching and learning tool and ultimately to prepare quality pre-service teachers. The ICT infrastructure established in the colleges has increased their capacity to deliver quality instructions using ICT laboratories deployed by SUN Thin Client Technology, Open Office and Solaris. Some tutors have been trained on CISCO Networking and repairing, which facilitate the running of ICT labs. During the first phase of the deployment of ICT in TCs, 2-4 tutors in each college were certified in CISCO IT essentials, 80 tutors have been trained with ICDL training in ICT integration, management and technical skills (Gesci 2011).

All teachers' colleges are connected with VSAT technology for networking purposes. A few private sector teachers' colleges have operational ICT labs.

The training in ICT knowledge and skills available in the government teachers' colleges aimed at sustaining the use of ICT technology at the college level by providing the technical capacity to support repaired maintenance and other related services. The wider concept of ICT use as a tool for teaching and learning by tutors is not yet adequately addressed.

Although the project focused on pre-service teacher training, there was no consideration for inclusive education component in order to take onboard student-teachers who will teach students or pupils with special learning needs. More so, school inspectors were not included in the ICT training in order to acquaint them with ICT skills and enable them to inspect training for quality assurance.

However, the ICT infrastructure installed in the 34 government TCs faces a number of challenges namely:

- (i) The Sun Thin Client Technology, Open Office and Solaris installed is outdated technology as it was installed in 2007. It requires replacement and installation of a new technology which can meet the current teacher education and training needs;
- (ii) The number of ICT facilities that do not match the number of student-teachers as well as the one for tutors;
- (iii) Unreliable internet connectivity and power supply;
- (iv) Unavailability of Digital Learning Resources (DLRs) for teacher education and training
- (v) Technical training programmes were not adequate to make ICT tutors competent;
- (vi) Lack of graduate tutors specialized on IT methods to implement ICT curriculum for teacher training at Diploma and certificate; and
- (vii) Lack of expertise on availing DLRs through development/creation in teachers' colleges.

#### **4.1.2 Characteristics of initial teacher training**

Deviations exist between set standards and practices in terms of admission criteria and procedures. The minimum admission criterion in terms of completed years of education for initial teacher-training depends on the type of course one wants to study. For the certificate course, the criterion is a minimum pass of division IV at the Form IV examination. The practice has been fluctuating between division four of points 28 (2011/12) and points 27 (2013/14). Similarly for the diploma programme, the set standard is having a Division III at the advanced certificate of secondary education examination with at least two principal passes. Of late the minimum requirement has been lowered to one principal and one subsidiary pass in the teaching subjects. In some cases even lower passes have been accepted through bridging courses and crash programmes. This is caused by the low performance in Advanced Secondary education where teachers' colleges compete with the universities on entry qualifications within the same pool of students. Although standards of admission into universities have remained at an appreciable level, the current competition among universities has resulted in some of them lowering the level of selection under the Central Admission System (CAS) supervised by the Tanzania Commission for Universities (TCU).

#### **4.1.3 Use of ICTs in initial teacher training**

The current level of development of ICT infrastructure and facilities with internet connectivity in government teachers' colleges is an opportunity for improved initial teacher education programmes. ICT is used in teacher education in three ways:

- (i) ICT is a subject of study in teachers' colleges, Information and Computer Studies (ICS) pedagogy is a subject for learning how to teach information and computer studies as a subject.
- (ii) ICT is a learning resource with which teachers and students can access a variety of teaching and learning materials via the web and other off line facilities.
- (iii) IC Technologies are also pedagogical tools for teaching and learning, with which teachers can prepare and present lessons, keep students' records, process student assessment and in general, manage all teaching and learning activities.

The ICT academic and ICS pedagogy syllabuses provide a sound base for the colleges to produce ICT competent teachers. Non-government teachers' colleges are still lagging behind on ICT use for teacher training programmes. In the government teachers' colleges ICT Technologies are used to provide ICT literacy to student-teachers, prepare teaching and learning materials, and in the delivery of their lessons using power point presentations and multimedia facilities

### **In-service Teacher Training**

Development of the Teacher Development and Management Strategy (TDMS, 2008) and the establishment of Teachers' Resource Centres (TRCs) in the country were among the best strategies for improving teacher competencies. However, lack of continuous professional development programmes for teachers, inequitable access and uncoordinated INSET programmes, have remained the major obstacles that constrain the potential for professional advancement for teachers. The approach of INSET has been through donor sponsored projects, which by design are not sustainable. Such projects grind to a halt at the end of each project. The main approach of the Government driven initiative has been the cascade mode through Training of Trainers (ToTs). For a long time this approach has not been effective because of inadequate funding both at the central and local government levels.

Although INSET is defined in the Education and Training Policy (ETP 1995) as compulsory to teachers for ensuring teacher quality and professionalism, it is not practiced by both government and non-government teachers' colleges.

In the history of teacher education in Tanzania, there have been times when in-service training was accorded great importance. Chediel (2004) narrates the early 1970s in-service training that was implemented to help teachers acquire skills in teaching reading, writing and arithmetic (3Rs). This particular in-service training and others, such as, MUKA, are the best example of college based in-service training.

It is unfortunate that, despite recognizing the importance of in-service training, there is no comprehensive INSET scheme in the teacher education colleges for its implementation. Since the last days of MUKA in 2000s, teachers' colleges have mainly been engaged in pre-service training. As a result, teacher educators have the feeling that they have been denied professional development as part of their rights. Available literature associates the shortage of in-service training with lack of funds to run the programmes (Kitta, 2004). Funds allocated for in-service training are too little and too dependent on foreign donors. Consequently, if donors do not give funds, organizing residential college based in-service training national wide is very limited.

Most of the in-service trainings taking place are in the form of seminars and workshops. Although such workshops try to bridge the gap, the time allocated is too short to explore important issues. Meena (2009) argues that, although such seminars and workshops are common, they do not significantly impact on the teachers' work. They are presented as if they are not connected with teachers work and setting (MoEVT & OUT, 2007).

### Current educational theories in practice

The 2005 change of curricula in Tanzania from content based to competence based, increased the demand for in-service training for teachers. A Training of Trainers programme was planned as part and parcel of the orientation package to teachers. However, access remained a big challenge. The cascade mode used has not reached many teachers in the schools.

### Evaluation of professional knowledge and achievements

Pre-service teacher education programmes are evaluated through tests, examinations, and supervised teaching practices. Since the teacher training is provided within a limited time (2 years), it is difficult to evaluate the competence and impact of professional development and achievement of teachers in schools. However, lack of systematic and coordinated in-service and professional development programmes for teachers makes it difficult to evaluate their impact. It is expected that a move by the Government to establish a National Teachers Professional Board will solve the problem because the Board will be supervising teachers' professional development activities.

#### 4.1.4 Effectiveness of initial teacher education and training institution

The effectiveness of initial teacher training institutions, measured by the success rate in the final examination, is above 75%. This shows that teacher training institutions are performing reasonably well. **Table 24** shows the passing rates from 2007–2011.

**Table 24: Pass Rates in Teachers' Colleges Examinations (2007–2011)**

Year	Diploma			Grade A		
	PASS	FAIL	TOTAL	PASS	FAIL	TOTAL
2007	3,710	125	3,835	938	23	961
2008	3,282	504	3,786	7,412	126	7,538
2009	3,801	1,518	5,319	8,430	30	8,460
2010	5,199	2,576	7,775	12,569	643	13,212
2011	5,442	1,744	7,186	10,582	264	10,846
<b>TOTAL</b>	<b>21,434</b>	<b>6,467</b>	<b>27,901</b>	<b>39,931</b>	<b>1,086</b>	<b>41,017</b>

**Source:** National Examination Council of Tanzania (NECTA), *Basic Education Statistics in Tanzania (BEST 2012)*

The student-teachers/tutors ratio in initial teacher education institutions is better compared to the corresponding ratios in primary and secondary schools. Their qualifications and profile are linked to the quality of the training provided to future teachers. **Table 25** clearly depicts the student tutor ratios in the TCs, during the period 2008–2012.

**Table 25: Student-teachers/Tutor Ratio and Teaching Staff in Government and Non-government, 2008–2012**

ITEM		2008	2009	2010	2011	2012
Teaching staff	<b>Grand total</b>	<b>1,060</b>	<b>1,678</b>	<b>1,745</b>	<b>1,833</b>	<b>2,044</b>
	Government		1,271	1,356	1,320	1,515
	Non-Government		407	389	513	529
Qualified Tutors	<b>Grand total</b>	<b>1,060</b>	<b>1,678</b>	<b>1,665</b>	<b>1,769</b>	<b>2,005</b>
	Government		1,271	1,288	1,273	1,549
	Non-Government		407	377	496	456
Percentage of Qualified tutors		n/a	n/a	95	97	98
Student Tutor Ratio		21	22	21	21	21
Student Qualified Tutor Ratio	Government		17	20	19	17
	Non-Government		34	29	27	36
	<b>Average</b>	<b>21</b>	<b>22</b>	<b>22</b>	<b>23</b>	<b>22</b>

**Source:** *Basic Education Statistics in Tanzania (BEST) - 2013*

Currently, the annual cost of training a certificate teacher is shillings 908,200. The cost of training of one diploma is shillings 1,242,200. These costs are slightly lower compared to those of other types of training that lead to similar qualifications. **Table 26** gives details on the costs.

**Table 26: Unit Costs for training Teachers**

**(a) Grade A Teacher**

	<b>Unit costs:</b>	<b>Tshs</b>
Tutor Salary Unit Cost		233,200
Other charges Unit Cost		675,000
<b>Total</b>		<b>908,200</b>

**(b) Diploma holder Teacher**

	<b>Unit costs:</b>	<b>Tshs</b>
Tutor Salary Unit Cost		443,200
Non Teacher Salary Unit Cost		124,000
Other charges Unit Cost		675,000*
<b>Total</b>		<b>1,242,200</b>

\* Tsh. 2,000 catering costs per teacher per day and 500 unit cost for OC per teacher per day (2,500 × 270 teaching days = Tshs 675,000)

It is not so clear to see the link of cost of teacher training and results (cost/efficiency analysis) achieved in the course (in terms of final-examination success).

## **4.2 In-service teacher training**

In-service training is provided both untrained and trained teachers. It is an integral part of the overall management of teachers' quality. However, in-service training of untrained teachers must be differentiated from that for trained teachers. The system's capacity to train untrained teachers must be assessed separately from its capacity to provide in-service training to trained teachers.

### **4.2.1 In-service teacher-training system capacities**

In-service education is currently a multi-player activity in which different institutions participate under the coordination of the Teacher Education Department. TIE, ADEM and the Inspectorate,

in their individual capacities, provide in-service education to teachers. Universities, NGOs and other organizations interested in education, offer in-service education, but mainly using the project approach. The big challenge is in validating the training contents in line with national priorities in order to prevent duplications and deviations from the national focus and curriculum requirements. In such a situation, it is very difficult to establish the existing INSET capacity, but it is easy to see the existing opportunities.

The expansion in enrolment at both primary and secondary education levels, as a result of the PEDP and SEDP Programmes, caused a serious shortage of teachers. The Government responded to the challenge in different ways. The strategies adopted included

- a) Recruitment into the teaching profession at the secondary level of non-education graduates having teaching subjects in their degree programmes.
- b) Introduction of short-term pedagogy programmes and issuance of teaching licenses to such graduates.
- c) Reduction of the training period for initial teacher education programmes from 4 to 3 years for degrees in education programmes, and 1 year for diploma in education programmes.

These measures are considered by many educationists as having negatively affected the quality of graduates in teacher education, and hence on the teaching and learning in primary and secondary schools.

#### **4.2.2 Effectiveness of In-Service Teacher-training**

As mentioned before, the most effective types of INSET are the upgrading programmes offered by universities and other tertiary institutions. However, these programmes are mainly academic, and lack a matching pedagogical component. The programmes are more vertical than horizontal, and thus contribute to teachers' high attrition rate.

Pedagogy-biased INSET programmes are inconsistent in terms of access and occurrence, repetitive to some teachers, and have little, if any, linkage to the teaching and learning processes in classrooms.

Some In-Service Training is conducted by a number of international partners. For instance, the following ICT in Education initiatives are operating in Tanzania:

1. In 2009, Sida and MoEVT approached GeSCI and resulted in a Framework for ICT Use in Teacher Professional Development in Tanzania.

2. **Global e-School and Community Initiative (GESCI):** This project offers strategic advice to the education and training sector in developing countries on the effective use of ICTs in Education
3. **The Bridge IT project:** A project jointly launched by MoEVT and the International Youth Foundation (IYF) in close Partnership with the Forum for African Women Educationalist (FAWE) to increase the quality of teacher instruction and achievement among primary school students in Standard 5 and 6 in mathematics, science, and life skills through the innovative use of cell phone and digital technology.
4. **Rotary Club UK/British Council–Refurbishment:** The goal of this project is to supply 700 computers to 35 secondary schools, train two teachers in each school in basic technical maintenance skills, and develop content in a collaborative manner between 35 Tanzania schools and the UK.
5. **Bright Education Trust Fund:** This project is focused on providing training for teachers and school administrators by teaching them how to use ICT for classroom teaching procedures through working with teachers per school.

#### **4.3 Use of ICTs in teacher education and professional development (pre- and in-service)**

In line with the national ICT policy, the Basic Education ICT policy underscores the role and importance of ICT in the provision of education. Teachers must therefore be trained to manage the use of ICT in teaching.

The use of ICT gives teachers improved access to both pre-service and in-service programmes. However, it also poses a challenge in terms of the capacity of teacher-educators to continue supporting teachers.

In principle, there is a big demand for ICTs to be used for in-service training, particularly if one wants to reduce cost. Distance learning can be resorted to by deploying learning management systems, such as Moodle. The existing ICT infrastructure is reasonably satisfactory. Currently all 34 public Teachers' Colleges are connected by internet via the VSAT systems and pre-installed Solaris as Operating system, and Open Office as application software. Internet connectivity services are still on hire basis. Fibre Optical cable has already been laid down in all Regions and Districts, and the Government, through the Tanzania Telecommunications Corporations Limited (TTCL), is finalizing a plan to connect educational institutions and health centres using the District distribution points.

The facilities and resources required for providing in-service training are: human resource (ICT technicians, website developers, e-content developers, subject experts, curriculum developers, (tutors), and equipment (laptops, desktops, projectors, e-learning platforms, smart phones/iPads, radios, Televisions, smart boards, electricity and Internet Service Provider (ISP) owned by the Ministry of Education.

The main providers of conventional in-service training are:

- Ministry of Education and Vocational Training Department of Education.
- Tanzania Institute of Education.
- Teachers' Colleges
- Agency for Development of Educational Management
- Prime Minister Office – Regional Administrations and Local Government

#### **4.4 Funding**

Teacher Education is funded through the National budget. Development partners sometimes do contribute to the fund. The General Budget Support (GBS) has been adopted to strengthen teacher-training and improve the infrastructure of Teachers' Colleges.

The ability of MoEVT to acquire sufficient funds from Treasury to cover teacher-training costs depends on the Ministry's continuous involvement in the Public Expenditure Review (PER) process, and on its efforts to improve planning and budgeting at the education sector level. It also depends on the following factors:

- Improved systems of sharing information on resource mobilization and allocation;
- Enhanced accountability and transparency in the management of public resources;
- Enhanced transparency inherent in the PER process would result in increased donor support;
- Satisfactory joint sector review of performances in the context of General Budget Support annual reviews.

#### **4.5 Key issues and challenges**

##### **4.5.1 Issues**

The issues that face Teacher Education are:

- (a) Under funded teacher education programmes
- (b) Shortage of mathematics, science and language teachers

- (c) General disinterest by the youth of the teaching profession
- (d) Dilapidated infrastructure in Teachers' Colleges
- (e) Lack of participation of community around the Teachers Colleges
- (f) Lack of reliable power supply and internet connectivity especially in rural areas
- (g) Acquisition of ICT facilities to match with population at affordable costs

#### **4.5.2 Challenges**

The challenges that face Teacher Education are:

- (a) Shortage of seminar rooms, classrooms and assembly halls
- (b) Shortage of competent tutors
- (c) Insufficient budgetary allocation for Teacher Education
- (d) Unreliable supply of electricity
- (e) Shortage of laboratories, including ICTs labs, hostels, and libraries
- (f) Lack or shortage of ICT infrastructure and equipment
- (g) ICT-phobia among school administrators and zonal school inspectors
- (h) Inadequate supply of Form Six graduates in science, mathematics and language

#### **4.6 On-going and planned reforms**

The current planned reforms are curriculum review which is awaiting publication of the revised Education and Training Policy (2013). Currently no review is progress. However, preparations for review of the curriculum and other educational programmes are in process.

## **5. TEACHER MANAGEMENT: STATUS, REMUNERATION AND CAREER DEVELOPMENT**

### **5.1 Professional status**

Teachers in Tanzania have their own scheme of service and salary scale which caters for classroom teachers/college tutors, school inspectors, education officers in the Districts, Regions and at the Ministry headquarters. Tutors teaching in teachers' Colleges have a salary structure separate from that of primary and Secondary school teachers. The salary scale for tutors is higher compared to that of primary and secondary school teachers, and school inspectors. Likewise, teachers have a code of conduct specifically for both college tutors and teachers. The salary scale in the teaching profession does not motivate a majority of the Tanzanian youths with good academic performance, to want to join the teaching profession. The low pay in terms of salaries, the working environment which lacks basic social amenities, the absence of incentives and motivation schemes, all contribute to frequent absenteeism and attrition. Management of pre-primary, primary and secondary school teachers is the responsibility of the PMO-RALG, while management of school inspectors, college tutors, and teachers in pre-primary, primary and secondary schools, is under MoEVT.

Teachers' status in Tanzania changes as a result of in-service training as it leads to professional competence and promotion. Since 2001, there has been a high demand for teachers due to rapid expansion in enrolment in primary and secondary schools' under PEDP and SEDP. To ameliorate the problem of shortage of teachers the Government has employ some retired teachers on contract basis, and issued teaching licenses to community teachers, Form's Six leavers, and university graduates who have taken and passed in some teaching.

### **5.2 Remuneration, incentives, and benefits**

In implementing the Public Reform Programme (PRP), the Government has developed the Public Service Pay and Incentive Policy (PSSIP, 2012/13-2016/17). The main focus of the policy is to have an attractive, transparent and appropriate pay and incentive system that will motivate and retain Government staff, education personnel included, as a prerequisite for a better performing public service. The policy, apart from dealing with issues related to personal emoluments, addresses broader issues that cater for a wide range of Human Resources Management. The policy also sets the catalytic principle of equitable distribution of public service employees, teachers inclusive, for improved service delivery across the country especially in difficult and hard-to-reach areas. Activities within SEDP and PEDP will conform to

the PSPIP implementation strategy to provide incentives package to teachers in remote areas as a retention strategy.

Regarding salaries, teachers are paid on a monthly basis through their bank accounts. Local Councils make local arrangement to ensure that teachers can access their banks, most of which are located at the Districts' and Councils' headquarters. Funds allocated to teachers are insufficient, and as a result, the Government owes teachers a variety of debts, such as leave travel allowances, transfer allowances, treatment costs, and training allowance.

### **5.3 Opportunities for further professional and career development**

In-service training for teachers is ad hoc, uncoordinated, and has not been regularized (Komba and Nkumbi, 2008). There are no scheduled times when teachers are expected to attend certain courses for upgrading of skills and competencies. The skills upgrading that is currently taking place is based on individual efforts, and is not geared towards addressing identified needs of practicing teachers.

In 2008 the Government developed the TDMS as a strategy, with 13 strategic objectives aimed at allowing the training of teachers to precede quantitative expansions without losing sight of the need to ensure adequate quality teachers and quality teacher education system as a whole. Emphasis is put on strategies aimed at attracting and retaining teachers in the profession, and particularly, to work in disadvantaged areas. The TDMS is well designed and is a holistic framework for the development and management of teachers and education managers at all levels, and across all types of education programmes. The overall goal is to train and develop sufficient numbers of competent teachers and tutors who will effectively and efficiently support pre-primary, primary, secondary, vocational education and training, adult education, non-formal education, as well as teachers' colleges. The TDMS implementation period ended in June 2013, and it is due for evaluation. The Tanzania Government, in collaboration with the Canadian Government, is expecting to conduct an evaluation in April 2014.

MoEVT is currently focusing on teacher education in the following areas:

- Addressing the scarcity of teachers in science, mathematics, and English in secondary schools,
- In-service training of teachers (school-based INSET),
- Upgrading of licensed teachers,
- Upgrading non-education professionals to qualified teachers,
- Structuring the professional development of teachers, and

- Addressing teachers' competence in literacy and numeracy at low grade primary education.

#### **5.4 Key issues and challenges and strategies to address them**

The expanded enrolment in primary and secondary schools which followed implementation of PEDP and SEDP has exacerbated the challenges in terms of teacher demand, supply and distribution. There is a critical shortage of teachers at all levels, particularly in certain geographic locations, not least remote areas. The demand for science and mathematics subject teachers in secondary education is very high. The current demand for science and mathematics teachers stands at a staggering figure of 26,998, while the annual output of graduates from teacher training institutions is only about 2,300. There are also challenges in terms of the quality and competence of some of the practicing teachers in schools, quality assurance and quality control for teachers, and in terms of the need to provide continued professional development programmes to teachers, lack of orientation to teachers on implementation of competence-based curriculum, and inadequate in-service training opportunities and inadequate supply of educational materials

## **6. CONCLUSIONS AND RECOMMENDATIONS**

The contents of the preceding sections of this needs assessment document give a comprehensive summary of the current state of the art pertaining to education in Tanzania. The summary highlights both the achievements and the challenges Tanzania faces in the delivery of quality education to its citizens. In particular it exposes the gaps in the quality of education at primary, secondary and teacher education levels of the educational pyramid.

The following set of conclusions and associated recommendations aims at pinpointing the observed gaps and the possible ways of bridging them. It is hoped that some of these observations and recommendations will lead to pinpoint areas where the UNESCO–CFIT project activities will focus with a view to assist the Government in bridging the education quality gap in the context of Tanzania.

### **RECOMMENDATION 1**

Conditions of service for primary, secondary and teachers colleges do not attract best performers to join the teaching profession. As a result, almost only poorly qualified students join the teaching profession, and the few good teachers in government schools and colleges exit either to join non-government schools and colleges or leave the teaching profession altogether. While being aware of ongoing Government efforts to come up with an attractive incentive package for teachers, the Team recommends speedy completion and implementation of such a package so as to arrest the exodus of teachers.

### **RECOMMENDATION 2**

While acknowledging Government’s ongoing efforts to address the issue of quality under PEDP and SEDP, the Team recommends:

- (i) Integration of ICT in the entire process of teaching and learning.
- (ii) Use of the ODL mode of delivery in delivering in-service programmes to teachers at a selected centre of excellence in order to enhance teacher’s access to such programmes.

### **RECOMMENDATION 3**

The problem of shortage of teachers can be reduced by training and retaining more teachers. However, training is a slow process and takes time. Statistics show that the major cause of teachers’ shortage is retirement, coupled with an insufficient number of trained new teachers to replace them. The Team recommends engagement of some of the retirees on contract basis, especially those qualified to teach science and mathematics, where the problem is most critical.

#### **RECOMMENDATION 4**

To attract and retain teachers does not depend solely on momentary incentives. At present several organs are involved in managing teachers' affairs. This situation might be one of the causes for teachers' dissatisfaction. The team recommends the establishment of a unified body, such as the planned Teachers Professional Board, to deal with teacher related affairs.

#### **RECOMMENDATION 5**

The Pupil-Teacher Ratio (PTR) is an index for gauging the need for teachers, and has a direct impact on the quality of education. The current PTR of 1:40 at the primary school level does not apply uniformly in all schools, Districts or Regions. PTR is locally variant, urban versus rural, and Region wise. Typically, the PTR in Kilimanjaro Region is 1:30, in Dar es Salaam Region it is 1:32, and in Singida Region it is 1:70. In order to use PTR as a reliable instrument for assessing the need for teachers, the Team recommends that, computation of the PTR takes into consideration local factors, such as, teacher's workload, and the number of streams in schools.

#### **RECOMMENDATION 6**

Most teaching materials are currently in the form of hard copy textbooks. In many schools textbooks are in short supply or are not affordable to some teachers and students. In addition to the ongoing efforts by the Government to ensure adequate supply of teaching and learning materials in schools, the Team recommends:

- (i) Development of inclusive learning resources (DLR). This can be achieved either through creating new learning resources, adopting, or adapting relevant existing materials, in harmony with approved curricula.
- (ii) Coordination of all existing ICT initiatives in the Education Sector in order to ensure that they have a DLR component for schools and Teachers Colleges.
- (iii) Digitalization of all curriculum materials, and making them freely accessible to teachers and students.

#### **RECOMMENDATION 7**

There are a number of uncoordinated small scale ICT initiatives being implemented by different players at different levels in the Education Sector. These initiatives include, the TZ21 Project, Bridge IT, Teaching and learning Science and Mathematics using ICT in selected schools, ICT Project for Primary and Secondary Schools, World Vision ICT initiatives, and Badiliko Project. Because of lack of coordination, it is difficult for the Government to assess the impact of ICT integration in the Education Sector as per the laid down policy guidelines. The Team

recommends that, under the framework of Private Public Partnership (PPP), all ICT initiatives be centrally coordinated, based on laid down national needs. Since most of the ICT initiatives are geared towards developing teachers' and students' competences and skills in using ICT, there is a need for the Government to develop a National ICT Competence Framework for teachers in Tanzania in order to facilitate skills development.

#### **RECOMMENDATION 8**

Training of teachers and meeting their professional development needs is a big challenge amidst scarce resources. Current professional upgrading programmes do not provide opportunities for teachers to advance along the same career path. The team recommends that teacher upgrading programmes, especially at early childhood, pre-primary, and primary levels should be developed to allow teachers to advance within their professional careers.

#### **RECOMMENDATION 9**

Most teacher training programmes tend to exclude the school inspectorate, which is responsible for quality assurance. Quality assurance is a critical aspect in the delivery of quality education. Therefore, the Team recommends that capacity building for teachers should go hand in glove with capacity development for school inspectors.

#### **RECOMMENDATION 10**

Absenteeism of some teachers does affect students learning, and hence their performance. The practice of absenteeism is attributed to poor teacher management and accountability. The Team recommends:

- (i) Establishment of regular management training programmes for heads of schools and colleges;
- (ii) Strengthen of existing monitoring instruments for evaluating teachers' performance, and teachers' accountability in schools and colleges.

#### **RECOMMENDATION 11**

Students and teachers, both in government and non-government schools and colleges serve the Nation as a whole. It is therefore recommended that educational materials developed for the government schools and colleges be treated as free educational or open source materials for use by students, teachers and tutors at private schools and colleges.

## 7. REFERENCES

- (Dar es Salaam University College of Education, Tanzania) *“Teachers’ perceptions about ICT for teaching, professional development, administration and personal use”*-2011 - Mwalongo, Alcuin.
- (Mathematics Department University of Dar es Salaam, Tanzania) Gender disparity in Science and Mathematics education N/A - Masanja, Verdiana.
- (University of Twente, Netherlands) Practical use of ICT in Science and Mathematics teachers’ training at Dar es Salaam University College of Education: an analysis of prospective teachers’ technological pedagogical content knowledge 2010 - Kafyulilo, Ayoub C.
- *“A framework for ICT use in teacher professional development in Tanzania “* 2009 - Ministry of Education and Vocational Training.
- Baseline study: Teaching and learning Science, Mathematics and English in secondary schools using ICT 2011 - Ministry of Education and Vocational Training.
- Basic education development committee (BEDC) - Education Sector Development Programme (ESDP): The teacher development and management strategy (TDMS) 2008-2013.
- *Basic Educational Statistics for Tanzania (BEST):* Ministry of Education and Vocational Training (2013) in Draft Form.
- Chediell, R. W. (2004). Pedagogy Reforms in Tanzania: Learning from Experience. In N.Mtana, E.Mhando & G.Hojlund (Eds). *Teaching and learning in primary Education in Tanzania*.
- Global e-Schools and Communities Initiative (GESCI) Tanzania: ICT in education – situational analysis 2010.
- Global Partnership for Education Literacy and numeracy education support (LANES) programme: Mainland Tanzania 2013.
- kitta, S. (2004). *Enhancing mathematics teachers’ pedagogical content knowledge and skills in Tanzania*. Enschede: University of Twente.
- Komba, W. and Nkumbi, E. (2008): Teacher professional development in Tanzania: Perceptions and Practices. *Journal of International Cooperation in Education*, Vol. 11 No.3 (2008) pp.67-83.
- Meena,W. E. (2009). Curriculum Innovation in Teacher Education: Exploring Conceptions among Tanzanian Teacher Educators. Abo Akademi University press.
- Ministry of Education and Culture Education Sector Development Programme: Information and Communications Technology (ICT) – Education Management Information System (EMIS) Development Plan 2004-2007.

- Ministry of Education and Vocational Training Updated secondary education development programme (SEDP) 2004-2009.
- Ministry of Education, World Bank & GESCI Initiative Teacher development for the 21st century (TDev21) pilot: ICT competency standards for teachers in Tanzania 2011.
- *National Bureau of Statistics (NBS): The 2012 Population and Housing Census (2013).*
- Proposed "*secondary education development program II* " (SEDP II) 2010-2014 - Ministry of Education and Vocational Training.
- Secondary Education Development Programme II (July 2010-June 2015) - Ministry of Education and Vocational Training.
- Survey of ICT and education in Africa: Tanzania country report – ICT in education in Tanzania 2007 - Hare, Harry.
- Swedish International Development Cooperation Agency (SIDA) & Ministry of Education and Culture, Teacher Development Department Project description: implementation of ICT in teachers colleges in Tanzania 2005.
- *Tanzania beyond tomorrow (TBT): e-Education development programme for education and training (2013/14-2022/23) 2013* - Ministry of Education and Vocational Training
- The United Republic of Tanzania Education sector development programme (ESDP) (2008-2017).
- The World Bank & GESCI Teacher development for 21st century (TDev21) pilot initiative: Contextualization and piloting of ICT competency standards for teachers in Tanzania, Needs assessment and situation analysis report 2011.
- UNESCO Country Programming Document (UCPD) 2011-2015, United Republic of Tanzania.
- UNESCO, Dar es Salaam cluster office Tanzania: Education sector analysis – beyond primary education, the quest for balanced and efficient policy choices for human development and economic growth 2011.
- United Nations Tanzania United Nations Development Assistance Plan (UNDAP) 2011-2015.