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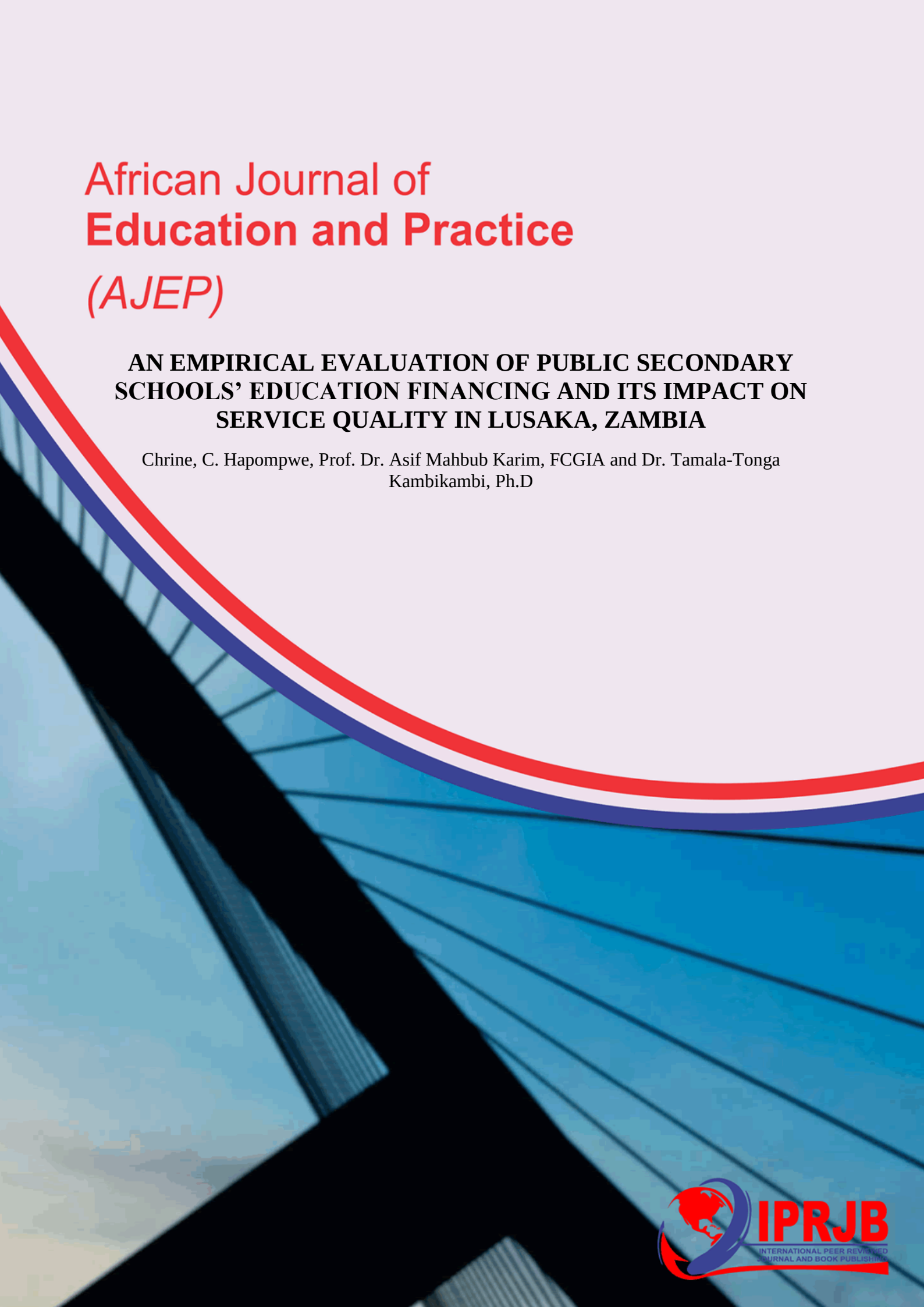

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Abstract

Purpose: This study was envisaged to empirically evaluate the impact of public secondary schools' education financing on service quality in Lusaka district of the Republic of Zambia.

Methodology: As an impact study, it employed a triangulation incorporating a causal-analytical paradigm targeting 34 public secondary schools in Lusaka district with over 60,000 pupils and about 2,000 teachers as population (N). A census method was used with 170 structured questionnaires being distributed to five persons per school who constitute the school management structure while 3 focus group discussions of 10 each were held among senior pupils, teachers and head teachers coupled with key informant interviews with district official, MoGE HQ official and donors' representative through appointment and prior clearance as procedures. Simple random and purposive sampling techniques were used with primary and secondary data being obtained and analysed via thematic / content approaches for qualitative and SPSS / excel for quantitative data along with expert judgement. The study had questionnaire return rate of 84% (143).

Findings: The study established that the MoGE sector's financing from central government from 2015 to 2019 had been steadily declining from 20.2% in 2015 to 15.1% in 2019, against the global standard annual benchmark of 20%. The impact of the phenomena was obliteration of investments in school construction / classroom expansion, school supplies and human resources. Moreover, quantitative field findings indicated abnormal teacher to pupil ratios of 1: 70, pupil to computer ratios of 2:1, double-seater desk to pupil ratios of 1:3, English text book to pupil ratios of 1:3, Science text book to pupil ratios of 1:6, Biology text book to pupil ratios of 1:5, none availability of libraries and library stocks, average shortages of 5 teachers per school, overloads of up to 45 periods per teacher instead of 24, existence of unqualified teachers, reduced learner contact hours, compromised formative assessments and reduced school inspections. Besides, the study ascertained the existence of financial inadequacies in the system arising from its procurement bureaucratic nature as resources for subsector inputs had severally been either misapplied or misappropriated. Mismanagement of these resources was positively correlated with some prominent donors' withdrawal of their pool fund budgetary support to the education sector. This withdrawal of financing coupled with the country's bulging public debt stock (of over US $11 billion) have been established as frontline attributive factors to the dwindling financing to the education sector with implicative spill over negative effects to its subsector to the effect that whereas accessibility and affordability might have been guaranteed by top-down policy directives and imperatives, service quality has been severely compromised and the learner achievements during the period under review have stagnated at averages of 65.8% at grade 12 level and 75.6% at grade 9 level.

Unique contribution: The study strongly implores central government through the MoGE to take thematically objective and pragmatic policy measures to curtail the phenomena by prioritizing the education sector in public financing, sealing the sector's financial loopholes, and restoring the lost confidence of some prominent donors consistent with the ideals and principles of the human capital and optimal resource theories.

Key words: *Evaluation, Impact, Financing and Quality.*

1.0 INTRODUCTION

It is a universal fact that education is globally accepted to be a basic human right and the foundation on which to build peace and drive sustainable national development (UNESCO, 2018). Regionally, Southern Africa Development Community (SADC) is committed to ensuring implementation of education strategies among member states to guarantee education accessibility, equity, affordability and quality in line with the UNESCO benchmarks. From the Zambian context, the provision of quality education is a constitutional mandate vested in central government's deliberate financing to the education sector for investment in its human capital, which is universally agreed to be a panacea for social economic upheavals. From before, during and after independence, though with numerous insurmountable barriers, Zambia has remained committed to this obligation of providing quality, accessible, relevant, affordable and equitable education to her general citizenry. However, this solemn responsibility does not only end at providing or ensuring the availability of physical infrastructure such as buildings, but is also predicated on quality service delivery to these institutions as quantitatively measured through quality learner achievements, equitable teacher-pupil ratios, amenable transitional rates, gender parity indices, reduced teacher attrition, continuous professional development, among others. Against this background, this study was purposed to evaluate the public secondary schools' education financing and its impact on service quality in Lusaka district of Zambia, premised on a five-year-trend analysis (2015 to 2019), which has epitomized endemic social, economic and structural bottlenecks in efficient and effective delivery of service in the subsector thereby ultimately prejudicing the country's human capital development prospects as envisioned and enshrined in both the 7NDP and the Vision 2030 (Masaiti *et al.*, 2018; UNESCO, 2018; ESSP, 2017-2022; World Bank, 2018; ZANEC, 2019).

1.1 Problem Statement

Whereas the central government has entrenched well-established and elaborate policies, conventions, systems, standards and structures on education service provision and financing, the 2015 to 2019 financing trend to the education sector [20.2%, 17.2%, 16.5%, 16.1%, and 15.1%] (MoF National Budgets, 2015-2019) is indicative of a consistent decline from the regional/global benchmark of 20% annual appropriation to the sector for service quality delivery (Masaiti *et al*. 2018 & ZANEC, 2019; Lusaka Times, 2018). Statistical data indicate that although the national budget was on a steady annual surge from **ZMW 46.7 billion** in 2015 to **ZMW 86.8billion** in 2019, the MoGE appropriation was constantly declining and that ***15% (ZMW 10,548,480,800)*** was the net loss to the sector during the period under review. Surprisingly, despite the prevalent of such a phenomenological trend which potentially impairs the country's socio economic development, no systematically focused empirical study has been conducted to evaluate its potential impact on quality education service delivery. The study by Ntawiha (2016) concentrated on the *implications of inputs for outputs for public secondary schools* from the Rwandan context and focused more on pedagogical and classroom-based factors thereby leaving the financing aspect, which is the primary focus of this study. Moreover, other studies by Masaiti *et al.* (2013), Masaiti *et al*., (2016) and Mulamfu (1998) from the Zambian context focused on *cost sharing among students in public higher learning institutions, shifting from bursary to loan scheme,* and *financing public higher learning institutions* respectively - all of which were somehow related to the current study but with different focuses and contexts to this one's conceptual /

theoretical focus. Early in 2019, MoGE called for education stakeholders' meeting in order to solicit for 'transformative ideas' to aid the general education sector (Lusaka Times, 2019) but no tangible thoughts were garnered. Assertively and certainly, such a clarion call could also be an indictment and indicative of the existence of knowledge gaps in the sector thereby necessitating the need for such studies to bridge the same.

Research Objectives

Main Objective

To evaluate public secondary schools' education financing and its impact on service quality in Lusaka, Zambia.

Specific Objectives

i. To evaluate central government's consistency with its financial obligations to the education sector.
ii. To identify the impact of the education financing trend on service quality in public secondary schools.
iii. To determine the impact of loopholes in financial management of the education sector on service quality in public secondary schools.

2.0 EMPIRICAL LITERATURE AND THEORETICAL REVIEW

National Demographics

Zambia is experiencing a large demographic shift and is one of the world's youngest countries by median age. The World Bank (2018) projects that this trend is expected to continue as the large youth population enters the reproductive age, which will put even more pressure on the demand for jobs, education, healthcare and other social services. In terms of age structure, the population under the age of 15 years and below accounts for about 50 per cent, while those under the age of 35years account for 70 per cent of the Zambian population (Masaiti *et al*., 2018). In terms of figures, 8,158,011 are young people under the age of 15 years (4,094,205 males / 4,063,632 females), 8,876,572 persons between 15 and 64 years old (4,461,085 males / 4,415,487 females), 435,888 people above 64 years (186,934 males / 248,954 females) (World Bank, 2018) (CSO, 2017). *In other words, the country overall has a young population, which makes the provision of educational services to this population to be of strategic importance to government* (EFA, 2015). Critically, the financial commitments and allocations to the sector requires periodic reviews in order to guarantee required quality, accessibility, relevance, efficiency and inclusivity (Masaiti, 2018) (emphasis added).

Lusaka District Schools Statistics

The 2016 census survey revealed that Lusaka province has a total number of 106 public secondary schools spread in both urban and rural areas. It is noteworthy that the average number of secondary schools in Lusaka district is more than the number of schools in the other districts within the province. As regards the number of secondary schools in Lusaka district, nothing much has changed from the 2010 census of population and housing, which shows that there were only 34 secondary schools in the district to contain the population of about 2,000,000 out of which 46.4% (558,900) are of the school going youths below 16 years of age (Census Survey, 2010 & 2015). Given the fact that the total population of Lusaka Province, according to Census Report (2015), is about 2, 000,000 and also that the total

population of Lusaka district is higher than that of the other districts, it could be argued that there is only very little infrastructural space for which the rest of the 46.4% of the youthful population is competing for. Therefore, this would suggest that education quality service provision is compromised in one way or the other. This also would entail that the majority of this population may drop out of school for many a reason, or may be in school just to register presence, yet not attain the liberating intended education. Besides, notwithstanding the fact that the district also has a number of private and grant-aided schools which even outstrip the public ones, these institutions have a different management style and operational philosophy, which is largely anchored on capitalistic and neo-liberal ideological traditions, and therefore, still does not guarantee accessibility to most of the socio-economically disadvantaged learners. Consequently, it is imperative to note that the responsibility of ensuring quality and equitable education provision per region is sacrosanctly vested in the government of the Republic of Zambia and that whatever the private sector is doing in this regard is a mere supplement to the government's effort.

Quality Education and MoGE Blue Prints

It is generally accepted that education resides as 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. Its underpinnings are considerably a formidable bedrock upon which any nation's socio economic development consists as it helps to change and/or positively transform people's mindset, values, skills, attitudes, beliefs, norms (Zambia's 7NDP, 2017-2021) and make them a critically enlightened mass to provide the nation's much needed human capital which is a pre-requisite for fighting poverty, inequalities, joblessness, inequities and any other negative social vices. Therefore, in this study, it is thought that the actualization of such a dream is heavily predicated on the amount of interest and attention rendered to the education subsector by the central government of the nation in question. Resonating and aligned to this profound conception, in Zambia, the vision of the Ministry of General Education (MoGE) is to provide, "*Quality, Lifelong Education for all which is Accessible, Inclusive and Relevant to an Individual, National and Global Value Systems*" (MoGE, 2019). Buttressing and consistent with this blueprint, Masaiti *et al.* (2018) cites MoGE as prescribing that "the fundamental aim of a school system of education is (or should be) to promote the integral, harmonious development of the physical, effective, moral and spiritual endowments of all students so that they can develop into complete persons for their personal fulfillment and for the common good of the society of which they are members and in whose responsibilities they will share as adults."

The quality of education is high if the school is well-resourced with ***inputs*** such as highly qualified teachers, teaching and learning materials, infrastructure, relevant curriculum and students (Ntawiha, 2016; World Bank Group, 2015; and UNESCO, 2011). On ***output*** level, assessment frameworks focus on measuring demonstrable competencies which benchmark performance and are perceived to provide insights on the quality of education provision. Consequently, the common *outputs* when measuring quality according to the economist's view, is the learner achievements based on the 3 Rs namely: **r**eading, w**r**iting and a**r**ithmetic, pass rates, survival rates, gender parity indices, among others.

As part of its strategy to guarantee and sustain the quality of education as envisioned in its blueprints, the government of the republic of Zambia, has made it mandatory for all public schools to be centrally financed and funded through annual national budgets. One stream of funding aims at improving and increasing the educational institutions' capacity to absorb the ever increasing population of learners, which covers infrastructural investments i.e. increasing schools, classroom space, teaching - learning facilities, equipment, among others. The second aspect of financing covers staff emoluments and recruitment of new staff in order to balance teacher-pupil ratios, cover staff attrition and to expand the system in order to squarely deal with a demographic upswing (7NDP 2017-2021; ZANEC, 2018).

Education Financing and Impact Prior to 2015

The Zambian government has since independence (1964) recognized education as a cornerstone to socio economic development and this realization has been a motivating factor for ***impressive rule-based (central government) budgetary allocations to the sector*** (World Bank Report, 2017). This means that financing or budgetary allocations to the sector are made to meet operational and investment expenditures without which the system would most likely fail to sustain quality, accessibility, relevance and equity benchmarks in education service provision. Imbued with this conviction and 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 / Basic Education in 2002 covering grades 1 to 9. The policy 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).

In authenticating its governmental commitment to the sector, Zambia's historical trend in financial allocations to the education sector since 2005 through to 2015 has been well documented and shows an impressive steady growth in both real and nominal terms. For instance, between 2005 and 2013, the proportion of public expenditure on education in the total government expenditure was between 15.3 percent and 22.6 percent, which is translated to between 3.7 percent and 4.6 percent of GDP respectively. The ratio of government expenditure in education to GDP stayed strong and was projected to be higher in 2014 and 2015, exceeding 5 percent of GDP as the determination and momentum from central administration was decisively firm. This was relatively on the higher side in the region and comparable with other emerging economies. In real and nominal terms, government expenditure on education grew from ZMW1.5 billion in 2006 to ZMW5.2 billion in 2013. Furthermore, the budgetary allocations for 2014 and 2015 increased even higher to ZMW8.6 billion and ZMW9.4 billion respectively. Using the constant price of 2013, the public education expenditure also grew from ZMW 3.0 billion to ZMW5.2 billion between 2006 and 2013 (World Bank Group, 2015; FNDP, 2006-2010; SNDP, 2011-2016).

By regional comparison and almost corresponding with the same timeframe (2006 to 2014), World Bank report (2016) reveals that within the region and sub-region in some countries, expenditure on education was generally near to above the global target of 20% benchmark. For instance, the report indicates that in 2010, the public spending on education was at 17.21% of the government expenditure in Kenya, 19.20% in South Africa, 24.4% in Ghana,

18.33% in Tanzania, 25.1% in Burundi, 15.04% in Uganda and 18.2% in Rwanda. This shows a gruesome and impressive picture of countries' pre-occupation to financing the sector, which averaged 19.6%, while in 2010, Zambia's expenditure on education was progressing upwards at 20% (MoF, 2010).

The statistical analyses of budgetary allocations to the sector in the immediate past foregoing two paragraphs, which was also consistent with the timings of the FNDP (2006-2010) and the SNDP (2011-2016), is indicative of the fact that the nation (Zambia) was on the firm trajectory and focus on matters of education investment and the sector was apparently benchmarked as a matter of priority and primary concentration in terms of financing. During this period, the nation witnessed massive expansion of the basic education subsector infrastructure as also prioritized in the MoGE Sector Plan implementing the FNDP (2006-2010). Nevertheless, what transpired from 2015 to 2019 becomes the pre-occupation of this study owing to its perceived dichotomous and sharp contrast to the envisioned input and output of the 2006 to 2014 investment focus in education. If adjudicated from the 2019 National budget (as statistically typified in the subsequent paragraph), the allocation to the sector has gone downwards to 15.1% (as at 2019), which is arguably the lowest in 20 years, whose supposed implications and ramifications the research paper hopes to uncover.

The circumstance prior to the foregoing investments 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 Reports, 2009) and many could not cross to the secondary school subsector. 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 net enrolment rates at 99% and elementary/basic levels which automatically blossomed the secondary subsector level.

Gaps in the Literature

From the recent past and contemporary extensive scholarly literature reviewed, there is no study which has been systematically conducted in Zambia and Lusaka District in particular which evaluated the central government's education financing and its implications on service quality at public secondary school level. The study by Ntawiha (2016) concentrated on the *implications of inputs for outputs for public secondary schools* from the Rwandan context and focused more on pedagogical and classroom-based factors thereby leaving the financing aspect, which is the primary focus of this study. The studies by Masaiti et al (2013), Masaiti et al., (2016) and Mulamfu (1998) from the Zambian context focused on *cost sharing among students in public higher learning institutions, shifting from bursary to loan scheme,* and *financing public higher learning institutions* respectively - all somehow related but with different focus and contexts to the current study's conceptual focus. Early in 2019, MoGE called for education stakeholders' meeting in order to solicit for 'transformative ideas' to aid the general education sector but no tangible thoughts were garnered. Assertively, such a clarion call could be indicative of the existence of knowledge gaps in the sector thereby necessitating the need for such studies to bridge the gaps (Lusaka Times, 2019). During the same period under review, and while analysing the disaggregated grades 9 and 12 final examinations results, the Lusaka District Education Office admitted the mixed / poor academic achievements of learners with uncertainty of linear attributive factors for the periods 2016, 2017 and 2018 despite the district's 2017 to 2021 strategic plan to improve the situation (Lusaka Results Analysis Report, 2018). Consequently, this study will bridge the knowledge gap and benefit educationists / policy-makers through its empirical findings for a possible reversal of the phenomena and/or policy interventions. In terms of methodology and design, whereas Ntawiha (2016), Masaiti et al., (2016), Masaiti et al. (2013) and Mulamfu (1998) used correlation, quantitative and qualitative designs respectively, this study used a triangulation owing to its nature.

Theoretical Frameworks

Human Capital Theory

The Human Capital theory was propounded by Schultz in 1961 and developed extensively by Becker in 1964.The theory is an economic rationalist approach which focuses on returns to investment in education. Education and training (human capital) increase worker productivity and hence the value of educated workers (Adan *et al.*, 2013). Woodhall (1997:24) opines that "the concept of human capital refers to the fact that human beings invest in themselves, by means of education, training or other activities which raise their future incomes by increasing their lifetime earnings". It is this aspect of the theory's tenet that informs the current study in as far as education financing and the resultant effect thereof is concerned. It is clearly worth-noting from this theoretical perspective that investing in the education of citizens is a critical requirement for the realization of socio economic benefits as well as personal upward social mobility.

Thus, governments which invest time, energy, and money into education do so with the expectation of securing a better outcome and enhanced lifetime earnings of the nation and per capita incomes of its people. At the individual level, increasing education (human capital) increases worker productivity and thus garners better employment and income for the themselves. At the social or aggregate level, general increments in the stock of human capital

are supposed to increase overall productivity, wealth creation, prosperity, and social cohesion (OECD, 1998, 2001 cited in Edgerton *et al*., 2012:266). The most efficient path to national development lies in the improvement of its production and productivity. This theory stresses the need to train human resources for efficiency and sustainable development by deliberate investment in the education sector.

Optimal Resource Theory (ORT)

According to Anderson (2015), the Optimal Resource Theory (ORT) is described 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. Optimal Resource Theory 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). Optimal Resource Theory 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.

The protagonists of the ORT are philosophically and pedagogically inclined to appreciate the dynamism of circumstances which underpin the production of quality learner outcomes in an educational institution. They opine to the understanding 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 lean towards the absolute necessity of localised planning and decision making to influence desirable learner outcomes in these learning institutions. This seems to be the mark of distinction between these public schools and the grant-aided / private schools which on average are performing relatively better than the former. The results in public secondary schools are consistently indicative of mal-administration on the part of managers in effective supervision of teaching staff thereby leading to poor learner achievements (Hapompwe *et al.*, 2020).

Conceptual Framework

This study was guided by a conceptual framework depicting the probabilistic causal factors (exogenous variables) to the downward funding trend to Zambia's education sector, such as financial mismanagement, colossal public debt and donor aid shortfalls as independent variables (IV) while the public secondary school financing will depict the dependent variable (DV). **Figure 1** below shows the paper's Conceptual Framework.

Independent Variables (IV)

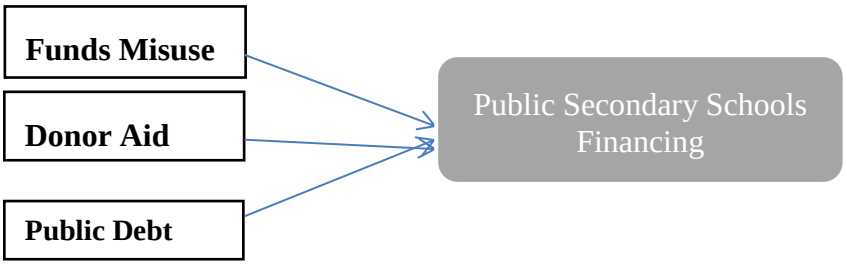

Figure 1: Study's Conceptual Framework

Source: Researcher's Construction (2019)

3.0 METHODOLOGY

The study employed a triangulation incorporating a causal-analytical paradigm targeting all the 34 public secondary schools in Lusaka district with over 60,000 pupils and 2,500 teachers as population (N). A census method was used with 170 structured questionnaires being distributed to five persons per school who constitute the school management structure (for unity of analysis) while 3 focus group discussions of 10 persons each were held among senior pupils, teachers and head teachers coupled with key informant interviews with district official, MoGE HQ official and donors' representative through prior appointment and clearance as procedures. Simple random and purposive sampling techniques were used with primary and secondary data being obtained and analysed via thematic / content analyses for qualitative and SPSS / excel for quantitative data along with expert judgement. The study had questionnaire return rate of 143 (84%). After analysis, tabular and graphical modes were used to present the findings obtained from quantitative data and textual mode was used to present qualitative findings.

4.0 FINDINGS

4.1 Financing Trend (2015-2019) and Financial Inadequacies

With extensive review and analyses of primary and secondary data, there is empirical evidence that in nominal and real figures, the national budgetary appropriations to the education sector from 2015 to 2019 have been on a declining trend despite the annual service demand upswing and contrary to the regional 20% threshold. Particularly, the sector's financing has been declining steadily as follows: 20.2% in 2015; 17.2% in 2016; 16.5% in 2017; 16.1% in 2018 and 15.1% in 2019 (Ministry of Finance National Budgets, 2015-2019). Effectively, this trend signals a reduction in funding to the education sector from central government, contrary to the Cairo Protocol Convention (UNESCO) as re-affirmed by the Incheon Declaration of 2015, which requires a minimum education financing of 20% as annual funding to the sector (ZANEC, 2019) to carter for its needs.

Table 1: Education Budget & Disbursement (2015-2017)

Year	Allocations ZMW	Disbursed ZMW	Under disbursement ZMW	% Under disbursement
2015	8,527,887,660	7,061,931,985	1,465,955,675	17.2
2016	2,582,718,744	2,183,920,068	398,798,676	15
2017	1,533,382,856	783,809,839	749,573,018	49
	12,643,989,260	**10,029,661,892**	**2,614,327,369**	**25.55**

Table 1 above shows that out of the total allocation of **K8,527,887,660** only **K7,061,931,985** was disbursed to the sector in 2015 while **K2, 183,920,068** was disbursed in 2016 out of the total budgetary allocation of **K2,582, 718,744**. In 2017, **K1,533,382,856** was allocated but only **K783,809,839** was released thereby giving the overall *under disbursement* of **K2, 614,327,369.00**. The situation here implies that in real terms, the dwindling allocations in financing the sector are far lower if adjudicated from the actual amounts, or figures which reach the sector from central government during implementation of the budgets annually.

Furthermore, field data through respective respondents, key informants and discussants demonstrated sufficient awareness of the declining financing trend to the education sector and that the same had direct impact on the efficiency and effectiveness of the subsector to deliver quality service. Firstly, it was made clear that and observably so that MoGE was not carrying out any investment activities in the district in terms of class room construction / expansion, library creation / restocking, specialized rooms e.g. laboratory / art, home economics construction despite the rapid district's population upswing. The respondents described the grant allocation and release as being highly erratic and extremely reduced in quantum to the extent that its availability or non-availability did not make any fundamental difference. On the other hand, administrators and teachers alike vehemently lamented deepening financial quagmires which have befallen these public secondary schools following the downward revision of tuition fees by government, describing it as an orchestrated systematic denial of quality education to children. They stressed that children's termly tuition fees were used to pay support staff working as janitors, guards, cleaners, buy stationary, laboratory equipment / reagents, text books, computers, pay waste disposal, electricity and water bills, pay school counsellors, offset allowances to teachers with overload periods, training workshops, sports activities *inter alia*. All these paramount activities, expenditures and purchases have since been left in a void and that uncertainty quality service provision in the subsector had become a palpable and concretized reality.

4.2 Impact of the Financial Inadequacies

4.2.1 Infrastructural Development / Expansion

As a result of the financial inadequacies, the study ascertained the non-availability of any infrastructural development / expansionary projects by way of school construction / class room expansion or laboratory constructions. The only model which had been adopted was simply verbal pronouncements to upgrade certain schools to secondary school levels from

primary schools without any infrastructural upgrading befitting a secondary school in terms of laboratories, desks, class rooms, specialized rooms, among others. This has rendered quality service provision to be severely compromised as schools are made to make use of class rooms to be laboratories while congestions in classes are a commonplace.

4.2.2 Staff Levels and Qualifications

Table 2: Staffing Levels and Qualifications

Qualifications	Total Degree Holders	Total Diploma Holders	Total Staff	Total Deficit
Staffing Levels	1,447 (76%)	324 (17%)	1,904	133 (7%)

s***ource***: Survey Data (2020)

Table 2 above shows that the schools under study had the majority of teachers who were degree holders at 1,447 (76%) followed by diploma holders at 324 (17%) with a current deficit of 133 (7%). The picture portrayed regarding qualifications pre-supposes exemplary performance of schools in question as majority teachers possess the requisite and necessary qualifications though the 17% unqualified and the 7% deficit also can have an impact in nominal and real terms. It is worth-noting that the deficit above translates into each school under study having about five (5) teacher shortfalls and this is a further revelation of the science, mathematics and biology teachers mostly not available in required numbers in the schools under review. As the minimum qualification for one to teach at secondary school level is a bachelor's degree, 17% of unqualified staff is quite significant to cause learner achievement distortions. It was further established that teachers in these subjects were overloaded with 52 periods as upper limit per week against the 24 periods standard. The study also ascertained that although a good number of teachers needed to upgrade to degree levels to qualify to teach at secondary school level, government through MoGE had abolished the sponsorship of such teachers and that they were to find their own resources to upgrade.

4.2.3 Pupil: Facility/ Resource / Service Ratios

The pupil: facility/resource/service ratios as prevailing in learning institutions under study are displayed in **Table 3** below. These ratios indicate input resource variables in the teaching/learning process which to a greater degree measure and/or determine the likely output depending on the factor combinations.

Table 3: Pupil to Facility/Resource/Service Ratios

Sn	Facility/ Item	Obtaining Ratios	Normal Ratio
1	Desk : Pupil ratio	1:3	2:1
2	Urinal : Pupil ratio	1:45	1:25
3	Teacher : Pupil ratio	1:70	1:40
4	Computer : Pupil ratio	1:2	1:1
5	Pupil : book ratio (English texts)	1:3	1:1
6	Pupil : book ratio (Mathematics texts)	1:5	1:1
7	Pupil : book ratio (Science texts)	1:6	1:1
8	Classroom : Pupil ratio	1:130	1:40

Source: Survey Data (2020)

Table 3 above shows that a double seater desk is shared by 3 pupils while 45 pupils line up for a single urinal meant for 25 male pupils with 40 girls lining up for 20 toilets only without any shower rooms, sanitary towels and toilet paper including handwashing pastes. Only few boarding schools in under study have equally warped shower rooms. There are 70 pupils per teacher instead of 40 while 2 pupils share one computer; each English text book is shared by 3 pupils while each Mathematics and Science texts are shared by 5 and 6 pupils, respectively, instead of 1 to 1 in each case. The number of classroom to pupil ratio stands at 1 to 130 especially for schools in slums, implying that the learners have to share the space by dividing the day into 2 sessions i.e. morning and afternoon sessions. This arrangement means that some learners have less learning time/hours than the other especially those for afternoon classes.

4.2.3 Learners' Academic Performance (2015 – 2019)

Academic performance of learners is one of the most reliable indicators of quality education epitomizing quality productive inputs and optimal resources utilization. **Table 4** below displays grades 9 and 12 learners' academic performance in Lusaka district during the period under review.

Table 4: Learners' Academic Performance

Year	Class Pass Rates %	
	Grade 9	**Grade 12**
2015	76	71
2016	75	72
2017	77	65
2018	72	60
2019	78	61
Average	75.6%	65.8%

Source: DEBS Results Analysis Reports (2015-2019).

Table 4 above shows that during the period under review, grade 9 academic performance staggered at average of 75.6% while the grade 12 one hovered around 65.8% posting a variation of 9.8% between the two sections. These pass rates indicate a struggling subsector in meeting quality service delivery needs. The seemingly higher transitional rates for the junior secondary (75.6%) is attributed to relatively better input factors (reduced congestion in

classes, less duration of the syllabuses i.e. 2 years instead of 3 years at senior secondary school level, biological and pedagogical factors, among others, while the opposite of these are the reality in the senior secondary school level.

4.3 Financial Loopholes

In Zambia, public funding for education traditionally flows from the MoGE to schools through a four-tiered administrative hierarchy involving the MoGE HQ, Provincial Education Offices (PEOs), the District Board Offices (DEBs), and finally to schools in a top-down hierarchy, of course from Ministry of Finance. The reviewed secondary data from the Media (Reuters, Lusaka 20th September, 2018) and the Auditor General's Reports, (2015-2018), have demonstratively highlighted that this bureaucratic financial disbursement and/or management channel constitute the basis for high risks of misappropriations, misapplication or simply non-disbursement by such recipient higher offices to recipient spending subsector entities. In September 2018, about 80 MoGE officials were suspended for misappropriation of over US $10 million meant for school supplies while the 2015 to 2018 Auditor General's Reports indicate funds misapplications and misappropriations in the sector (meant for the subsector/s) to the tune of **ZMW 256,253,712** and **ZMW 8,715,532** respectively, meant for curriculum development, library stocks, computer purchases, desks, infrastructure expansion, bursary etc (*Auditor General's Reports, 2015, 2016, 2017 and 2018*).

Consistent with the foregoing, the American Government through its then Ambassador in Zambia, His Excellency Daniel Foote, on 2nd December, 2019 made public the observed loopholes in the public sector in which donor funds were allegedly being abused by public officers at the expense of the much needed social services in the education sector and stated that, "in recent history, numerous donor partners have carried out investigations with the cooperation of the Zambian government and concluded that many millions of dollars have been misappropriated in the Ministries of ... education and Health. In most cases, the Zambian government assumed responsibility and quietly made restitution to the donating organizations from public funds" (Zambia Reports, 2nd December, 2019).

In buttressing the foregoing, the in-depth key informant interviews from the field confirmed the regrettable existence of taints of financial mismanagement which were positively aligned to the attributive factors to the sectors' poor service delivery owing to raw and/or insufficient investment inputs i.e. inadequate trained teachers, insufficient class room space, reduced/erratic grants, poor pupil to book ratios, lack of desks, inadequate and poorly stocked laboratory/library facilities. The inadequacies to such supplies consequenced poor learners' academic performance.

4.3.1 Donor Aid

Zambia is still a less developed country and part of its national budget revenue cushion comes from bilateral and multilateral aids. As per the recommendation by UNESCO to developed member countries (UNESCO, 2016) to assist less developed countries, Zambia has had all-weather financing co-operating partners / donors in the education sector and key among them being: Britain, Sweden, Ireland and Finland. Nevertheless, media reports and field findings confirmed that most, if not all of these donors had withheld (over $34 Million) annual funding to social services and education sector for 2019 (Lusaka Reuters, 20th September, 2018). Furthermore, the donor community's key informant stressed that the

sector's financial quagmires analysed hereinabove have consequenced the solemn withdrawal of the Sector Pool budgetary fund which was domiciled at CITI Bank specifically for the annual education sector budget on account of three main factors:

a. Lack of transparency and accountability in the management and utilization of donor funds by the MoGE officials, who constitute the implementing agency and controlling office.
b. Lack of quality learner outcomes despite the colossal sums of money being invested by the donors over the years citing, among others, the consistent poor results at grade 9 levels in Mathematics, English, Science and Local Languages.
c. Classification of Zambia as middle low income country, meaning that the country had become self-sustaining and no longer needs any further foreign aid. In crowning the in-depth interview, the key informant observed that:

> *"The country was not in want of policies, treaties, conventions and laws to guide the education sector in providing quality service but that the practice, attitude and applications were fundamentally absurd and did not inspire confidence in donors' sustainable contributions to the sustainable growth, expansion and development of the sector. The system is leaking and most donors will put no more funds in the education system for now until the controls are enhanced."*

4.3.2 Zambia's Public Debt

By June 2019, Zambia's official foreign debt stock stood at slightly above $10 billion dollars (MoF Publication, 2019) which was about 70% of the country's GDP. Other international Credit rating agencies like Moody downgraded Zambia from Caa1 (positive) to Caa2 (negative) stressing the increasing external debt, vulnerability and liquidity pressures, which by impairing the government's ability to service over the medium term, raised the probability of default over the near term (Lusaka Times, 24th May 2019). Whereas the 2019 National budget projected a 3.5 percent GDP growth rate (MoF National Budget, 2019), the IMF mid-year assessment projected a lower growth rate of about 2.3 percent closing the year 2019 (*IMF Mid-Year Economic Assessment Report, 2019*).

In what may be described as a correlation to the foregoing, the central government through its Secretary to the Cabinet issued a condensed memo to all civil servants in leadership / management portfolios, warning them to ensure effective and efficient implementation of government's expenditure austerity measures in dealing with "external factors'' affecting the growth of the economy. The Circular stated that, "Cabinet earlier this year (2019) made a decision to implement austerity measures to address the fiscal challenges … and respond to other external factors impacting negatively on the performance of the economy" (*Cabinet Office Circular No. 12 of 2019 dated 10th September, 2019*).

Field in-depth interviews confirmed the implementation of austerity measures in the education sector / subsector owing to debt servicing challenges, which scenario has fundamentally affected the sector's subsector in project financing, school supplies, staff recruitment and ultimately compromises in quality education service provision.

5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Discussions

The study's confirmation empirically and theoretically to the effect fact that the sector's education financing has been declining from 20.2% in 2015 to 15.1% in 2019, contrary to the globally consented benchmark of 20% is a realistic cause for concern to all citizens. As matter of fact, during the period under review, the MoGE was deprived of over **ZMW 10.5 billion (US $ 659,280,050),** which sum was almost equal to the entire budget for 2017. It is that from 2016 onwards, there was no time that government funded the sector to the benchmark except to decrease consistently from **ZMW 1.528.00 billion (US $ 95,500,000)** in 2016 to over **ZMW 4 billion** (**US $255,340,875**) in 2019. This situation is compounded by the fact that even the budgeted amounts do not translate into what is disbursed, which is a double tragedy. For instance, out of the total allocation of **K8,527,887,660** only **K7,061,931,985** was disbursed to the sector in 2015 while **K2, 183,920,068** was disbursed in 2016 out of the total budgetary allocation of **K2,582, 718,744**. In 2017, **K1,533,382,856** was allocated but only **K783,809,839** was released (*Auditor General's Report, 2015-2017*).

As a consequence of the financing trend hereinabove, the study ascertained that the public secondary school subsector in Lusaka District had suffered enormously in terms of capital investment and operational funding to the effect that no physical facilities nor class room expansion projects had been undertaken during the period under review coupled with reductions and randomness in grants disbursement to schools. The ramifications of the phenomena on a large scale were notably extreme compromises in quality education service delivery in that the input factors were way too abnormal to guarantee quality learner achievements and staff motivation. Academically and practically, there is convergence and consensus to the effect that the absence of instructional materials, qualified teachers, appropriate physical facilities in right quantities, ample contact hours etc, there can be no guarantee to desirable learning outcomes (Ntawiha, 2016). This scenario essentially impairs the country's aspirations to grow and develop socio economically as technical know-how / human development is a primary ingredient to such an undertaking.

In the final analysis, there was sufficient corroboration in literature evidence and field data that the sector's bureaucratic structure and top-down policy inconsistencies have been causal to manifold aspects of financial mismanagement such as misappropriation, misapplication and even failure to collect revenue from service beneficiaries. The Auditor General's Report in the same period under review indicted the ministry as being consistently on the wrong side with application financial regulations and management (Auditor General's Reports, 2015-2018). In the same vein, media reports cited the MoGE HQ in 2018 as having misappropriated over $10 million meant for computer restocking in secondary schools (*Lusaka Times, and ZANEC Press Statements*, 19th *September*, 2018). This phenomenon has left the donors' confidence levels reduced to the extent that some of them have even withdrawn their annual budgetary support to the sector to the detriment of the subsector. In most of the past cases, the donors funded up to the tune of about 30% of the national budget, most of which was allocated to social services in education and its subsectors particularly. With the reality of donor aid shortfalls to the sector, it goes without saying that the sector's education quality service provision prospects and aspirations are at crossroads. This scenario is further compounded by the fact that the country is grappling with a huge external debt

stock (of over $10 billion dollars) which has, partly, consequenced the reduction and diversion of most of its domestically generated revenues to liquidating the same.

Conclusions

From the data analysed and reviewed, there is sufficient evidence from the field and government sources, media, academics and the MoGE line stakeholders agreeing to the fact that the declining financing phenomena in the sector are uncontestably real and contrary to the global benchmark of 20% minimum appropriation to the sector for its service quality needs. Field evidence has also demonstrated that the sector is beset with financial quagmires such as misappropriation and misapplication of funds meant for school supplies / materials and infrastructure expansion with sampled cited cases from both the media and the Auditor General's Reports. In terms of causation, the declining financing trend has been attributed to donors' funding shortfalls to the sector as well as the debt mountain with which the country is currently encumbered. As a result of all the phenomena, the sector in general and the secondary school subsector in particular is marred with numerous compromises in its quest to render quality, accessible, inclusive, affordable and equitable education services as shown in the district's 2015 to 2019 transitional or pass rates which have been averaged at 75.6% for grade 9 and 65.8% for grade 12 while field data indicate the average pupil to teacher ratio of 70:1 instead of the normal 40:1, pupil to computer ratio of 2:1 while pupil to English text book ratio is 2:1; teaching staff shortfall of 5 per school, sciences period overloads of 52 per instead of 24 coupled with a fraction of unqualified teachers, among others. These glaring statistical data are a microcosm and epitome of the national scenario where within the trend period under review, children out of school figures have soared from 195,000 in 2015 to 800,000 in 2018 while the transitional rates have been staggered at 65% to grade 8, 45% to grade 10 and 59% to tertiary level with the pupil to classroom ratio of 75:1 instead of the normal 40:1, among other critical indicators. This record is unprecedented and unpleasant in the history of the education sector in Zambia and speaks volumes about the dire implications of the declining financing trend (from 20.2% in 2015 to 15.1% in 2019) to the subsector.

Recommendations

The study strongly implores central government to take pragmatic policy measures to curtail the declining education financing phenomena while letting loose service demand upswing (through population explosion) by; prioritizing the education sector in public financing, sealing the sector's financial loopholes, restoring the lost confidence of most prominent donors in financing the sector and diversifying the subsector's financing model. These recommendations are consistent with the optimal resource theory principles requiring cost-effective and optimal utilization of finite resources for better value. Diversifying education financing by considering other models of Public Private Partnership (PPP) like *impact investment* would help in reducing and defusing the pressing demand on public education sector as the private sector would swallow a substantial portion thereof thereby permitting desirable human capital development to the nation's benefit.

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