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**ASSESSMENT OF FACTORS ACCOUNTING FOR LOW LEARNER OUTCOMES  
IN CORE SUBJECTS AMONG 5<sup>TH</sup> AND 9<sup>TH</sup> GRADERS IN ZAMBIA'S PUBLIC  
SCHOOLS**

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## ASSESSMENT OF FACTORS ACCOUNTING FOR LOW LEARNER OUTCOMES IN CORE SUBJECTS AMONG 5<sup>TH</sup> AND 9<sup>TH</sup> GRADERS IN ZAMBIA'S PUBLIC SCHOOLS

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### Abstract

**Purpose:** This paper was purposed to assess factors accounting for progressive low learner outcomes in core subjects among 5<sup>th</sup> and 9<sup>th</sup> graders in Zambia's public schools for over 15 years now.

**Methodology:** The study capitalised on desk review and expert analysis as methods and designs.

**Findings:** There is sufficient evidence to the effect that central government has decisively and massively invested in the basic school subsector since 2002 as the building infrastructure, consistent teacher recruitments, regionally benchmarked financial allocations and enrolment statistics by 2014 attest to this fact. However, the daunting amusement has been the fact that these massive subsector investments (inputs) have not translated into commensurate quality learner outcomes (outputs) for a consecutive period of over 15 years now as measured by National Assessment Survey Programme (NAS) through the Examinations Council of Zambia (ECZ), which has progressively revealed that learner outcomes have been constantly below 40% benchmark country-wide among 5<sup>th</sup> and 9<sup>th</sup> graders in core subjects of Mathematics and English. Paradoxically, learners' teachers have equally scored averages of 75% to 80% in the same assessments which their pupils have been failing. The low learner outcome syndrome has also been positively correlated with some donors' sector budgetary support withdrawal as they have been sent into consternation. Principally, lack of efficient and effective management, monitoring and evaluation of teaching-learning service provision by respective management hierarchies within the Ministry of General Education and its subsector institutions, could conclusively be cited for the perpetuation of the phenomena.

**Unique contribution to Theory, Practice and Policy:** The paper recommends with a clarion herald a pragmatically holistic policy paradigm shift and internal efficiency-based cleansing mechanisms by the education sector policy makers/politicians/donors, managers and line stakeholders to revolutionize the modus operandi in total quality teaching – learning service delivery in order to sustainably combat the scourge.

**Key words:** *Assessment, Factors and Low-Learner-Outcomes*

## 1.0 INTRODUCTION

Zambia has demonstrated firm conviction on the need to provide quality education, deemed to be a pre-requisite to socioeconomic development of the nation and general improvement in the quality of life of citizens benchmarked by Human Development Index (HDI). In an abridged version, this assertion is drawn from the country's landmark reforms, restructuring, policies and conventions signed since 1996 to date poised to actualise its aspirations as provider of top-notch education service in the region and ultimately achieving the vision 2030 of being a prosperous middle income country (SNDP, 2017-2021). In this regard, the government through the Ministry of Education, implemented policies and programmes such as 'Educating our Future Policy of 1996,' 'Universal Free Primary Education (2002), revised Education for All of 2015, signing and domestication of the Incheon Declaration in May 2015, establishment of the Teaching Council of Zambia in 2014, decentralization of service provision from central administration to subsector organs like District Education Board Secretary (DEBS), school levels (UNESCO, 2018; MoGE ESSP, 2019; World Bank, 2018; MoE, 2002). These reforms were and are aimed at improving the quality of education service delivery (efficiency/effectiveness) qualitatively and quantitatively as measured by inputs such as infrastructure, books, classrooms, teacher availability, and sanitary facilities *inter alia* and outputs such enrolment rates, survival rates, gender parity rates, learner achievements/outcomes, completion rates, respectively. As for the basic education level (1-9), there is no contention that government massively invested in infrastructure construction / expansion, commensurate teacher recruitments to match growth / demand, school supplies, and grants disbursements between 2006 and 2014 to the extent that by 2015 the Net Enrolment Rate (NER) stood at 99% compared to 59% earlier in 1990s leading up to 2000. However, the National Assessment Surveys in vital subjects like English and Mathematics at grades 5 and 9 levels indicate repetitive and progressive low learner outcomes of far below average benchmark of 40% across the board (World Bank, 2015; ECZ, 2017) and this paper is poised to assess probable factors occasioning and sustaining the subsistence of the phenomena.

### Problem Statement

Whereas the Ministry of General Education along with its Co-operating Partners massively invested in the basic education subsector spanning from 2002 to 2014 envisioned to improve quality learner outcomes and achieve the vision 2030 of being a prosperous middle income country, the 1999 to 2016 National Assessment Surveys (NAS) have consistently indicated a constant and progressive lower learner outcome trend in core subjects like English and Mathematics at grades 5 and 9 levels. Specifically, the 1999 NAS shows that grade 5 learner outcomes were 34% in Mathematics and 33% in English while the scores became 36% and 33% in Mathematics and English in 2014 respectively. In the same vein, at grade 9 level in 1999, the scores were 29% and 36% in Mathematics and English while in 2014 the scores were 29% and 37% in Mathematics and English respectively (World Bank, 2015; World Bank 2016; MoGE, 2017; MoGE, 2015), which phenomena has left policymakers and stakeholders at crossroads. Performance of public schools has been characterized by significant inefficiency, ineffectiveness and incoherence with no empirical basis for understanding such performance disequilibria (MoE, 2007). This paper, therefore, undertakes to dissect and critically assess causal factors to the phenomena.

### Specific Objectives

- i. To evaluate government's support towards the improvement of learner outcomes at basic school level.

- ii. To identify factors responsible for constant below average learner outcomes among 5<sup>th</sup> and 9<sup>th</sup> graders in Zambia's public schools.
- iii. To establish co-operating partners' / donors' position on the low learner outcomes phenomena.

## **2.0 LITERATURE AND THEORETICAL REVIEW**

### **National Population Upswing**

Zambia is experiencing a large demographic shift and this trend is expected to continue as the large youth population enters the reproductive age. Currently, the Zambian population is estimated to be over 17 million (World Bank, 2018). In terms of age structure, the population under the age of 15 years account for about 50 per cent while those under the age of 35 years account for 70 per cent of the Zambian population (Masaiti *et al.*, 2018). Therefore, the country overall has a young population which makes the provision of quality educational services to this population to be of strategic importance to government (EFA, 2015) in view of its blue prints.

### **Contextual Background of National Assessment Surveys**

Zambia has a long-standing history of conducting national assessments tracing back to 1999 through the Examinations Council of Zambia (ECZ). By 2016, the ECZ had conducted eight NASs (1999, 2001, 2003, 2006, 2008, 2012, 2013 and 2016), meant to ensure equity and quality learner outcomes. The National Assessment Programme (NAS) is an inbuilt instrument meant to monitor progress made in the provision of basic education in Zambia. The implementation of the NAS on a regular basis was effected through the Basic Education Subsector Investment Programme (BESSIP) which outlined the rationale, frequency, management and the methodology of NAS (ECZ, 2016).

### **Government's Investment in the Basic School Subsector (2002 to 2014)**

In a decisive action to enhance the provision of basic education and curb all manner of equitable and accessibility barriers which incessantly existed since independence (1964), the government of the Republic of Zambia declared and instantaneously implemented the Universal Free Primary Education Policy (UFPE) in 2002 covering grades 1-9. The UFPE was envisioned to exponentially increase access to education to all, promote the socioeconomic well-being of all citizens, and to achieve a good quality of life for every citizen (Phiri, 2015).

Consistent with this conviction and vision, the trend of public education expenditure between 2006 and 2013 shows steady growth of education expenditure in both nominal and real terms. Government's expenditure on education grew from ZMW 1.5 billion in 2006 to ZMW 5.2 billion in 2013 in nominal terms. The budgetary allocations for 2014 and 2015 increased even higher to ZMW 8.6 billion and 9.4 billion. Using the constant price of 2013, the public education expenditure also grew from ZMW 3.0 billion to 5.2 billion between 2006 and 2013. The ratio of government expenditure in education to GDP stayed strong, by ranging between 3.7 percent and 4.4 percent during the period of 2006 through 2013, and it was projected to be higher in 2014 and 2015, exceeding 5 percent of GDP. This was relatively on higher side in the region and comparable with other emerging economies (World Bank, 2015) to ensure massive infrastructural development, teacher recruitment and teaching material supplies availability as also several co-operating partners committed and actualized their financial support and technical services to the cause.

The circumstance prior to the foregoing undertaking was such that although the country had experienced growth in the primary school subsector between 1972 and 1990, the gross



enrolment rate was only about 59% (World Bank and UNICEF, 2009). Furthermore, “the system favoured a small minority who were believed to be academically sound to the detriment of the majority, hence promoting the spirit of selfish competition at the expense of co-operation (GRZ, 1976:1-14). To address this issue, the Education Reform Document resolved to expand provision at primary level by, among others, conversion of buildings owned by absentee landlords, private homes, churches and community facilities into schools (Masaiti *et al.*, 2018). All these aggressive undertakings were inspired by the realization that education was a basic human right for the entire human race and the foundation on which to build peace and drive sustainable development (UNESCO, 2018) for the benefit of all.

Consequently, randomized performance records indicate that between 2005 and 2015, a total of 14,235 classrooms were constructed at primary education level (7NDP, 2017-2021), the number of teachers increased from 50,123 in 2002 to 77,362 in 2009 (SNDP, 2011-2016) and pupil enrolments also increased from 2.5 million pupils in 2005 to 3.3 million in 2009 (Mambwe, 2010; Masaiti *et al.*, 2018). On the other hand, over one third of the girls who became pregnant returned to school between 2002 and 2009. Over 200,000 students in basic schools were reached with improved water and sanitation (MoGE 2015a). Between 2014 and 2015, enrolments increased with the number of primary school children reaching up to 3,691,486 in 2014, coupled with improved water and sanitary infrastructure along with library facilities (MoGE 2016b). According to MoGE (2015a), the primary school Gross Enrolment Rate was at 120.8% by 2015. In buttressing the growth in the subsector, the World Bank 2016/2018 Reports placed Zambia’s current net enrolment rates at 99%.

With the foregoing massive financial and infrastructural development with resultant exponential growth in pupil enrolments (of up 120.8% from 59% in 1980s / 1990s) coupled with commensurate teacher recruitments, teaching learning materials to match with demand, it is rather an ironical reality to caption consistent and constant low learner outcomes in the subsector for the past consecutive fifteen years of below average (40%) performance. This is also notwithstanding the MoGE’s resounding vision of providing, “*Quality, Lifelong Education for all which is Accessible, Inclusive and Relevant to an Individual, National and Global Value Systems*” (MoGE, 2019).

### **Education Quality Status**

The quality of education at primary school level has remained low with the 1999 to 2014 learning outcome scores stagnated at below 40% while there has been little improvement in *teaching content, processes and school environments*. Zambia’s top priority currently is to achieve efficient and quality universal primary education (UPE). Notwithstanding the country’s credible achievements in increasing enrolments, the quality of education remains very low at basic / primary school level when considering the input-out indicators that are used to measure the quality of education. The key indicators used to measure quality in the Educational Statistical Bulletin produced by the Ministry of General Education annually are the examination pass rates, the survival rate from grade 1 to grade 5, the pupil/book ratio, pupil/classroom ratio and the contact hours. In addition, the quality of education at primary school level is also measured through the National Assessments on pupils’ learning achievements conducted by the Examinations Council of Zambia every after two years (ECZ, 2016; Masaiti *et al.*, 2018; BETUZ, 2015).

### **Student Learning Outcomes – Internal efficiency**

There has been no tangible improvement in student learning outcomes since the first national learning assessment survey conducted in 1999. Scores for English and Mathematics for grade

5 remain as low as 33 percent and 36 percent (PETS-QSDS World Bank, 2015). Grade 9 fares worse with scores of 29 percent for Mathematics and 36 percent for English. While there is no gender gap at grade 5 level, girls score lower in Mathematics at grade 9 level (World Bank, 2015). It is worth-noting that a number of NAS have been conducted and for the past 15 years, the learner outcomes in core subjects like Mathematics and English have been constantly below average at the said levels with constant trends (ECZ, 2017). This phenomenon essentially impairs and bleaks Zambia's 2030 Vision of becoming a prosperous middle income country riding on skilled human capital through an effective and efficient education system. It is, therefore, absolutely necessary to interrogate and assess the probable factors occasioning and sustaining the subsistence of such a misnomer in a bid to sanitize and normalise the system for the country's sustainable human and national development.

### **Teacher Management**

The availability of teachers to provide their teaching services in a school is of paramount importance to learners' ultimate success just like a doctor presence is to a patient at a hospital. There has been no improvement in teacher absenteeism of 20 percent since 2002 (The World Bank, 2015). If teachers are consistently absent from their stations of duty, then chaos reigns and ignorance among learners renders advantage which becomes a serious bleeding ground for illiteracy and a hatchery for poverty. Lack of effective supervision of teachers can adversely affect the performance of learners (D'souza, 1994) and this has been a phenomenon in perpetuity in most public schools in Zambia.

### **School Environment**

Studies stress and lay emphasis on high intellectual expectations of teachers, a professional attitude towards school and staff development, the use of rewards rather than punishments (Drever, 1991) which finding strictly correlates with Allan's (1996) in China which found that school characteristics had a significant role to play on academic performance of learners.

### **Family and Education Backgrounds**

Jaggia *et al.*, (1994) and Wegner *et al.*, (1995) conducted interrelated studies in America and while the former found out that family background and the stability of a community were the main factors affecting students' learner outcomes, the latter held that poor learner outcomes were chiefly occasioned by substandard education background with a further argument that teacher incompetence and not giving students examinations on regular basis positively correlated with undesirable learner outcomes. On the other hand, Rammala (2009) concluded that positive learner outcomes could not be achieved devoid of educationally supportive learner's home environment (which should be free from parents' low level of education, poverty, unemployment, emotional problems, unpredictability etc).

### **Curriculum Revision and Teaching Learning Materials**

Studies in Africa have confirmed to the effect that haphazard revision of curricular content by authorities without preparing learners and giving them reading materials has a tendency to entrench poor learner outcomes (Mitter, 1991). On the sidelines, Mbozi's (2008) study in Zambia stressed the necessity of reading/learning materials such as text books in normal ratios as being pre-requisites to improved learner outcomes. However, earlier in 2000, Kelly and Kasanda (2000) through their study concluded that mere supply of school text books would not automatically improve learner academic performance but that teacher training needed enhancement. The outcomes of scholars' studies herein are both correct based on their

focus and orientation though it can further be stressed that government's 2002 enacted UFPE Policy coupled with BESSIP was largely lopsided towards infrastructure expansion and development but devoid of internal efficiency quality assurance mechanisms to guarantee predictably desirable learner outcomes.

### **Over-enrolments**

According to Ndoye (2007), most schools in Zambia are characterized by over-enrolments which have a negative impact on the quality of education. This, in turn, results in higher pupil-teacher ratios, pupil-classroom ratios, pupil-book ratios, pupil-desk ratios which ultimately affect the performance of learners.

### **Availability of School Facilities**

The non-availability of school facilities like desks, blackboards, electricity, transport, water and sanitation had a dauntingly negative effect on pupil attendance, and in turn learner achievement (Kelly et al., 2000).

### **Co-operating Partners**

Zambia has had donors contributing finances annually to MoGE sector budget to cushion its financing of school activities, teaching/learning materials and construction of school infrastructure, among others. This was in recognition of the country's being a developing country (needy) and the fact that philanthropism is part of the mission blue prints of the donors (UNESCO, 2016). However, *prima facie* evidence, indicate that most of these donors (Canada, Denmark, Netherlands) have completely closed their assistance and left the country while others like Ireland and others have equally pulled out of the pool fund and no longer support the MoGE sector budget annually citing, *inter alia*, amusing internal sector inefficiency. While presenting the 2018 National Budget, the then Minister of Finance, Hon Felix Mutati confirmed non- disbursement of grants from co-operating partners (Budget Speech, 2018:5-7).

### **Gaps in Literature**

Factors affecting desirable learner outcomes have been a teething challenge in the Ministry of General Education (MoGE) from the time immemorial despite a number of reforms, policies, curricular revisions, teacher training advancements and pedagogical reviews. The aspects of inefficiencies and ineffectiveness in the sector have been a strong concern of not only the policy-makers but also all other line stakeholders (MoE, 2007). This has recently been demonstrated by the MoGE's call for an Education Conference of all its stakeholders in January 2019 in order to solicit for transformative ideas for the sector (Lusaka Times, 4<sup>th</sup> January, 2019). Therefore, there are clear anecdotal signals and literature evidence that quite little is known in categorical terms about specific factors accounting for low learner outcomes for years now notwithstanding massive investments in the subsector in question. In this regard, although this desk review paper may not be exhaustive in delving into all factors responsible for the phenomena, it will provide salient policy notes and a foundational entry point for future empirical studies.

### **Theoretical Model – Education Production Function**

In econometric science, the theory of production function states that there is a correlation between physical outputs of a production process and physical inputs (Hanushek, 1979) in production function i.e. the amount of output depends on the amount of inputs given the

constraints imposed by the underlying technical process. In the same vein, Pritchett and Filmer (1997) stressed that the production function is a theoretical construct which gives mathematical expression to the production relationship that defines the maximum output to be produced from different combinations of given sets of inputs.

In application of Production Function theory in Education, Bowles (1970) has defined Education Production Function as follows:

$A=f(X_1...X_m,,X_n....X_u,X_w....X_z)$ , where;

$A$ = Some measure of school output; e.g. performance / outcome

$X_1...X_m$  = Variables measuring the school environment. These include amount and quality of teaching services, the physical facilities of the school, and the length of time that the student is exposed to these inputs;

$X_n....X_u$ = Variables representing environmental influences on learning outside the school- e.g. the parents' educational attainment, socio-economic status of students, etc.

$X_w....X_z$ = Variables representing the student's ability and the initial level of learning attained by student prior to entry into the type of schooling in question, e.g. students' prior performance.

Therefore, Education Production Function (EPF) takes schools as enterprises in which "raw materials" (children) and other inputs (teachers, books, libraries, certain outputs (products) (Hanushek, 2007) are synergized and integrated in order to achieve an accomplished and fully baked person as an ultimate desirable product for societal stability and progression. By employing the tenets of the EPF model in this study, it should be noted that inputs in the education system are of utmost significance if the structure is to function to its intended purpose and achieve blue print objectives. Primarily and particularly, there cannot be quality outputs in terms of learner achievements, transformed society and ultimately a developed nation if deliberate investments are not made to the sector in terms of capital, labour, and other inputs (Todaro *et al.* 2015) In this regard, there is evidence in literature to the effect that countries which have invested heavily in their education sectors are able to get a return commensurate or beyond their capital investment in both medium and long term (Young, 2019; UNESCO, 2018; Todaro *et al.*, 2015). This outlay is in terms of infrastructure (class rooms, well-stocked libraries, buildings, ICT equipment), human capital investment by way of training and managing teacher to pupil ratios through regular deployment / recruitment of teaching staff, curricula reviews, among others. Any mismatch from this benchmark implies poor quality outputs manifested in low learner achievements, high illiteracy levels, high learner drop-outs, low learner survival rates *inter alia*, as direct outputs.

### **Optimal Resource Theory (ORT)**

According to Anderson (2015), the optimal resource theory (ORT) is defined as an anti-reproduction perspective that assesses the influence of internally controlled micro-policies and micro-practices on positive student outcomes or personal development. Positive student outcomes are emphasized to challenge researchers to think more about assessing incremental achievement in some form. ORT adopts a pragmatic approach that focuses on incremental rather than systemic change by examining micro-policies and practices at the local education level and how the same could be tailored to positively influence desirable learner outcomes. Micro-policies and micro-practices are represented by internally controlled decisions at a given local level (e.g., district, school, and classroom). Micro-policies and micro-practices



warrant theoretical framing because macro factors or global measures or external factors are often used in educational research (e.g., received intervention or not, family income), but findings from externally determined variables do not often provide much insight for best practice. Moreover, results generated from global measures often fail to account for technical implementation (Cooper et al., 2004).

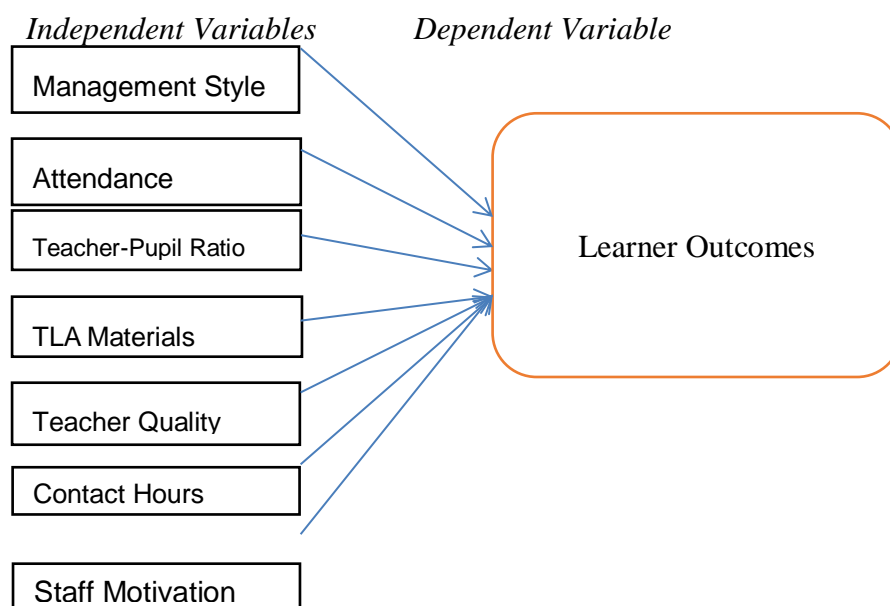
Attempts to control for external variables have occurred with varying success. Enhanced statistical approaches, such as multi-level modeling (Bryk et al., 1992), have been developed to isolate variable contribution, but use of such statistical approaches, while beneficial, also requires theoretical rationales that inform best practices. ORT holds that examination of micro-policies and micro-practices (e.g., localized decisions in schools or classrooms) may more readily inform best-practice research and desirable learner outcomes. ORT acknowledges that educational agencies operate with **finite resources** and are burdened with external factors that limit outcomes; yet, ORT purports to maximize the impact of school-based decisions by examining internally controlled decisions. ORT aspires to empower schools by evaluating school-based decisions with the intent to maximize two student outcomes: achievement or personal development. Achievement focuses on traditional indicators of academic mastery (e.g., grades, standardized tests, skill mastery, etc.) and personal development includes enhanced individual growth (e.g., racial identity, moral development, self-discipline, societal awareness, etc.).

The protagonists of this theory are philosophically and pedagogically inclined to appreciate the dynamism of circumstances which underpin the production of quality learner outcomes in an educational institution. There is direct inclination and implication to the effect that the decisions and management styles of managers at a school level have far telling consequences on the learner outcomes and the personal development thereof. It is in this regard, therefore, that the proponents of the ORT strongly glide and lean towards the absolute necessity of localised planning and decision making to influence desirable learner outcomes in these learning institutions. To the contrary, however, results of this study are consistently indicative of mal-administration on the part of managers in effective supervision of teaching staff thereby leading to poor learner achievements.

### **Conceptual Framework**

The conceptual framework of a study is the system of concepts, assumptions, expectations, beliefs, and theories that support and informs research. Robson (2011) observe that it is a vital part of the design. Miles *et al.*, (1994) defined a conceptual framework as a visual or written product, one that explains, either graphically or in narrative form, the main things to be studied and the key factors which may be concepts or variables and the presumed relationships among them.

This study has been guided by a conceptual framework depicting the probable causations variables / factors (independent variables) to the unfavorable learner outcomes in the basic school subsector such as management styles, attendance, teacher-pupil ratio, teaching-learning (TLA) materials, teacher quality, contact hours and staff motivation as independent variables (IV) while the learner outcomes will depict the dependent variable (DV). **Figure 1** below shows the paper's Conceptual Framework.



**Figure 1:** Study's Conceptual Framework

**Source:** Researcher (2020)

### 3.0 METHODOLOGY

This study capitalised more on analytical desk review as methodology to ascertain data sets envisioned in set objectives while expert synthetic analysis was the basis of analytical frame for determination of review outcomes.

### 4.0 RESULTS

#### 4.1 Performance of Government in Subsector Investment

The performance of basic education subsector in the past decade can be summarized as an expansion of the supply of schools along with an increase in enrolment, especially at primary and basic levels. In 2013, basic schools increased by approximately 600 - up from 8,195 in 2008 to 8,801 in 2013 (9,548 in 2014) and by 2015, 14,235 classrooms were constructed at primary school level while government's annual expenditure to the sector budget soared from 2.9% of GDP in 2008 to over 5% of GDP by 2015 (World Bank, 2016). This improvement consequences exponential pupil enrolments of up to 3,691,486 by 2014 representing 93% NER while the GER hovered around 120.8% by 2015. This account sharply contrasts with the early 2000s, where access to education was partially credited for the increase in enrolment rates—from 68 percent to 75 percent in net enrolment rate (NER) between 1998 and 2003. During this period, new schools were built, basic schools were upgraded and primary education was made free for grades 1 to 7 (World Bank, 2015; MoGE (2015a). This massive growth also came with recruitment of commensurate number of teaching staff as epitomised in the increment from 50,123 in 2002 to 77,362 in 2009 to guarantee education quality in learner outcomes. This subsector growth and expansion was in pursuit of the UFPE Policy and the BESSIP of 2002 though it should be stressed that these subsector blue prints

were seemingly devoid of internal efficiency to guarantee quality learner outcomes if the 1999 to 2014 NAS results are anything to go by.

#### 4.2 Sampled Learning Outcomes (1999, 2014 and 2016)

Table 1 below shows the randomly selected learner outcomes among the 5<sup>th</sup> and 9<sup>th</sup> graders for the years 1999, 2014 and 2016.

**Table 1: Learner Outcomes in Mathematics and English in Grades 5 and 9**

Year	Grade 5		Grade 9	
	Mathematics	English	Mathematics	English
1999	34%	33%	29%	36%
2014	36%	33%	29%	37%
2016	35%	32%	30.9%	36.9%

*Source: Researcher's Compilation (2020)*

The figures in Table 1 above connote a detrimental scenario yearning for salvage across the grades and years in question as all of them are below 37% with the pass mark benchmark of 40%. Additionally, according to BETUZ (2015) Report, there has a reduction in learner performance from 2012. The scores in all the assessment areas were below 40%, with the score for numeracy being the highest at 35.5% followed by ... English at 32.1%. Some notable factors responsible for the low learner performance have been identified as inadequate trained teachers especially in Science and Mathematics; inadequate teaching and learning materials for the new curriculum; low teacher motivation and absenteeism; high pupil teacher ratios; ineffective school management and supervision; poor administration of the transfer policy for teachers; and inadequate funding at school level. More importantly, the process of recruiting teachers in public schools is less stringent since it does not involve any inter views unlike is the case with other public service employees. Thus, even less competent teachers ultimately end up being employed due to poor selection processes that are prone to corruption and nepotism.

#### 4.3 Management Style and Attendance

There is literature evidence to the effect that leadership style or management of a school plays a critical role in the ultimate success of learners. D'souza (1994:112) contends that leaders and their styles affect everyone and everything in their organization – when leadership is bad in an educational institution, poor performance will be the result. Lack of effective supervision and focus on results by managers can adversely affect the performance of learners (emphasis added). As a consequence of poor leadership and management, the 2015 World Bank's *Quantitative Service Delivery Survey (QSDS)* regrettably reveal that 20% of teachers were absent from their teaching stations in the year in question but only present for 80%. Furthermore, 16% of primary school teachers and 12% of secondary school teachers were absent for more than 50% of school days in June 2013 and were a major factor in bringing down the teacher attendance rate (ibid). Additionally, Head teachers (or senior teachers) were aware of teacher absences because most teachers received permission to take leave from them though 19% of teachers reported to have taken leave were often without permission (ibid).

#### 4.4 Pupil-Teacher and Pupil-Book Ratios

According to the MoGE (2016a), 2,351 primary school teachers were recruited in 2015 thereby bringing the total number of teachers to 75,236. This resulted in the reduction of the pupil teacher ratio to 42.7 in 2015 from 55.3 in 2014 against the set target ratio of 40. The

pupil teacher ratio, according to the grade of the school, averaged 40 pupils per teacher for grade 1 Schools; 45 pupils per teacher for urban schools; and 51 pupils per teacher for rural grade 2 schools. Grade 5 schools had 43 pupils per teacher for urban schools against 37 pupils for rural schools; while Grade 7 schools had a pupil teacher ratio of 39 and 31 pupils for rural and urban schools respectively (World Bank Group 2015). On the other hand, the lack of *textbooks* can be a major barrier to learning among pupils thereby impacting on the quality of the learning outcomes. A research by World Bank Group (2015) indicates that there is a great shortage of textbooks at primary school level in Zambia due to inadequate funding and systemic weaknesses in the execution of the textbook procurement policy. According to the 2015 Educational Statistical Bulletin, the pupil/book ratios for both English and Mathematics was at **4:1** in 2015. While the book ratios for Zambian Languages and Life Skills was **5:1** and **7:1** respectively. The figures show that there is little or in some cases, no difference at all in the pupil-to textbook ratios between urban and rural based primary schools. Latest statistics indicate that five primary school students share less than 1 textbook for each subject (1 for Mathematics, 0.9 for English, and 0.9 for Science) and 5 secondary school students share between 1 and 1.5 textbooks depending on the subject (1.0 for Math, 1.7 for English, and 1 for Science) (World Bank, QSQS, 2015).

Among the key factors affecting the pupil-teacher ratio is the high attrition rate resulting from teacher loss due to retirements, resignations, deaths and promotion to management positions while lack of textbooks has been greatly attributed to underfunding and the poor procurement policy in the subsector by the MoGE (ibid).

#### **4.5 Teacher Quality and Subject Knowledge**

About 22% of grade 5 school teachers have GCE or lower degree qualifications. The majority of secondary school teachers have a diploma or a higher degree or at least certificate. On average, rural teachers have lower qualifications than urban teachers. In Eastern and Muchinga provinces, approximately 40 percent of teachers have GCE or lower education levels, which is a recipe for poor learner outcomes. As a proof of this qualification misnomer, teachers were tested in 2014 using the same examination questions that were put to their students. Grade 5 teachers scored over 90 percent for Mathematics, English and Life Skills. Across all subjects, urban teachers performed better than rural teachers. Grade 9 teachers scored approximately 70 percent across all subjects, and it would seem that grade 9 teachers require more subject knowledge to teach effectively (World Bank, QSQS 2015). The study also established that teacher qualification has little correlation with subject knowledge. At the primary level (grade 5), there is no difference in subject knowledge between teachers with certificate and those with diploma or higher. Only in Mathematics do teachers with GCE or lower degree score lower for subject knowledge although the difference is not statistically significant (ibid).

#### **4.6 Contact Hours**

The 2015 figures from the Educational Statistical Bulletin show that learners in Grades 1-4 spend 3.9 hours in the classroom, while learners in Grades 5-7 spend 5.3 hours per day which are way too low. Schooling hours per student are much more affected by the school's location—urban or rural. The gap is apparent for students in rural schools. Students across grades 1 to 9 average 4.7 schooling hours in rural areas compared to 5.5 hours in urban areas. This gap is greatest from grades 1 to 4, when students in rural schools attend school for an hour less than those in urban areas, on average. Worse still, this contact time is based on the scheduled learning hours on the official school calendar and therefore does not include time



lost as a result of premature school closures, learner or teacher absenteeism, examination period closures or time allocated to sporting activities (ESB, 2015; World Bank, 2015).

#### **4.7 Staff Motivation**

There is need to ensure motivational standards of the teaching staff commensurate to their labour input. The reports of consistent teacher absenteeism (20%) from their teaching stations is a serious indictment on the quality of education services being offered in these public schools in the absence of the main productive input (teacher). The PETS-QSDS report (World Bank 2015) calls upon government to take a keen interest on the behaviour and attitude of teachers (motivation) as they have positive effect to students learning outcomes.

#### **Student's Characteristics**

Student assessment scores seem to be also determined by students' characteristics, such as socioeconomic status of students and family, students' motivation, and personality. However, greater portion of the scores can be attributively explained by school level and teacher characteristics (ibid) as alluded to hereinabove.

#### **Co-operating Partners**

Zambia has had donors contributing finances annually to MoGE sector budget to cushion its financing of school activities, materials and construction of school infrastructure, among others especially from 2002. This was partly in recognition of the country's being a developing country (needy) (UNESCO, 2016). However, *prima facie* evidence indicate that most of these donors (Canada, Denmark, Netherlands) have completely closed their assistance and left the country while others like Ireland and others have equally pulled out of the pool fund and no longer support the MoGE sector budget annually. A key note interaction with one of the donor officials who was part of the pool fund initiative categorically indicated lack of transparency, accountability and prudence in financial management as being among the key reasons for most donors' withdrawal of support to the sector and lack of internal efficiency of the education system as evidenced by repeatedly low NAS results at grades 5 and 9 levels in Mathematics and English for the past 15 years. While presenting the 2018 National Budget, the then Minister of Finance, Hon Felix Mutati confirmed non-disbursement of grants from co-operating partners (Budget Speech, 2018:5-7).

### **5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **Summary**

There is enough evidence to attest to government's firm conviction and commitment to the provision of equitable and accessible basic education to all eligible citizens in the period under review as adequately demonstrated by both qualitative and quantitative data. By way of exemplification, literature has demonstrated beyond all reasonable doubt that in the period between 2002 and 2014, 14,235 class rooms for public basic/primary school subsector were constructed while the enrollments soared from 2,500,000 in 2005 to 3,300,000 in 2009. Furthermore, between 2010 and 2014, the enrollment hit the highest at 3,691,486 at primary school level while the number of teachers also increased from 50,123 in 2002 to 77,362 in 2009 (SNDP, 2011-2016) (MoGE, 2015a; MoGE 2016; Masaiti *et al.*, 2018). By 2015, the NER and GER was hovering around 93% and 120.8% (ibid) respectively. Statistical account also shows that during the same period up to 2015, government progressively increased annual appropriations to the subsector for investment, operations and activities to the tune of 2.6% of GDP in 2006 to 3.5% of GDP in 2009 while between 2005 to 2014, the figures

increased from 3.7% of GDP to 4.6% of GDP. Ostensibly, government increased allocations to the sector from 15.3% to 22.6% of annual budget (World Bank Group, 2015; FNDP, 2006-2010; SNDP, 2011-2016).

Notwithstanding an exemplary foregoing record of infrastructural development for growth / service accessibility and sustenance of quality service delivery in the sector, the consistent and constant low learner outcomes in the subsector at grades 5 and 9 levels have been a thorn in the subsector's flesh to the effect that the massive investments achieved do not correlate with the system's output. Quantitative records indicate that all the NAS conducted from inception of the programme in 1999, the 5<sup>th</sup> and 9<sup>th</sup> graders have been performing below average (40%) in Mathematics and English for the past 15 years, which phenomena risk and impair the country's vision and aspiration to be a middle income prosperous country by 2030 (World Bank, 2017; PETS-QSDS World Bank Report, 2015; World Bank, 2017). The situation is also a time-bomb and bleeder to a number of multiple social upheavals such as illiteracy, early pregnancies / marriages, unproductivity, poverty, inequity and inequalities among others. Among the key drivers to the phenomena are hereunder analysed and precisely explicated.

The absenteeism (20%) among teachers do not only call for policy interrogation but also self-introspection on the part of the teachers who are in the noble career to help fight ignorance and develop Mother Zambia. It is a sad state of affairs and ironical to note professionals missing in duty performance but line-up for pay at month-end. The record that MoGE trained over 991 head teachers in Educational Management and Leadership in 2014-2015 (MoGE 2015) still has not demonstrated any positive results in improvement of the learner outcomes at the levels in question. There is need, therefore, for a paradigm shift in the terms and manner of engagement in service provision on the part of professional i.e. school managers and teachers alike to be keen to their calling by centralizing the learner's needs and plight (PETS-QSDS World Bank, 2015).

On the other hand, the pupil-teacher and pupil-book ratios need a cautious handling to avoid jeopardizing service provision. The government needs to relentlessly continue on the subsector investment trajectory by benchmarking population upswing and classroom expansion / construction without losing focus. This should strictly be coupled with commensurate teacher recruitments (which unfortunately has been stagnant for the past five years). It is now feared that over 50,000 trained teachers from government and private tertiary institutions are roaming the streets (The Mast Online, 28<sup>th</sup> December 2019). The over 40 pupils to 1 teacher and 4 pupils to 1 book is a compromise to quality education service provision, hence the low learner outcomes. There is need to revise the procurement policy of school supplies by decentralizing procurement to schools as opposed to DEBS or PEO subsectors which subsectors have failed to live up to the required procurement standards (World Bank, PETS-QSDS Report, 2015). Modernization is another potential avenue of enhancing pupil-book ratios by providing electronic libraries and internet facilities in schools though this require some other aspect of investment.

Additionally, the findings that some teachers possess only General Certificates of Education (GCE) is a clear indication that the education system needs cleansing as this phenomenon is an enzyme of destruction to academic performance of learners and ultimate failure of the system as a whole. This speaks volumes and simply confirms as to why the same examinations given to learners set by the same teachers, they equally fail along with their pupils. The question is, "how can the blind lead the blind?" It is not long ago (2018) when the Teaching Council of Zambia (TCZ) found out that over 495 teachers were teaching with fake

qualifications and this is not far from Auditor General's Report (2016) findings that MoGE is infested by "ghost teachers." A thorough clean-up of the system is an optionless option. Schultz (1961) and Becker (1962) are firm on their conviction that human capital investment is the only surest way to earn success at both individual and national levels. This reasoning equally falls within the circumference of the Education Production Function Model which lays emphasis on the need for right education inputs for desirable outputs. In fact, the Teaching Service Commission Chairperson was in 2018 quoted in the media saying, "some teachers cannot express themselves in English Language" (Zambia Reports, 12<sup>th</sup> May 2018), which is so ironical as English Language is the medium of instruction in Zambian schools. Teachers need proper and adequate training and this equally calls for scrutiny and reforms in teacher training curricular to match with the job demand i.e. *'job fit'*.

The aspect of time is a function of production and productivity in econometric science. The findings' recorded low contact lesson hours displayed on annual school calendars are recipe for compromised learner outcomes. The practical reality is that the Zambian curricular and syllabi are loaded and/or have too many subjects at all levels i.e. average of 8 subjects per level (primary and secondary) and the learning times are prone to unnecessary disruptions and disturbances even for petty events / personal circumstances. Truthfully speaking, there is no adequacy and thoroughness which can be guaranteed in loaded 8 subjects being taught in 4 to 5 contact hours per day inclusive of sports, meetings, illnesses, resignations, deaths, multiple annual holidays *inter alia*, as potential disruptions and distractions (World Bank, 2015). Policy-makers need to introspect the subject loads of learners (some of which are mismatched with the needs of the country and/or labour market). Completing syllabi in public schools has been a nightmare.

On the other hand, staff motivation is a critical ingredient and catalyst for enhancing the performance of the teaching staff to their calling. The 4% 2019 salary increment awarded to teachers which was out rightly swallowed in the 10% inflationary rate, over 100% hikes in electricity tariffs coupled with over 30% fuel hikes simply confirm the high cost of living as also evidently notable in skyrocketing prices of essential commodities which have tripled and in some cases quadrupled during the period under review. Government needs to take a keen interest in the plight of teachers by enacting a remuneration system and standard which squarely meet their livelihood needs and allow for disposable income which teachers can invest for buoyant livelihood. Once properly motivated, chances of exceptional performance can be anticipated as the professionals would glue their attention to the job through reduced absenteeism and continuous professional development, among others.

## Conclusions

In spite of the central government's massive investments in the public education sector during the period under review (2002 to 2014), there is some *prima facie* literature evidence pointing to the lack of efficient and effective management, monitoring and evaluation of teaching-learning service provision and delivery in these public schools. Owing to this depiction, which is perpetrated by negligence, teachers have found it utterly ease to be absent from duty for longer durations and teach without appropriate qualifications. Furthermore, poor school management and administration; inadequate teaching / learning materials/facilities, have also gravely impacted on pupils' academic performance to the extent that learner outcomes in Mathematics and English at grades 5 and 9 levels have consistently been below average for over 15 years now. This scenario is not only retrogressive to socio economic and human capital development of the country, but is also poised to bleak and

eclipse any meaningful and realistic prospects of Zambia's envisioned attainment of a prosperous middle-income status by the year 2030 as enshrined in her Master Plan Document (Vision 2030).

### **Recommendations**

In scholastic realization of the principal role of basic education in socio economic and human capital development of the nation, this paper recommends with a clarion herald, a pragmatically holistic policy paradigm shift and internal efficiency-based cleansing mechanisms by the education sector policy makers/politicians/donors, managers and line stakeholders to revolutionize the modus operandi in quality service delivery in order to sustainably combat the scourge.

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