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Budget Efficiency Analysis

A case of the Education sector

2018

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Abbreviations

EFA:	Education For All
EMIS:	Education Management Information System
ETSIP:	Education and Training Sector Improvement Programme
GDP:	Gross Domestic Product
MoEAC:	Ministry of Education, Arts and Culture
MOF:	Ministry of Finance
NCHE:	National Council for Higher Education
NDP:	National Development Plan
NQA:	Namibia Qualification Authority
NQF:	National Qualifications Framework
NSSCAS:	Namibia Senior Secondary Certificate Advanced Subsidiary
NSSCO:	Namibia Senior Secondary Certificate Ordinary
NTA:	Namibia Training Authority
OECD	Organization for Economic Co-operation and Development
TEGER:	Tertiary Education Gross Enrolment Ratio
UNESCO:	United Nations Educational, Scientific and Cultural Organization
VET:	Vocational Education and Training
LTR:	Learner Teacher Ratio

Section 1: Introduction and education sector overview

1.1. Background and Objectives

Over the years, the Namibian government has continuously invested substantially in the education sector with the aim being to increase access, efficiency as well as improve the quality of education. This shows how important the sector is to the economy. Expenditure in the education sector is regarded as investment in human capital which shows value to the economy through skills and knowledge gained.

Education sector¹ is one of the largest spenders in the Namibian government. The most resources allocated to the education sector is through operational budget for which a larger portion goes towards the wage bill. Statistical analysis revealed that on average 95 % of total budget to education was spent on salaries, pensions, other condition of services and social security between 2000/01 and 2016/17. The analysis further shows that over the same period only an average of 5.0 % of the budget was spent on development programs. Expenditure in the education sector over the period 2000/01 to 2016/17 averaged 22.3 % of total public expenditure. This represents 7.6 % of the country's national income.

The nation's progress in education is seen through accessibility, affordability and quality education. As the nation grows, the demand for education increases and such demand come with a price tag which puts pressure on the already limited fiscal resources. Public expenditure on basic and higher education was N\$1.9 billion in 2000/01 and recently increased to N\$15.6 billion in 2016/17, representing a growth 726%. Despite high level of public investment in education, there are incidences of high dropout rate and high gross enrolment ratio due to high repetition.

The Namibian government currently faces financing challenges in the face of falling revenue, increasing debt, and low economic growth. Revenue has declined by 2.6% from N\$52.22 billion in 2015/16 to N\$50.86 billion in the 2016/17 (MoF, 2017). Public debt is currently estimated at 43.3% of GDP in 2017/18 from 39.6% of GDP in 2015/16². Economic growth for 2016 was 0.6% and annual statistics shows that 2017 recorded a contraction of 0.9% before it start increasing to 1.2 and 2.1% in 2018 and 2019 respectively³. On the back of the aforementioned indicators, the rise in expenditure on education which is mainly in the form of wage bill will pose a challenge in the long run given low economic growth. In addition to that, there have been reports of corruptions and existence of ghost teachers in the Ministry of Education since 2011. The imaginary teachers and employees corruptly using government office for gratification continues to cost the ministry vast amounts of money.

In light of these concerns, this report asks the following two questions: (i) How are resources allocated (budget) to education utilized? (ii) How has public expenditure on education impacted performance? Therefore, the objective of this paper is to analyze efficiency in the education sector looking at the trends that emerge from the education sector budget expenditure and performance between 2000/01 and 2016/17 and make overall recommendations for policy actions.

¹ Ministry of Education, Arts and Culture and Ministry of Higher Education, Training and Innovation

² MoF fiscal strategy FY 2018/19-2020/2021 MTEF

³ MoF fiscal strategy FY 2018/19-2020/2021 MTEF

1.3. Institutional structure and policy framework of the education sector in Namibia

This section provides a synopsis of the institutional structure of Namibia's education sector, that is, key players and associated policy/legal instruments. At the highest level, Article 20 of the Namibian Constitution adopted in 1990 made provision for education as a right and access to quality free education for all children in Namibia (EFA, 2002).

Education is a prerequisite for human development therefore, quality education is very crucial for the achievement of overall economic development. To this end, the Namibian Constitution specifically directs the government to provide free primary education as a way to encourage high enrollment of learners. The free primary education for all government schools was introduced in 2013, while free secondary education started in 2016. The primary education starts from grade 1 to 7, while secondary education starts from grade 8 to 12. Upon completion of grade 12, learners that qualify to apply to the high learning institutions including vocational training institutions, do so and further their studies.

In addition to the Constitution, there are other legal frameworks, some of which sought to establish State Owned Enterprises (among other objects) in the education sector, these includes, the Education Act No.16 of 2001 which established provision for accessible, equitable, qualitative and democratic national education service and to provide for the establishment of the National Advisory Council on Education amongst other things (High Education Act No.26 2003).

The National Council for Higher Education (NCHE) was established by an Act of Parliament, the Higher Education Act of 2003, Act No. 26 of 2003 and was launched in 2005. The objectives of NCHE are among others: to promote the establishment of a coordinated higher education system, access of students to higher education institutions and quality assurance in higher education as well as to advice on the allocation of money to public higher education institutions. The NCHE is also mandated to advise the Minister of its own accord or at request of the Minister on quality promotion and quality assurance in higher education and the allocation of public money to higher education institutions. (NCHE, 2009).

Similarly, the Namibia Qualification Authority (NQA) was established through the Namibia Qualification Authority Act of 1996, Act No. 29 of 1996 as State Owned Enterprise (SOE) (NQA, 2018). As stipulated in the Act, the NQA has the following functions among others: to set up and administer the National Qualifications Framework (NQF); accredit training providers to ensure that they have the capacity to deliver courses at the appropriate standard and evaluate qualifications to determine the value of a qualification and give it a corresponding level on the National Qualifications Framework. The NQA is involved in the promotion of quality education and training in Namibia through the registration of education and training providers in Namibia and their courses. Furthermore, the NQA's legislative obligations also involve setting up occupational standards for any occupation or job in any career structure and setting the curriculum standards for achieving such occupational standards.

In addition to that, the Vocational Education and Training Act of 2008, Act No.1 of 2008 was established. This Act applies to Vocational Education and Training (VET) in Namibia, except for education and training in the Namibian Defense Force or the Namibian Police. The objectives of the Act under section 3 are to specifically achieve an effective and sustainable system of skills formation that is aligned with the labour market; to establish a stable organization and management system and to establish and maintain a sustainable partnership between government the private sector and civil society to resource the provision of vocational education and training. Furthermore, Namibia Training Authority (NTA) was established under the same Act. Herein, NTA is a regulatory

body of the Vocational Education and Training sector in Namibia entrusted with the effective regulation and funding of the provision of Vocational Education and Training (VET). It does so by ensuring that training programmes meet current and future needs and people are imparted with skills to find employment (NTA, 2018).

1.4. Educational sector objectives and priorities

According to Vision 2030, Namibia requires a transformation into an “innovative, knowledge-based society, supported by a dynamic, responsive and highly effective education and training system “with the following sub-vision:

“A fully integrated, unified and flexible education and training system that prepares Namibian learners to take advantage of rapidly changing environment and contributes to the economic, moral, culture and social development of the citizens throughout their lives.”

In light of this, since independence, the development of education in Namibia was to be guided by four goals of access, high quality, internal efficiency and democracy (MoEAC, 2004). The aforementioned four goals were expected to be reached through achieving education for all; strengthening teaching of Mathematics, Science and Technology at all levels; and conducting a comprehensive review of the curricula. To this end, Namibia started implementing the revised curriculum in 2015. In this regard, Junior Primary (Pre-primary, and Grades 1-3) was implemented in 2015, Senior Primary (Grades 4-7) in 2016, and Grade 8 in 2017. Grade 9 is to be implemented in 2018 whereas Namibia Senior Secondary Certificate Ordinary (NSSCO) level (a two-year course for ‘Grades 10-11’) will be implemented in 2019. Namibia Senior Secondary Certificate Advanced Subsidiary (NSSCAS) level (grade 12) will be implemented in 2021 (Chanel B, 2017).

Furthermore, the Fifth National Development Plan (NDP5) recognizes the importance of education. Herein, the goals set in NDP5 are that all learners have access to equitable inclusive quality education that qualifies them to pursue higher education, and that by the end of the plan, Namibia – would have put in place an education system that responds to industrial needs. This will be done by improving the performance of learners in Mathematics, English and Physical science which is currently below 48% to at least 50% in 2022 and also to increase the percentage of learners qualifying for university from 36% (2015) to 60% in 2022 which is to be realized by achieving 5 percentage points increase for each subsequent year. In 2016, 36.8% of learners qualified for university, while in 2017, out of 22,091 fulltime learners only 8,632 learners qualified for tertiary education, representing 39.3%. This indicates that although there has been a 2.5 percentage points (half the percentage annual points target) increase in learners qualifying for university, it has generally been low when measured against the set target of 60% expected to be achieved by the end of the plan.

The Ministry of Education developed the Education and Training Sector Improvement Programme (ETSIP), which is a 15-year strategic plan to respond to Vision 2030. One of the strategic goals for ETSIP is to strengthen the quality, effectiveness, and efficiency of the general education and training system. It is expected that the goal outlined in the ETSIP leads to internal efficiency through reduced

school dropout and repetition rates. The introduction of ETSIP was mainly another way of steering the education sector towards the realization of Vision 2030 with the primary priorities being to build equity, quality and efficiency in the education sector. The Programme recognized Early Childhood Development which is a foundation for acquiring basic critical skills, general education (Grade 0-12), Vocational Education and Training, tertiary education and training, knowledge and innovation and information, adult and lifelong learning.

Section 2: Literatures and International Benchmarks

According to OECD (2017), efficiency in the education sector is concerned with the following questions: What is the relation of outputs to inputs in the higher education system? Can the efficiency of the system be increased? Can the system be more productive? Is higher education making the most efficient use of resources made available to it?

Studies have shown that increase in government spending coupled with spending efficiency on the education sector do make a positive contribution to public objectives. In view of this, Ahmad & Ubaidillah (2013) argued that it brings positive effects on human capital and increase economic growth and if the government has taken advantage of economic growth to access education for all, it always brings double benefit to the poor. However, countries that are corrupt are rated to have ineffective bureaucracy in which case public expenditure will become ineffective.

Gabriel (2015) found that most countries normally practice historical budgeting, which does not necessarily reflect the current needs of institutions and does not encourage improvements in performance. Spending efficiency is crucially important in Namibia's education sector. In view of this, the Minister of Finance, Honourable Schlettwein (2018) in his budget statement stressed that "education sector in Namibia needs to do better with what they have and not do better with more."

Government expenditure on education was found to have significant positive effects on education outcome in Nigeria measured by primary school enrolment rate. It is well known that education is one of the drivers of economic development. The more people that enroll into primary schools, the more literate the population would be thereby positively impacting on socio-economic development. Using OLS techniques in Nigeria the study revealed that public education spending has a positive and significant effect on education outcomes. The study recommends among other things, that government should spend more on education which needs to be targeted for the desired effects to be realized. Again government should monitor spending given the corruption and embezzlement of public funds in Nigeria (Charles et al., 2016).

It is critical that governments spend a sufficient share of the overall domestic budget on education in order to ensure good quality education for all citizens. Two international benchmarks of spending on education have been established to ensure good quality education for all citizens. There is broad consensus within the international community that delivering good quality education for all citizens requires countries to spend at least 20% of their total budget or 6% of GDP on education (Global campaign for education, Undated). Another widely accepted goal for quality education is to have a leaner-teacher ratio of 40 learners per teacher at primary level (UNESCO, 2015).

Over the years, Sub-Saharan African countries have invested a considerable and high share of their GDP on education. Real expenditure on education in sub-Sahara African Region increased by more than 6% each year over the past decade. Notwithstanding these investments, the quality of education in the region is recognized as being far behind the rest of the world. This is evidenced by the fact that many countries in the region are still a long way from providing every child with good quality primary education. More than 20% of learners in Grade 6 of primary education still

do not master basic reading skills which suggest a need for urgent action to improve the quality of education (UNESCO, 2015). Moreover, public education systems in developing countries are associated with high rates of teacher absenteeism, leakages of financial transfers to schools, ineffective school monitoring systems, and poor parental engagement, which are all indicative of low levels of accountability in the system (Mbiti, 2016). These noted inefficiencies explain why learning levels in developing countries have been unresponsive to increased educational investment.

Some researchers argue that low learner-teacher ratios would ensure that teachers give attention to learners and increases learning as opposed to a system where the learner-teacher ratio is so large. Kimani & Bhorat (2016), suggest that a low learner-teacher ratio and larger expenditure per learner increases attainment of some secondary education in South Africa. They also found that the smaller learner-teacher ratio has a higher influence on educational attainment at lower level of education than at higher levels. Rogers (2016) on the other hand, provided some evidence from Indonesia that pupil-teacher ratios below the current average level are not associated with better performance, *ceteris paribus*. Duflo et. al (2012), examined a program under which Kenyan Parent-Teacher Associations (PTAs) found that despite a reduction in the pupil-teacher ratio for Grade 1 from 82 to 44 by adding more centrally hired civil service teachers, the program did not improve student learning outcomes. Instead, existing teachers reduced their effort in response to the new hires, and helped to get their relatives hired into a significant portion of these new teaching slots.

The World Economic Forum (WEF) annually ranks countries according to the Global Human Capital Index on how well they are developing their human capital on a scale from 0 (worst) to 100 (best) across four thematic dimensions (capacity, deployment, development and know-how) and five distinct age groups or generations (0–14 years; 15–24 years; 25–54 years; 55–64 years; and 65 years and over) to capture a country's full human capital potential profile (WEF, 2017). According to the World Economic Forum (2017), sub-Saharan African countries were the lowest ranked in 2017 in the Global Human Capital Index. Herein, Rwanda, Ghana, Cameroon and Mauritius were the top four ranked countries that have developed more than 60% of their human capital in Africa in 2017. South Africa and Namibia were ranked 8th and 10th respectively among other sub-Saharan countries while Lesotho and Swaziland were close to the bottom, having being ranked below the Sub-Saharan average. However, South Africa and Namibia are among those that are successful in building the future human capital potential of their youngest generations. The region's second largest economy South Africa has the continent's highest share of its workforce in high-skilled occupation but underperforms when it comes to school quality (WEF, 2017).

Section 3: Data and Methodology

In order to assess efficiency in the use of public resources on education sector in Namibia, the study examined public spending on education as a percentage of GDP, the share of public spending on education to total public expenditure and learners teacher ratio linked with educational performance. These were in relation to the two international benchmarks of spending established by the Global Partnership for Education. The paper conducted a review of literature on education financing and performance and mainly used secondary data obtained from the Ministry of Finance's various estimates of revenue (income and expenditure) reports, and the two Ministries of Education (Higher Education, Training & Innovation and Basic Education, Arts and Culture). Gross Domestic Product (GDP) data used in calculations was obtained from Namibia Statistics Agency's national accounts database.

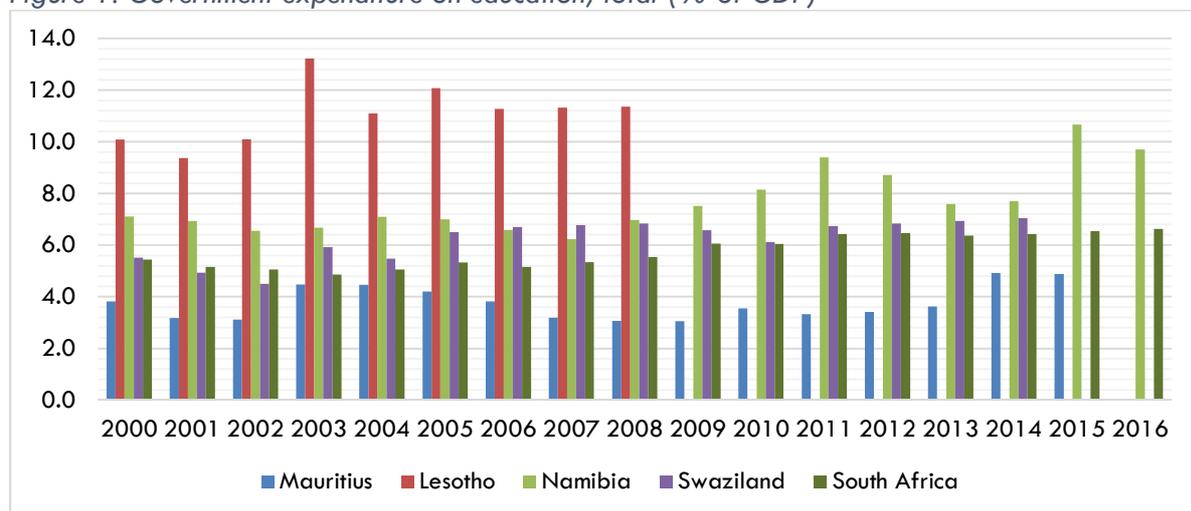
Section 4: Analysis

4.1. Regional trends

The chart below plot trends in public expenditure on education as a share of GDP in different countries. From this, it can be seen that generally, there has been an increase in in the share of national income that countries devote to the education sector given that an upward trend is observed in most countries. This means the total amount of money spent by these countries on education is increasing.

Total budget on education is compared for five (5) countries in Southern African Development Community (Lesotho, Mauritius, Namibia, South Africa and Swaziland). In SADC⁴ region, South Africa education spending as a share of GDP accounts for 5.8 % on average between 2000 and 2016, which is closer to the target of 6%. The trend observed in Lesotho is the highest among others with an average share of 11% between 2000 and 2008 although data for other years are missing. Lesotho is then followed by Namibia with 7.7% between 2000 and 2016, followed by Swaziland and Mauritius being the least.

Figure 1: Government expenditure on education, total (% of GDP)



Data source: World Bank -World Development Indicators (2017)

South Africa's pass rate at tertiary institutions rose from 70.7% in 2015 to 72.5% in 2016. The country has observed an improvement in learner's performance as spending on education increases (Cohen, 2017). Expenditure on education in South Africa accounted for 21% of total government expenditure between 2001 and 2016. Lesotho is facing challenges in drop out and quality of education (UNESCO, 2012).

In terms of enrolments, the Gross Enrolment Ratio, which is the total enrolment in a range of grades, divided by the number of people in the population of that age who should be enrolled in those corresponding grades is used as a yardstick for comparisons. GER values over 100% are an indication of under and/or over-aged learners enrolled in the specific school phase (EMIS, 2016).

In South Africa, the average gross enrolment ratio (GER) in tertiary institutions is around 19% between 2012 and 2014, while in primary school it stands at 97% on average between 2007 and 2014. Lesotho, Swaziland and Mauritius have a GER at primary level above 100%. Lesotho and Swaziland's GER at higher institution level is the lowest at 10.3% (2012-2014) and 5.3% in 2013

⁴ Southern Africa Development Community

respectively. In Mauritius, the primary Net Enrollment Rate⁵ is 98% and the primary completion rate is 99% (World Bank, 2014).

Mauritius's tertiary education GER is 38.8% in 2017 which is above the global standards of 30%. Mauritius was ranked first in UNESCO's list of African countries for tertiary education enrolment (Pillay, 2015). The geographical location and the island's culture and historical ties to Asia and Europe made it the obvious choice to play host to a new brand of global, affordable, world-class higher education for the continent. In addition to that, Universities in United Kingdom (UK) has already set up Mauritian branch campuses in order to offer quality UK degrees in to students on the African market at affordable tuition fees. Student's choice of a higher education destination remains quality and the country's political stability and bilingual in English and French is a bonus (Pillay, 2015).

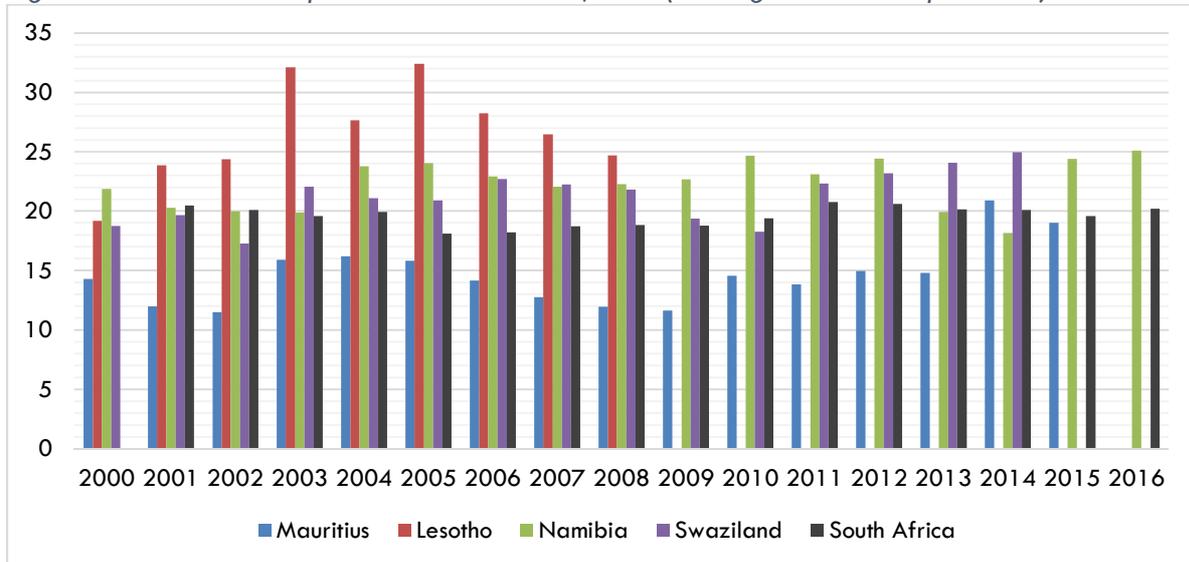
Box 1: Facts about the Mauritian Education sector

It should be pointed out that Education in Mauritius is compulsory up to the age of 16. The education system in Mauritius, patterned after the British model, has improved greatly since independence and this made Mauritius students to be ranked top in the world each year on Cambridge International O Level examination (Wikipedia, 2018). Today in Mauritius, education is free through the secondary level since 1976 and through the post-secondary level since 1988. At the tertiary level, all fulltime undergraduate programmes are free at the University of Mauritius. The Mauritian government has also introduced free transport for all students since mid-2005. The country has achieved high enrollment rate at all level of education. The national literacy rate stood at 94% for the age group 20 to 24, and at 85% for the whole population in 2011 (Bunwaree, 2018). The government has modernized the education system in 2014 by introducing E-learning through PC-tablet (Veerunjaysingh & Leena, 2015). Education in Mauritius has made remarkable advancement compared to certain African countries, thus the unending investment.

The same trend as depicted in figure 1 is observed in terms of the share of education expenditure to total government expenditure. Lesotho remained the highest with 27% on average although there are missing data for some years, followed by Namibia (22%), Swaziland (21%), South Africa (20%) and lastly Mauritius with 15% respectively. Although Government expenditure on education in Mauritius is the lowest both in terms of % of GDP and % of total government expenditure, the country achieves the best education outcomes among the SADC countries under review.

⁵The number of children of official primary school age who are enrolled in primary education as a percentage of the total children of the official school age population (UNESCO, 2018).

Figure 2: Government expenditure on education, total (% of government expenditure)

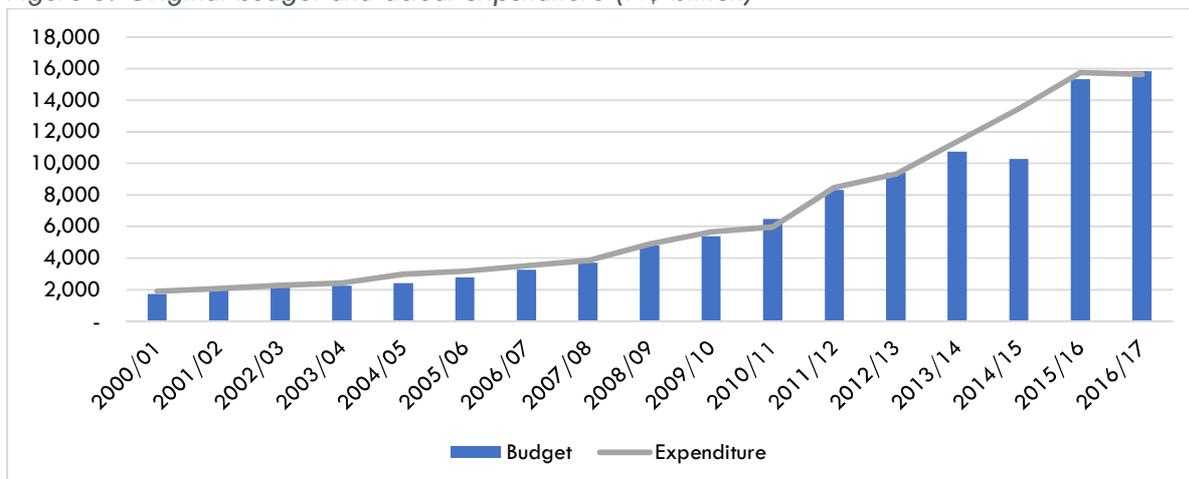


Data source: World Bank -World Development Indicators (2017)

4.2. Trends in education sector budgets

It is necessary to compare the original budget against the actual spending in order to determine the credibility of the budget. Figure 3 below reflects an upward trend in the budget allocation and expenditure for the Ministry of Education. Between 2000/01 and 2016/17, the combined annual budget allocation for the two Ministries of Education (Ministry of Education, Arts and Culture; and Ministry of Higher Education, Training and Innovation) fluctuated within the range of N\$1.7 to N\$15.8 billion, while actual expenditures fluctuated within the range of N\$1.9 to N\$15.6 billion. The annual budget, which has been increasing, shows a reflection of the education sector as one of government expenditure priorities and as evidently displayed in figure 3. Moreover, the annual budget provides understanding that the budgeted expenditure priorities reflect government’s commitment towards broader policy and strategic objectives to enhance overall human capital development.

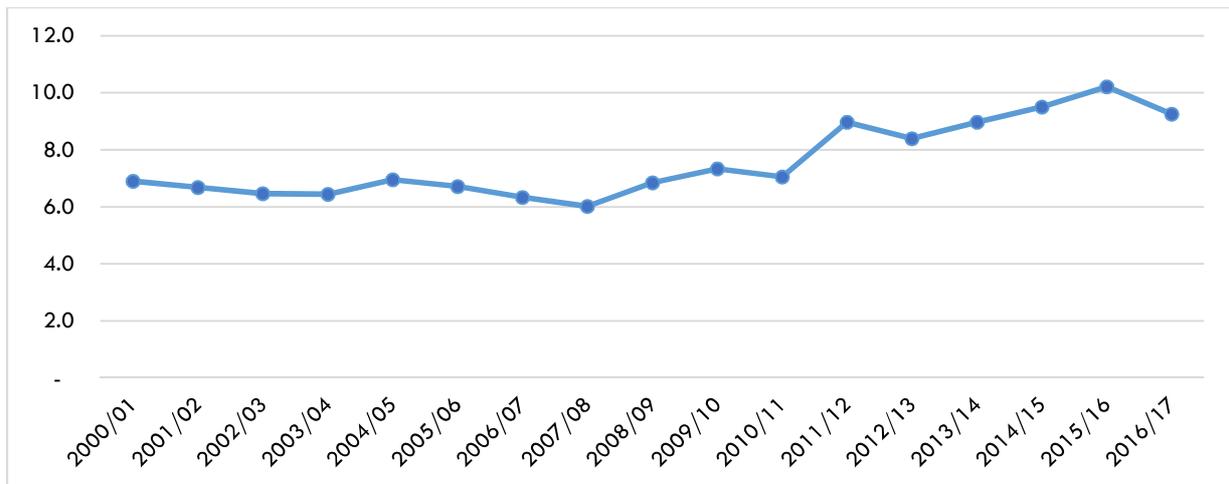
Figure 3: Original budget and actual expenditure (N\$ billion)



Data source: Ministry of education

The Ministry of education expenditure has consistently been increasing since the financial year 2000/01. Similarly, Government expenditure on education has represented 6% to 10.2% of Namibia's Gross Domestic Products on an upward trend (Figure 4). The highest share of expenditure to GDP of 10.2% was observed in 2015/16 with an increase in expenditure of 17% attributable to a larger increase in expenditure as compared to growth in GDP. In 2016/17, the proportion dropped to 9.3% reflected by a 1% reduction in education sector expenditure associated with slower economic activities.

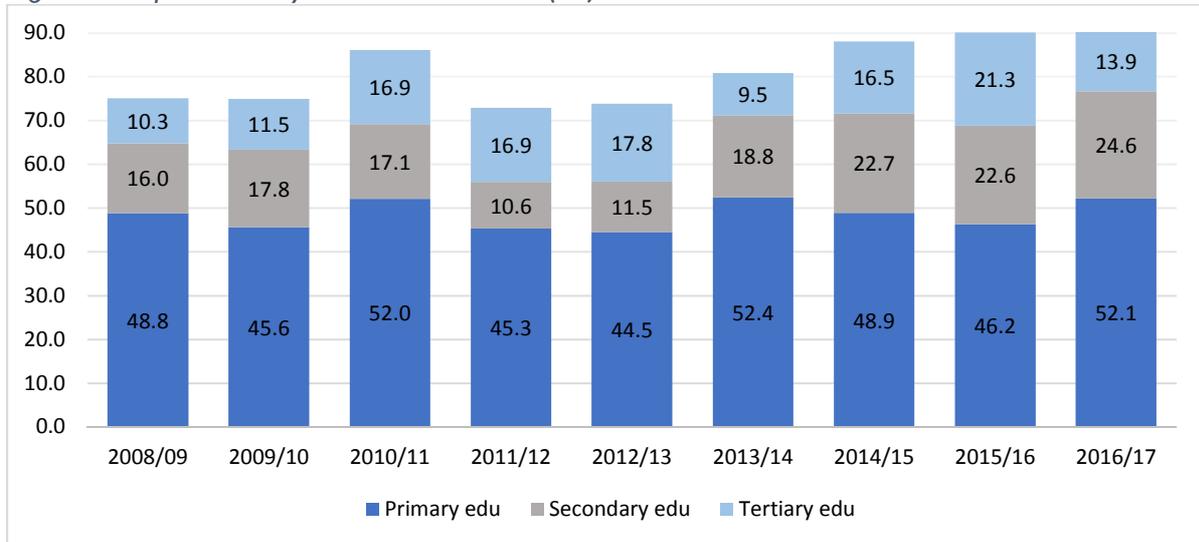
Figure 4: Expenditure as a proportion of GDP at market price (%)



Data source: Ministry of Education and National accounts (2016)

Figure 5 shows how the funding pie is divided between different levels of education phases: pre-primary and primary, secondary and tertiary. The primary education spends the largest share of total expenditure in the education sector with an average of 48% between 2008/09 to 2016/17. The proportion of primary education spending did not really change much in the past 9 years (2008/09 to 2016/17) standing at 52% in 2016/17 from 48% in 2008/09. However, the expenditure figures show a significant increase from N\$2.4 billion in 2008/09 to N\$8.1 billion in 2016/17. The average for Secondary education spending stands at about 18% of total expenditure on education. Tertiary education spends an average of 15% from 2008/09 to 2016/17 financial year. Although it is recognized that good quality pre-primary education level is very crucial as it provides a quality foundation for the education system, the expenditure at pre-primary level averaged only 1.3% between 2014/15 and 2016/17, making it the lowest among other education levels.

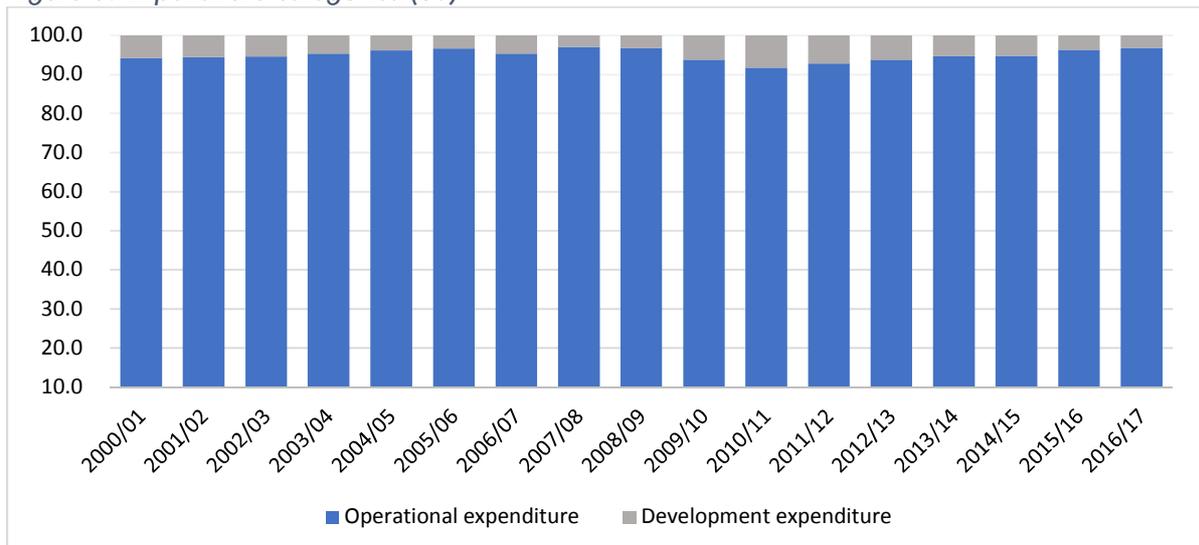
Figure 5: Expenditure by levels of education (%)



Data source: Ministry of Education

Education expenditure is categorized under operational and development expenditure. The operational expenditure is broken down into wages and non-wages expenditures [employees contribution to Government Institutions Pension Fund (GIPF) and goods and other services] and acquisition of capital assets (furnitures and office equipment), while development expenditure is investment on capital expenses e.g. construction, renovation and improvements of classrooms/schools, etc. Operational expenditure has been the highest since 2000/01 representing an average of 95%, while development expenditure remained as little as an average of 5% between 2000/01 and 2016/17. Namibia is said to be one of the countries that spends the most on teachers wage bill in Southern Africa and the per capita spending on education also ranks highly (De Sousa, 2017).

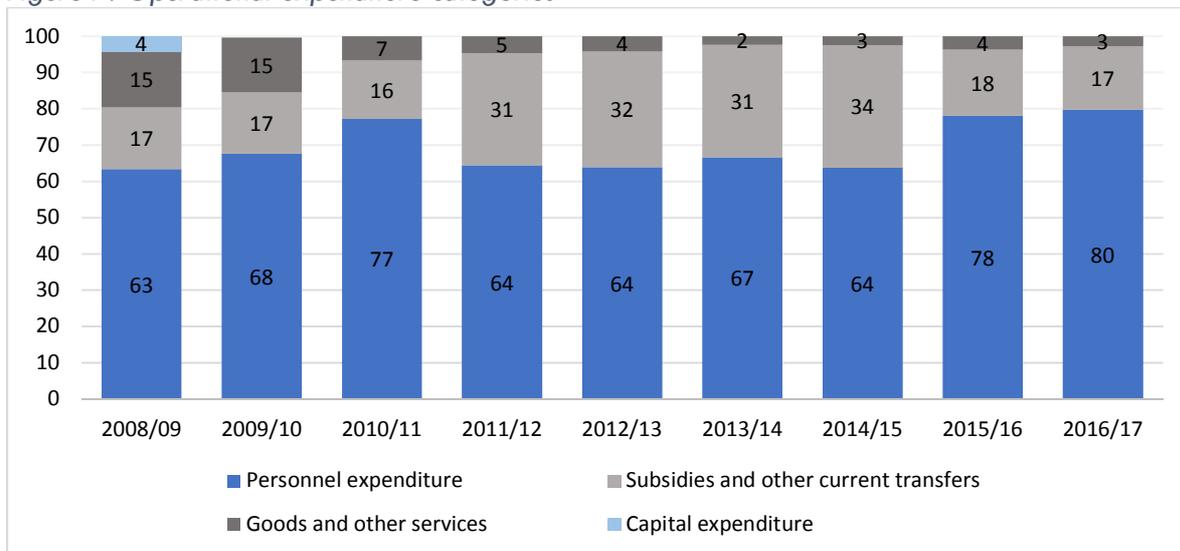
Figure 6: Expenditure categories (%)



Data source: Ministry of Education

Figure 7 displays subcategories of operational expenditure in the Ministry of Education, Arts and Culture. The figure shows that personnel expenditure took the largest share of operational expenditure from 2008/09 to 2016/17. About 80% of operational expenditure was spent on personnel in 2016/17 as compared to 63% in 2008/09 and this has crowded out other equally important expenditures such as buying of textbooks, learning guides and other learning materials etc. The second category that has accounted for a larger share is subsidies and other current transfers with an average of 24%, followed by goods and services with an average of 6.4%. An insignificant share of 0.003% was spent on capital expenditure in 2016/17.

Figure 7: Operational expenditure categories

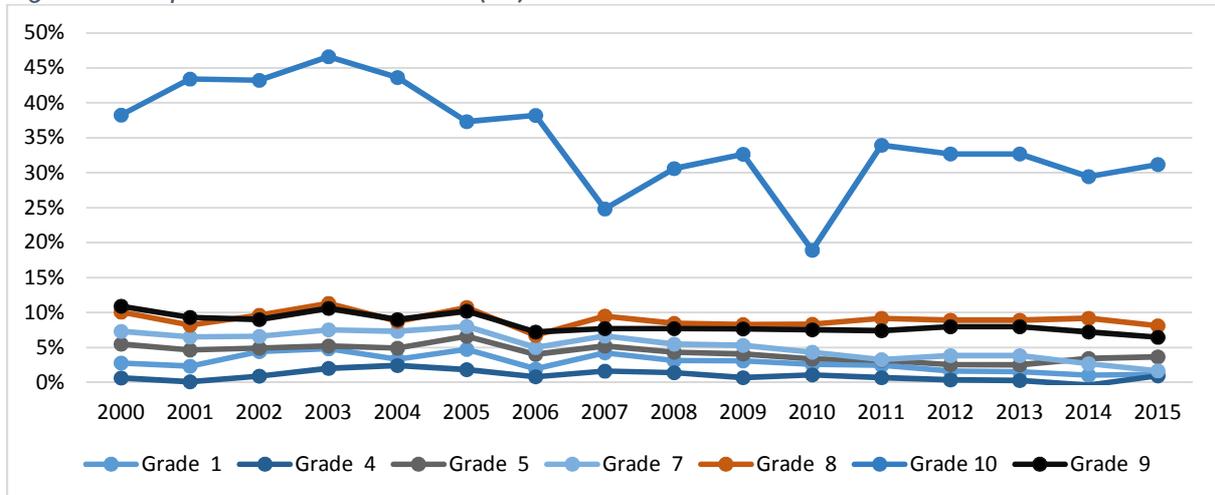


Data source: Ministry of Education

4.3. Performance in the education sector (Basic and Higher education)

Enrollment and dropout rates are among the most basic measures of progress in the education sector's performance. The dropout rate in Namibia for years has been highest in grade 10 (figure 8). It is very high between 2000 and 2006. However, it has reduced by 7% in a period of 15 years, from 38% in 2000 to 31% in 2015. The year 2010 shows a significant decline in dropout rate attributable to learners who failed grade 10 from 2008 who were allowed to repeat (EMIS, 2016). The high school dropout rate can also be observed in grades 8 and 9. The dropout rate is low in early years of primary school below 4% in 2015. Ideally if the quality of teaching and learning is low, then student achievement will also be low. When students are judged as having failed a year and then allowed to repeat that year, substantial numbers of students with low achievement will lead to high levels of repetition (Peter, 2011).

Figure 8: Dropout rate Grade 1 to 10 (%)

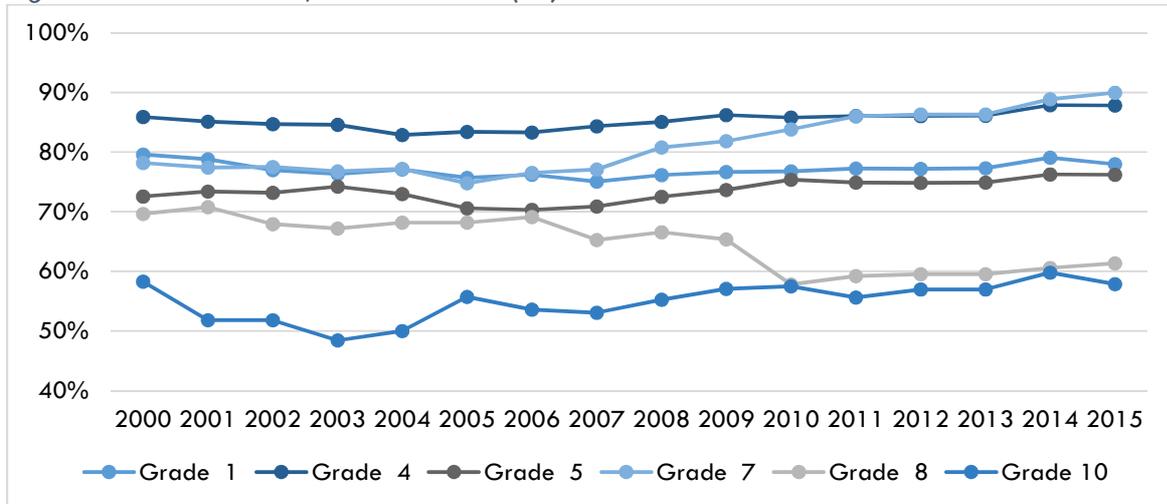


Data source: EMIS 2016

Despite government's effort in view of ensuring increased access to education, many learners still do not complete secondary education due to failing and high dropout rate. Learners who repeat a grade more than once tend to lose interest in school and decide to drop out because of lack of motivation especially in rural areas where education is not a higher priority on parent's agenda (Haaveshe et al., 2015). Long distances to some schools, teenage pregnancy, peer pressure and indiscipline (learners tend to engage in destructive behaviors such as alcohol consumption, chilling out as well as bullying activities) which lead to dropout and also evident in OOSC (Out of school Children) report. About 41% of respondent to the surveys by UNICEF (2015) indicated bullying, sexual harassment and rape as some of the leading causes of school drop outs in Namibia. There is no easy way for fix high dropout rate problem; however, the most effective way is to best understand thoroughly the root causes.

Grade 10 promotion rates are low and static. Grade 10 promotion rate in 2015 remained as it was in 2000 at 58%. For Grade 8, promotion rate dropped from 70% in 2000 to 61% in 2015 while at the lower end, promotion rate in grade 1 also dropped from 80% in 2000 to 78% in 2015. However, for the upper primary phase, promotion rates have been increasing with Grades 4 and 5 having slightly increased from 86% to 88% and 73% to 76% respectively, while grade 7 showed a significant increase from 78% in 2000 to 90% in 2015.

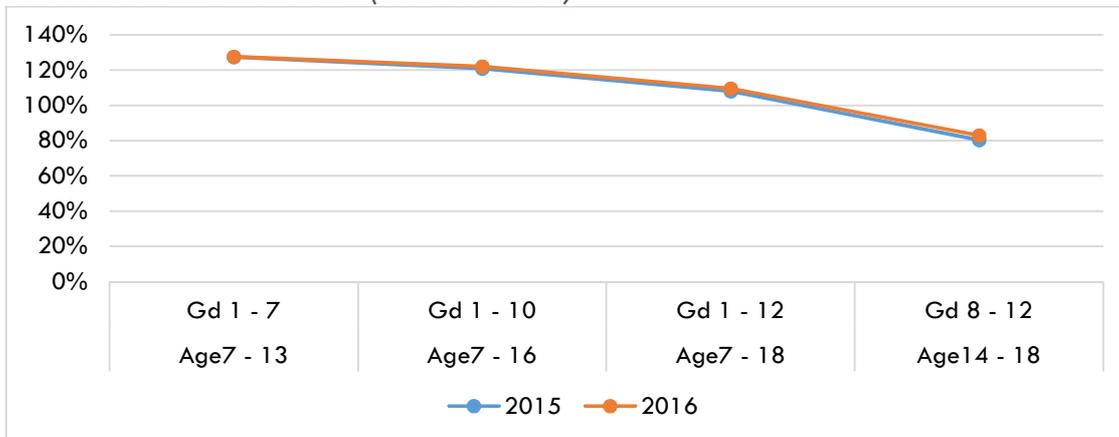
Figure 9: Promotion rate, Grade 1 to 10 (%)



Data source: EMIS 2016

Gross Enrolment Ratio (GER) in the primary education recorded the highest value (128%) while GER at secondary level is at 83% in 2016. Figure 10 shows that in 2015 and 2016 the Gross Enrollment Ratios for grades 1-7, 1-10 and 1-12 ranges were above 100%. The increasing GER implies that the primary school system is becoming less efficient in terms of enrolling maximum numbers of children in age-appropriate grades, thereby suggesting higher levels of repetition (Figure 10), and hence lower quality of teaching and learning (Peter, 2011).

Figure 10: Gross Enrolment Ratio (Basic education)

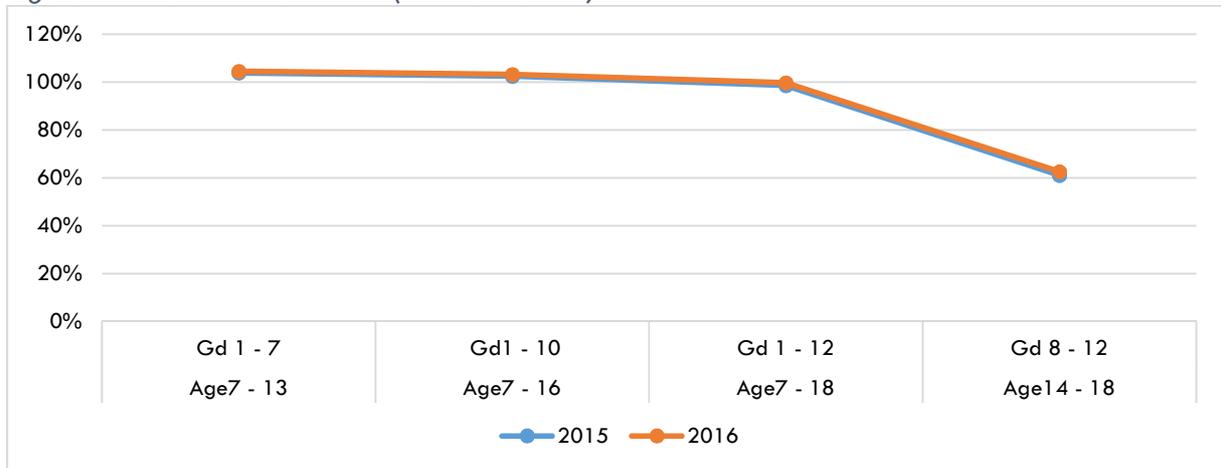


Data source: EMIS 2016

A higher NER of 100% denoted a high degree of enrollment in education by the official school age population at primary education level. The NER at primary education and junior secondary in 2015 and 2016 represents substantial progress. However, NER above 100% as recorded is due to inconsistencies between population data and enrollment data. At secondary school level, NER was 63% in 2016, implying that the remaining proportion (37%) of primary school age is out of school. In 2012 the chair of Global Partnership for Education said that it is always important to look at what is going on in schools. Most African countries shows progress in enrollment and it's not right to

assume that work is done simply by enrolling more children in school. This predominantly presents a challenge in terms of quality education and poor results for Namibia.

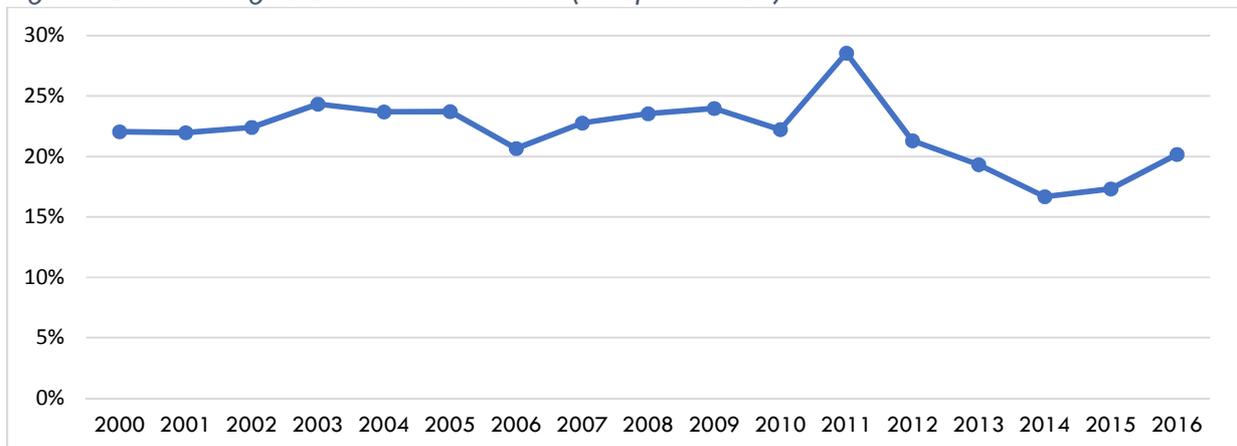
Figure 11: Net Enrolment Ratio (Basic education)



Data source: EMIS 2016

The qualification completion rate in figure 12 is calculated after a given number of years as the number of students who have successfully completed a qualification by that point in time as a percentage of the number of starters⁶. The completion rate at higher education institutions is on a downward trend, having decreased from 22% in 2000 to 20% in 2016 with the lowest value of 17% in 2014.

Figure 12: Public Higher Education Institutions (Completion rate)



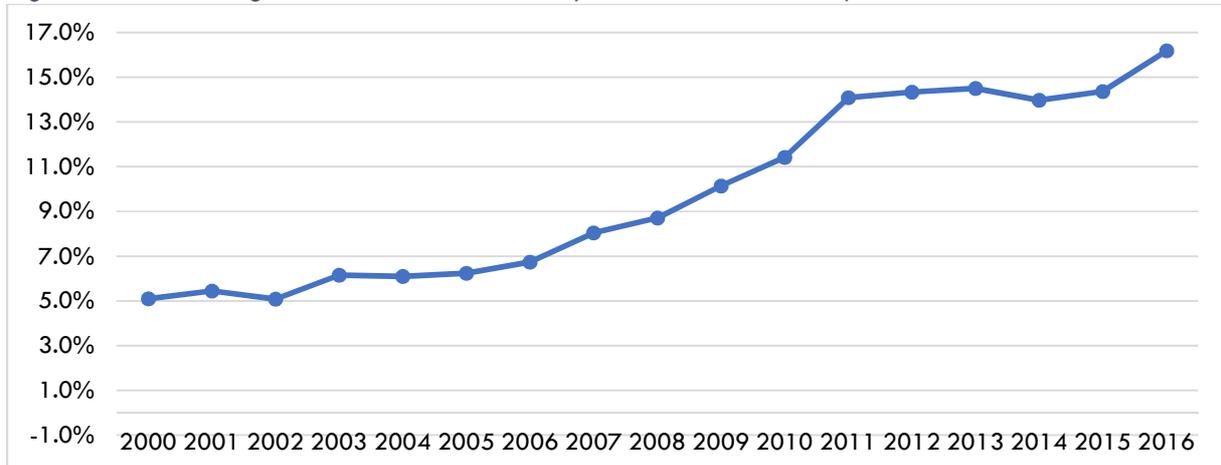
Data source: NCHE (2017)

The Tertiary education Gross Enrolment Ratio (GER) between 2000 and 2016 has been increasing steadily from 5.1% to 16.2%. Although Namibia has shown improvement in the number of students enrolled, it is still not consistent with the global ratio for GER. The average GER worldwide is

⁶ Students who complete a qualification at a higher level than the one they started are not included when calculating the qualification completion rates.

considered to be 30%⁷, however, Namibia's GER of 16.2% is clearly lagging behind. For Namibia, the GER will remain low for as long as the performance at secondary level remains low which implies that ultimately only few students qualify to register at tertiary institutions.

Figure 13: Public Higher Education Institutions (Gross Enrolment Ratio)



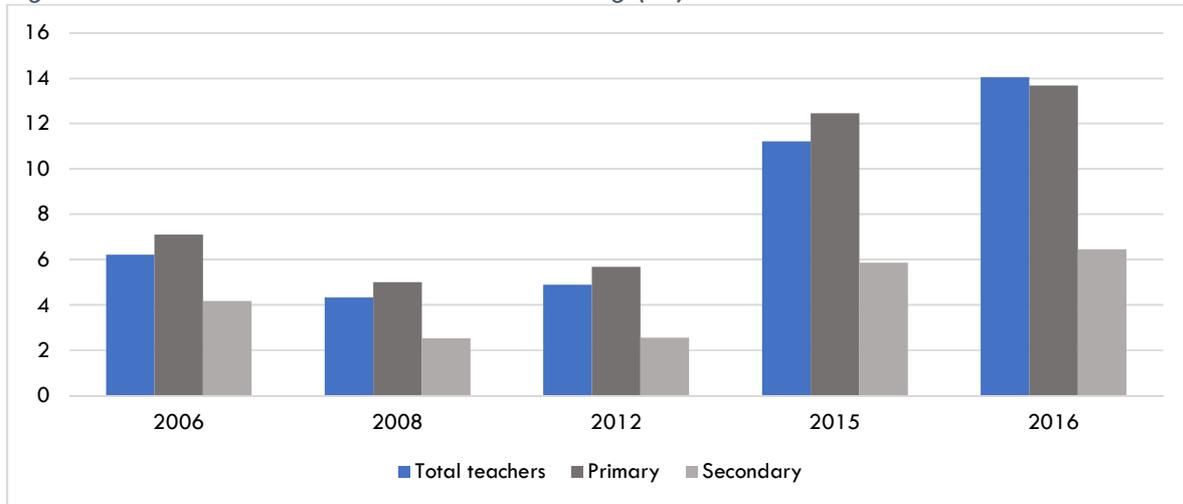
Data source: NCHE (2017)

4.4. Teacher's qualifications

Figure 14 shows that in Namibia, teachers without formal teacher training represent 14% of all teachers employed in 2016 from 6% in 2006. This represents a small change when compared to a growth in number of teachers of 48% between 2006 and 2016. At primary education there were 2387 teachers without formal teachers' qualifications out of 17,456 teachers representing 14% as compared to 7% in 2006. At secondary level, the number remained the same in 2015 and 2016 (at 6%), representing a 2% increase from 2006. Namibia being better endowed with a larger number of qualified teachers especially at Primary and secondary levels, one would also expect better results. However, this does not seem to be the case and attributable to associated several factors. Nathalie Houlou (EU⁸ Delegation to Namibia) said that most learners live under bad conditions, HIV /AIDs remain a burden and grandparents and caregivers are under pressure to cater for numerous orphans. Nutrition is another issue and in addition to that child abuse and domestic violence also represent a serious cause for concern in Namibia. With these elements chances that a school child performs remain very minimal.

⁷ SunainaRoy (2014) India Lagging Behind with 20% Gross Enrollment Ratio (GER) in Higher Education Worldwide
⁸ European Union

Figure 14: Teachers without formal teacher training (%)



Data source: EMIS (2016)

The Namibian government and EU delegation have reflected on the poor outcome in the education sector, thus changed the funding focus towards supporting the foundation of education by engaging with early childhood development and Pre-Primary education (Houlou, 2012).

The number of qualified teachers especially at Pre-Primary level can be interpreted according to two differing definitions. Firstly, we consider that the number of qualified teachers at Pre-primary level are teachers who have less than grade 12⁹(column 3) to post graduate (column 7) then the percentage of qualified teachers in 2017 is about 72%. Meaning that in 2017, 28% of pre-primary teachers had no teachers' qualification (Professionally un-qualified teachers). According to MoEAC, table 1 shows the accurate representation of qualified teachers who are presently in Namibia's education system.

Table 1: Total qualified Pre-Primary teachers calculation 1

Year	Less than grade 10	Less than grade 12	Grade 12 and 1 to 2 years tertiary	Grade 12 and more than 2 years	Diploma	Post Graduate	Total	Total unqualified	%Unqualified	Total qualified	% Qualified
2012	117	52	106	365	126	18	784	117	14.9%	667	85.1%
2014	332	72	204	442	175	38	1263	332	26.3%	931	73.7%
2015	427	76	229	497	183	45	1457	503	29.3%	1030	70.7%
2016	502	92	277	578	222	70	1741	594	28.8%	1239	71.2%
2017	502	87	286	601	236	77	1789	589	28.1%	1287	71.9%

Data Source: Ministry of Education Arts and culture, EMIS.

Secondly and as shown by Table 2, qualified teachers are only regarded as teachers with grade 12 and more than 2 years tertiary qualification, diploma or post graduate degree. Less than grade 10, less than grade 12 or with grade 12 with 1 to 2 years tertiary qualification are regarded either as professionally un-qualified or professionally under-qualified. Using this approach, qualified teachers in 2017 will only be 51% and the remaining 49% is regarded as unqualified.

⁹ See Appendix for definition of types of qualification

Table 2: Total qualified Pre-Primary teachers calculation 2

Year	Less than grade 10	Less than grade 12	Grade 12 and 1 to 2 years tertiary	Grade 12 and more than 2 years	Diploma	Post Graduate	Total	Total unqualified	%Unqualified	Total qualified	% Qualified
2012	117	52	106	365	126	18	784	275	35.1%	509	64.9%
2014	332	72	204	442	175	38	1263	608	48.1%	655	51.9%
2015	427	76	229	497	183	45	1457	732	50.2%	725	49.8%
2016	502	92	277	578	222	70	1741	871	50.0%	870	50.0%
2017	502	87	286	601	236	77	1789	875	48.9%	914	51.1%

Data Source: Ministry of Education Arts and culture, EMIS.

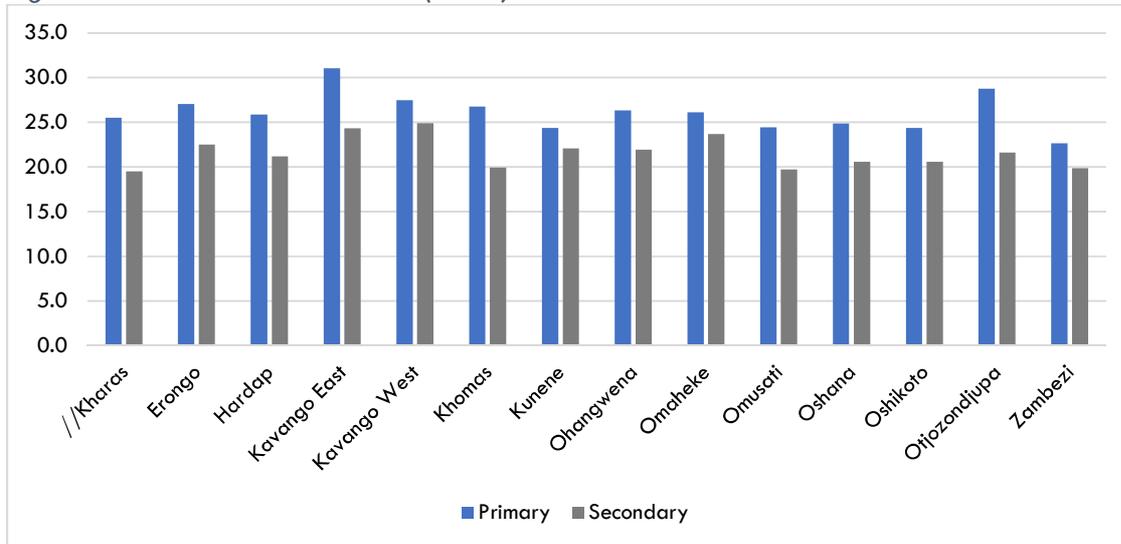
4.5. Efficiency in the education sector

Several studies have shown that public spending on education in Namibia is high by international standards. The analysis done in 2017 shows that Namibia had the third highest public education expenditure to total government spending and the seventh highest public education expenditure to GDP ratio among 115 countries (MoEAC, 2017). The unit cost for school education in Namibia (that is, primary and secondary schools) in 2014 amounted to N\$15,169 per learner. The budgetary allocation per learner in primary (N\$15,253) and secondary (N\$17,860) education in 2015/16 has seen a significant increase since 2012 (UNICEF, 2017). This was higher than the annual primary school allocation per enrolled learner in South Africa at R12,231 in 2016, and that for secondary school is R15,718 (UNICEF, 2016).

In the budget speech 2018 by the Minister of Finance, it is stated that currently Namibia spends about N\$18,668 per learner per year, or some US\$ 1,585 compared to the world average of US\$ 446. Given the high dropout rate in education, these per learner expenditure figures will increase even higher. The Minister of Finance again added that Money shortage is not a challenge in the sector. There are traits in the education sector that need urgent attention and these are: a nasty combination of inefficient management systems in schools and tertiary institutions, teaching capacity gaps, weak research and innovation drives, lack of performance management, and hands-off attitudes of parents.

On current trend, the learners-to-teacher ratio (LTR) which is usually used to measure the quality of education has decreased from 25.4% in 2010 to 24.1% in 2016. This implies that overall; the teacher-learner ratio in Namibia is low. The LTR has fallen since 2010 and in 2016 the LTR at primary school is 26 learners per teacher while at secondary level it is 22 learners per teacher. The standard ratio in Namibia is 40 learners per teacher at primary schools and 35 learners per teacher at secondary schools.

Figure 15: Learner: teacher ratios (2016)



Data source: EMIS 2016

Statistics from EMIS showed that the provision of teachers differs from region to region especially at primary level where Kavango East has the highest ratio of 31 learners per teacher and Zambezi has the lowest ratio of 23 learners per teacher. The observed ratio is below the national expectation of 40 learners per teacher at primary level and 35 learners per teacher at Secondary level. According to MoEAC (2016), the factors hampering the implementation of learner: teacher ratio policy includes larger number of combined schools which, given their nature, causes teachers to split across phases as well as teacher loads per subject especially in Secondary level. Nonetheless, there are known cases of overstaffing across regions which have not been fully addressed (MoEAC, 2016).

The Global Partnership for Education initiative proposes indicative international standards for average pupil-teacher ratio of 40 learners per teacher at primary level (Singh, 2012). The learner teacher ratio is usually used as a proxy for learning quality and resources availability indicator (EPDC, 2014). Smaller classes benefit all pupils because of individual attention from teachers (Ajani & Aikinyele, 2014). Other researchers indicated that there is no consensus on what the best learner to teacher ratio, but there is wide agreement that younger children need more time and interaction with teachers for a quality education, supporting a lower ratio of students per teacher in early education (OECD, 2018). Notwithstanding these considerations, there appears to be a weakness in the learner teacher ratio given that it does not take into account the amount of instruction time for students compared to the length of a teacher's working day and also how much time teachers spend teaching. The average number for learners per teacher in Namibia was 25 between 2010 and 2016 with a minimum learner per teacher in 2016 (24) and a maximum student per teacher in 2010 (25). The favorable teacher learner ratio does not necessarily improve the quality of education but rather high expenditure for teachers in Namibia.

Countries like Mauritius with low expenditure to education in proportion to GDP and showing better performance through low gross enrolment rate also has small teacher's learner's ratio. In Mauritius the overall learner teacher ratio is low at 19, while in Lesotho 33 in 2015. In South Africa the learner teacher ratios also have a relatively small range, from 30:1 in Free State and Northern Cape to 35:1 in Eastern Cape (UNESCO, 2016).

Section 5: Findings and Recommendations

5.1. Findings

The paper analyzed public expenditure on the education sector in Namibia and found that expenditure on education has been on the rise between 2000/01 and 2016/17 of which a larger portion is mainly channeled towards operational budget (95%) as compared to 5% which is spent on developmental activities. In terms of the share of public expenditure in total government spending, Namibia registered an average of 22.3 % (2000/01 – 2016/17) and 7.7% as a proportion to GDP over the same period, surpassing both the target of 6% of GDP and 20% share to total government expenditure as set by the Global Partnership for Education and UNESCO respectively. Looking at the performance for both basic and higher education, there is evidence of high dropout rate especially in Grade 10. Gross enrollment and net enrolment at primary level is high but only few learners make it to tertiary education. This is seen through Tertiary Education Gross Enrolment Ratio (TEGER) of 16.2% in 2016 lagging behind the worldwide Gross Enrolment Ratio in high education of 30%. The number of students qualifying for university is low at 39.3% in 2017 and the NDP5 target is that by the year 2022, 60% of learners will qualify for university.

Countries such as Lesotho and Swaziland registered a similar trend as Namibia in terms of the public expenditure on GDP which is above 6% and as a share of government expenditure above 20%. South Africa is falling behind with 0.2% share of expenditure on GDP. Mauritius has a special case whereby expenditure on education as a share of GDP is 3.8%, while the share in total government spending is 15% both below the targets by the Global Partnership for education but the performance in the education sector in Mauritius especially at post-secondary level is better than in other countries. However, the Tertiary education Gross Enrolment in Mauritius was 36.7% in 2016 and above the global ratio of 30%.

While teachers without formal qualifications at primary and secondary level are relatively low, learning achievements remain poor. Due to bad conditions such as child abuse and gender violence in which most learners live, it is unlikely that they perform well

Although smaller learner-teacher ratio has worked for some learners in some countries, others have not consistently been linked to student achievement. This may be due to the fact that many schools have not yet adopted the more demanding but higher quality student-centered learning practices. Moreover, quantitative relationships between LTR and performance rarely take other key quality factors into account, such as teachers' perceptions of working conditions and their sense of efficiency (UNICEF, 2000). The learner teacher ratio in Namibia is relatively low at an average of 25 between 2010 and 2016. In South Africa, a country whose education system is better than Namibia also has a learner teacher ratio ranging between 30 and 35 learners per teacher. In terms of cost per learners, Namibia spends about N\$18,668 (US\$ 1,585) per learner per year compared to the world per learner average of US\$ 446 yearly.

Literatures indicated the role the government play in ensuring equitable distribution of educational opportunities to the entire population through increasing expenditure in the sector. Although that has been a case for Namibia, analysis has shown some level of inefficiency in the education sector in the country. This is mainly evident from high investment in the sector mainly in the form of current expenditure with little quality outcomes which include high dropout and repetition rates in grade 10 and low Tertiary Education Gross Enrolment Ratio. However this investment has helped meet the goal of universal primary access in school.

5.2. Recommendations

Since a larger amount of allocation in the education sector in Namibia goes towards operational expenditure, of which a larger portion is for wages, this might not be sustainable in the long run especially this time when the country is experiencing challenging economic climate. General education has yet to provide the quality and quantity of output as desired. It will therefore be crucial that the government provide such a service at certain level and quality at a minimum cost. There is a need to improve efficiency in the education sector. Given corruption and misuse of public funds like the case of imaginary teachers in Namibia, **accountability and efficiency in the use of public funds** and monitoring of spending is crucial. Another recommendation is to **create fiscal space for operational expenditure other than personnel expenditure** and these are quality inputs such as equipment, laboratories, IT centers textbooks and other study materials.

Increase cost-effectiveness of the education system¹⁰: This can be done by increasing learners teacher ratio for the efficiency of public resources as it is moving towards the indicative target. The teacher employment and deployment policies should be based on a target learners teacher ratio of 35:1 for secondary grades and 40:1 for primary grades. Lastly, in order to increase performance and competition among educators Ministry of education arts and culture need to **reinforce performance appraisal systems and introduce fiscal incentives for performance.**

In order to reduce high dropout rate, there is a need to promote **quality early childhood programmes** to ensure a successful start. Policy makers and educators should find ways to ensure that the education system meets the need for all youth through hiring **well trained staffs that are capable of mentoring, creating awareness on the importance of education** especially for youth in rural areas and **comprehensive family involvement and constantly invitation to meetings** to interact with teachers and learner's attendance.

Limits of the study and future research

The research paper has reached its objectives; however, there were few things that limited the study to make an in-depth analysis. Firstly, it should be pointed out that the extent of the study is somewhat small, due to unavailability or missing data for some years hence only few observations were used in the analysis although the study indicated that it will look at the period of 17 years (2000 to 2016). The unavailability of sufficient data for other countries in the SADC region, especially on operational expenditure constrained the study in view of making a country comparisons and giving stronger recommendations. Further research need to critically look at what is happening in neighboring counties in comparison with Namibia in order to have a depth analysis on efficiency of spending. A proper comparison of cost per learners and a complete picture of Gross enrollment at tertiary institutions to include private schools is also crucial for future researchers.

¹⁰ Adopted from World Bank(2002) study for Sri Lanka

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Section 6: Appendix

Table 3: Qualification and description

Qualification		Description
1	Less than grade 10	No Teacher qualification
2	Less than grade 12	Qualification requiring Grade 10 plus a certificate
3	Grade 12 and 1 year tertiary	Qualification requiring Grade 12, 2 year studies after G12
4	Grade 12 and more than 2 years tertiary	Qualification requiring Grade 12, 3 to 4 year studies after G12
5	Diploma	Postgraduate Teacher Diploma
6	Post Graduate	Postgraduate Degree

Source: Ministry of Education Arts and culture, EMIS.