

Identifying and Selecting Sustainable Income Strategies to Overcome Financial Challenges of Higher Education in South Sudan

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Abstract

This study was conducted to find out the sustainable income strategy to overcome financial challenges that are being faced by the higher education system in South Sudan as it strives to fulfill its mandate of training capable cadres who will be future leaders that will develop the nation, continent and the whole world. South Sudan gained its independence on July 9th 2011 after a long civil war with Northern Sudan that began in 1955 and ended with the signing of the comprehensive peace agreement (CPA 2005) in Naivasha, Kenya. As a new country that was borne from a long civil war, South Sudan has been facing a lot of challenges including underfunding of higher education (HE), despite the Higher Education Act, 2012 enacted to legalize 5% of national annual budget of the country to be channeled to HE as annual funding for HE in order to modernize, standardize and promote it to world standards. Unfortunately, it was not possible due to financial challenges facing the whole country and not just the higher education sector. The objective of this study is to identify and select sustainable income strategies that if employed by higher education institutions as well as government could thrust them forward in order to overcome financial problems. Data were collected from eight universities and university colleges - out of eleven universities and colleges in South Sudan, with both open ended and structured questions to enable them give their ideas and also provide specific answers respectively. Data was then analyzed using graphics, ratios analysis and charts. The study was mainly qualitative as it sought to get innovative ideas of various professors and lecturers of Economics and Business Administration. The study has suggested multiple income strategies that if employed can reduce financial constraints facing higher education in the country including promotion and diversification of investments by Higher Education Institutions (HEI), levy of 1% higher education tax rate (HET), allocation of oil for higher education (OHE), etc. by the government of South Sudan.

Keywords: South Sudan, financial challenges, sustainable income strategy, higher education, funding models

1.0 Introduction

South Sudan is the 55th Country in the continent of Africa and 93rd member Country of the United Nations. It obtained its independence from old Sudan on the 9th July 2011 after long civil war since 1955 with Northern Arab Muslim Sudan. As a new Country, it is lacking basic needs such as infrastructure, clean drinking water, quality health and education services, etc. it has five public Universities and eight private Universities some of which are on the process of registration and recognition with the Government. The total student enrolment at Sudanese Universities was 500,000 in 2011, and South Sudan's share of enrollment was 13,000 students (2.6% of the national student enrollment) in all public universities, but in 2020 there was 2,574 academic staff employed in tertiary education institutions and more than 38,746 students enrolled in 14 institutions of higher education (John Akec 2021 Report).

It is worth mentioning that South Sudanese educational sector is underfunded since independence days, although it is stipulated in higher education Act 2012 that the National Government should provide funding at least at a rate of 5% of total national annual budget of the Country for expansion and promotion of higher education; but the above-mentioned rate was not implemented since enactment of those laws. Funding of higher education in South Sudan has been very limited at a rate less than 5% of the total general annual budget for almost ten years; which is less than what is required by law (HE Act 2012).

This underfunding of higher education led to underpayment of professors and staff; and in turn resulted into professors deserting the Universities to international non-governmental organizations inside and outside the Country for green pastures to survive and allow their children and families to access education and health services as well as personal development. Also, there is no funding available for construction or maintenance of infrastructure, for research, holding examinations, and student accommodations (Malual 2016). With these realities, universities are faced with financial challenges and dilemma of having to shut down or open due to limited funding from the Government or from any other sources. That limited funding to higher education has compromised quality and affected expansion of higher education in South Sudan, which means that without adequate funding South Sudanese people and others who are seeking tertiary education in South Sudan may access less quality education because of limited funding for higher education institutions in the Country due to lack of sustainable income strategies that can provide those institutions with needed funds to discharge their mandate amicably and effectively.

Therefore, the purpose of this study is to identify and select sustainable income strategies as well as optimum and suitable funding models that could be contextualized and implemented for overcoming financial challenges of higher education in South Sudan and that when and if implemented will relief higher education from financial challenges. As higher education in South Sudan is facing a lot of financial challenges due to lack of sustainable income generating projects that are supposed to be administered by higher education institutions because it is at the stage of policy and vision formulation. Through this study we want to answer two questions those are: what are the sustainable income strategies for funding of higher education in South Sudan? What is the best funding model option among others that could be contextualized in South Sudan?

The significance of this study is to help South Sudanese higher education's institutions identify sustainable income strategy which is suitable to its context to overcome financial challenges which in turn will pave the way forward for higher education in the African continent and other parts of the world to implement the strategy when it becomes successful in South Sudan. It is with that view in mind that this research was conducted to come up with an important scientific paper that would lay good ground for optimum and sustainable sources of income for

higher education in the Country to overcome financial challenges faced by higher education institutions; covering the over ten Universities in South Sudan over 10 years since independence from 2011 to 2021.

2.0 Literature Review

Higher education all over the world has been and still facing severe financial challenges, especially in the developing countries as well as developed Countries particularly during COVID 19 pandemic. For instance, the financial positions of higher education institutions of United States of America in 2009 were stronger because enrollments were high, and with so many students enrolled, net tuition was high; but that was not the case at the start of 2020. Schools were discounting tuition, enrollment in master's and professional programmes was on the decline, and failing schools were closing their face-to-face MBA programmes due to pandemic that made an already difficult situation even worse (*Scott Friedman and et al.2020*). In USA some states have reduced their support and appropriations to higher education due to decline in its public value, that has resulted into tuition fees hiking and in turn it means inaccessibility of higher education by middle class families; hence, increased tuition fees are unsustainable (Bryan, 2019).

In Europe and South America many Universities have been facing a lot of challenges including lack of sufficient financial resources and lack of competencies to effectively use available resources (Karimov, 2021). That lack of sufficient financial resources is being confessed also by the situation of many countries in Africa which do not contribute sufficiently to education sector budget although they have been characterized by higher GDP growth rates, which may indicate positive dynamics of economic development (Mamadova, Afet, et al., 2019). In China, higher education is being funded by government of China through incremental and negotiation-based funding, formula funding driven by performance indicators, Performance and vouchers contracts (Yang, 2018).

According to Xie et al. (2022), revenue diversification is the solution for achieving institution's efficiency and financial sustainability. It is confirmed by the situation in South Sudan whereby institutions are ineffective and inefficient because of poor physical infrastructure, underfunding, and severe staff shortage. Higher education is one of the least funded government sectors in the country. The universities consistently receive less than 1 percent of annual fiscal allocations (Kuyok 2017). In Kenya higher education is funded through government grants via the Parliament; donations from the trustees; income generated by investments made by the trustees; and endowments, grants and gifts from whatever source designated for the fund (Kiamba, 2015).

Higher education in South Sudan is funded by government grants and little tuition fee paid by students which is very insignificant, and according to Professor John Akec (2021); funding to higher education sector dropped by 85.5% during the period between 2014 to 2019 because the budgetary allocation to Higher Education for those financial years was really small and insignificant to the extent that the budget allocated to higher education in 2014 – 2015 as well as 2018 – 2019 was 1% and less than 1% of the total national annual budget of the whole country, respectively.

Many European Universities focused on certain financing models such as: bureaucratic, collegial, market model, institutional, model of financing programme and service recipient and the model block-grant funding (Kikutadze, 2016). In African different Countries has several diverse funding models for tertiary education; for instance, tertiary education in Ghana is funded by the government through base grants, Institutional Factor Grants, Innovation Grants, Performance Funding Grants and Research Grants as well as students' contribution and the rationale behind

diversified funding scheme is due to different policy objectives that cannot be effectively addressed with a single funding instrument (Emmanuel & Mahama, 2015).

In Nigeria the burden of funding higher education has been borne by the government since 1940s using different schemes such as Envelope System, Education Intervention Funds, Education Trust Fund, Petroleum Technology Development Fund, Students' Tuition, Student Loans, Bursaries and Scholarships but he proposed other four new funding models that include: Access-Equity-Cost-Sharing Model, Contextualized Formula-Funding Model, Performance-based Funding Model, Host-Proprietor-University-User Funding Model (Okebukola, 2015).

In Senegal higher education is funded through three mechanisms such as state interventions and internally generated resources as well as performance contracts (Sikina, 2015). In South Africa, higher education has been funded using various formulas during and after apartheid regime; such as the Holloway formula (1953), but the formula did not take into account annual inflation, the Van Wyk de Vries formula (1977) this formula also (the de Vries formula) did not equally take inflation into account, A third framework, the South African Post-Secondary Education (SAPSE) formula for universities, was introduced in the early 1980s and was applied until 2003; from 2003 they came up with new funding framework that is composed of two types of grants block grants to finance institutional operating costs and earmarked grants for steering the system to enhance access into the system and performance in designated areas (Antia, 2015).

3.0 Research Methodology

The research methodology used in the study is exploratory and descriptive using qualitative data; whereby facts from primary and secondary data were collected and used to enable the Researcher identify and select sustainable income strategies and suitable funding models that can be contextualized into South Sudan and similar context in the world and those sustainable strategies and suitable models would therefore, enable policy and decision makers as well as higher education leaders to eradicate financial challenges faced by higher education in South Sudan. The Researcher used descriptive research design to provide him with a broader picture of a situation of higher education funding in South Sudan and what are the income sources for higher education institutions (Boru, 2018).

The data is composed of primary and secondary data that were collected by the Researcher from Lecturers from seven Universities and University colleges out of eleven (11) Universities and University Colleges in South Sudan using opened and closed ended questionnaires to obtain innovative ideas on sustainable income strategies and optimum funding models, annual reports, books, articles and research papers, etc. The sample size of this study is thirty-five (35) Lecturers of economic and business management from the above mentioned Universities and Colleges in South Sudan; selected randomly in order to provide Researcher with an innovative ideas on sustainable income sources for public and private Universities in South Sudan; to be used in the future in order for Universities to become autonomous financially and administratively. The sample size was obtained through CORCHAN (1963) statistical formula: $n = \frac{z^2 \sigma^2}{e^2}$ with 95% confidence level, 10% Margin of error and 30% degree of deviation, without finite population correction factor and validity rate of 89%.

The data analysis tools that were employed here by the Researcher to analyze the data are ratio analysis and charts that have focused on analysis of data collected from different economists and business management specialists in South Sudan. Furthermore, we have used descriptive statistics to establish the optimum sustainable income strategies that could be applied by different higher

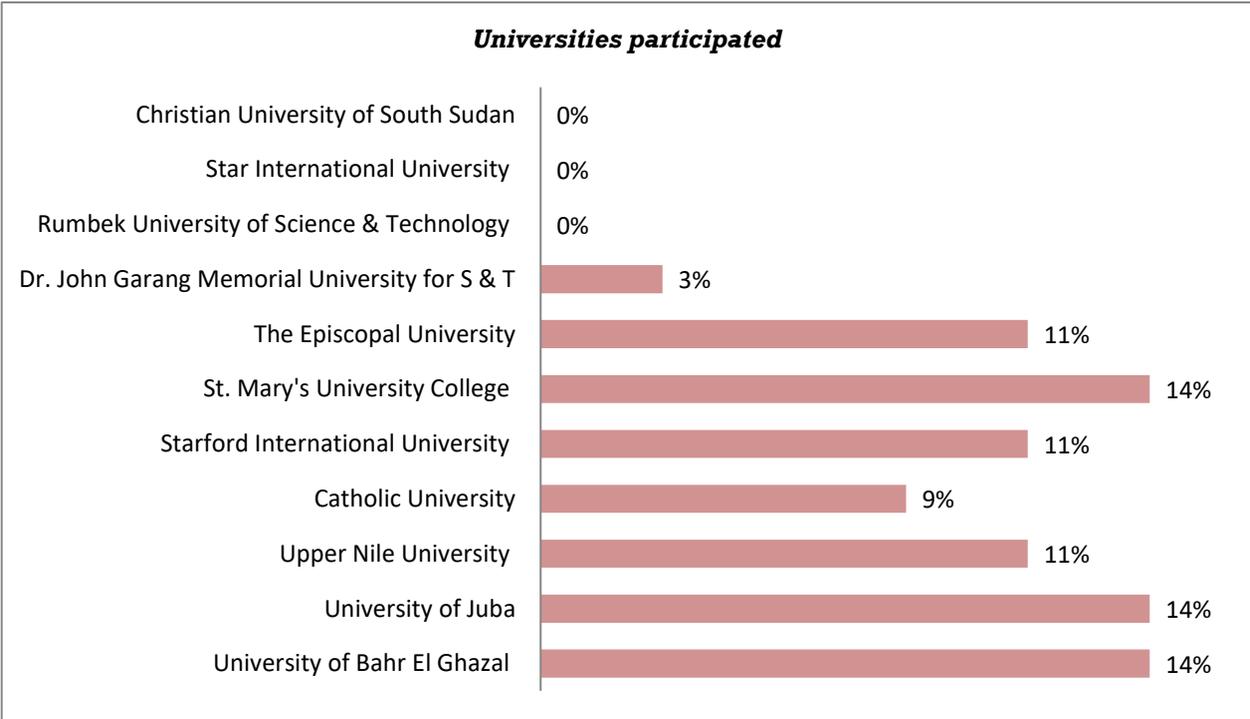
education institutions in South Sudan based on qualitative nature of the study. The variables of this study are sustainable income strategies as an independent variable and reduction of higher education’s financial constraints in South Sudan as dependent variables; whereas the Researcher collected data with the consent of respondents.

4.0 Results and Discussion

4.1. Results presentation:

4.1.1. List of Universities:

Figure 1: List of Universities in South Sudan

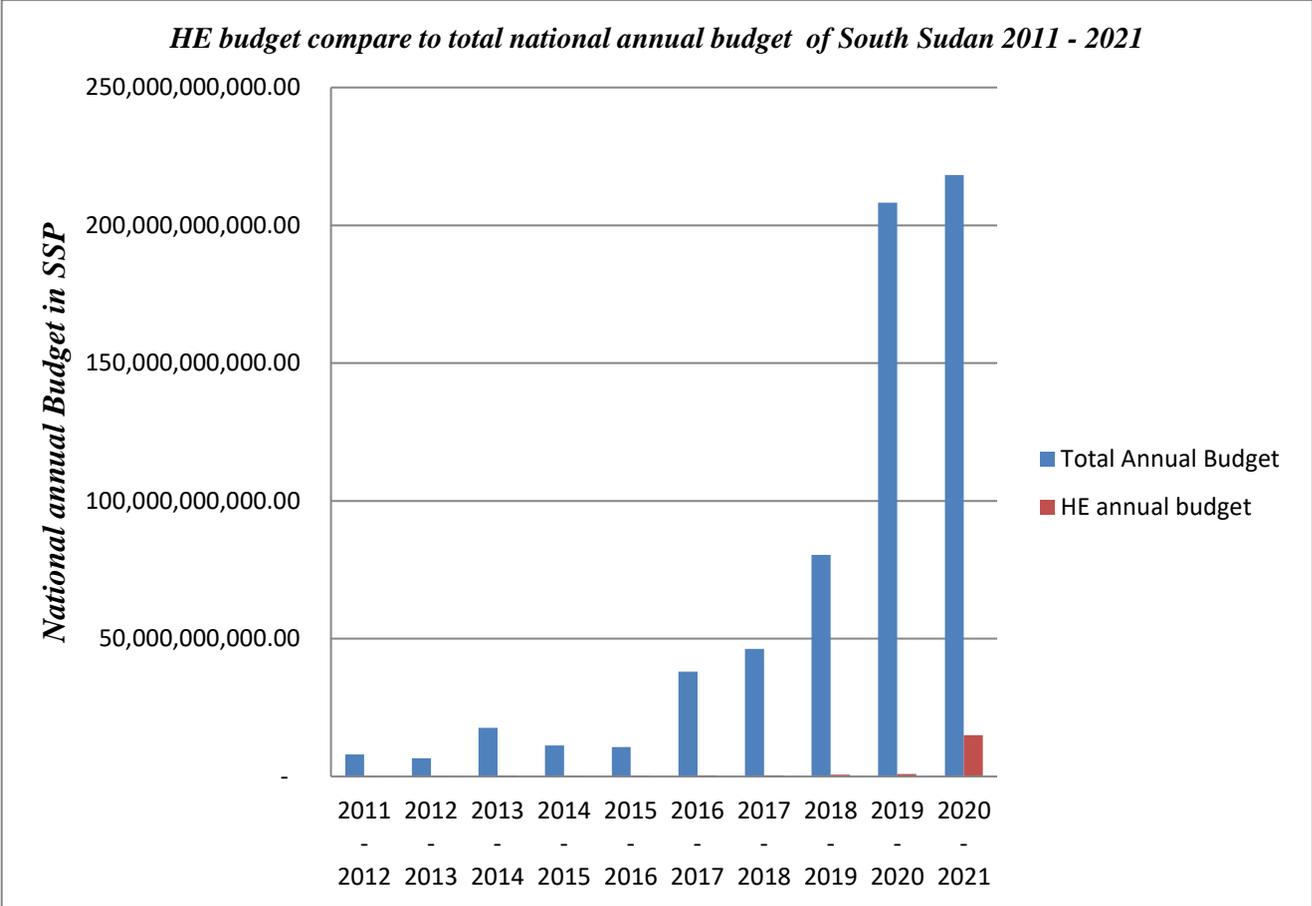


- *Data Source: compiled by the Researcher from primary data*

Comment: From the above figure (1), there are total of eleven (11) Universities and University Colleges with five public universities and others are private excluding TVET Institutions. All of them participated in this research process except one public University and two private Universities. Those Universities are Rumbek University for Science & Technology, Star International University due to their far distance from the centre and Christian University of South Sudan.

4.1.2. Higher Education funding trends in South Sudan since 2011 – 2021:

Figure 2: Higher Education budget compare to total national annual budget of South Sudan 2011 - 2021

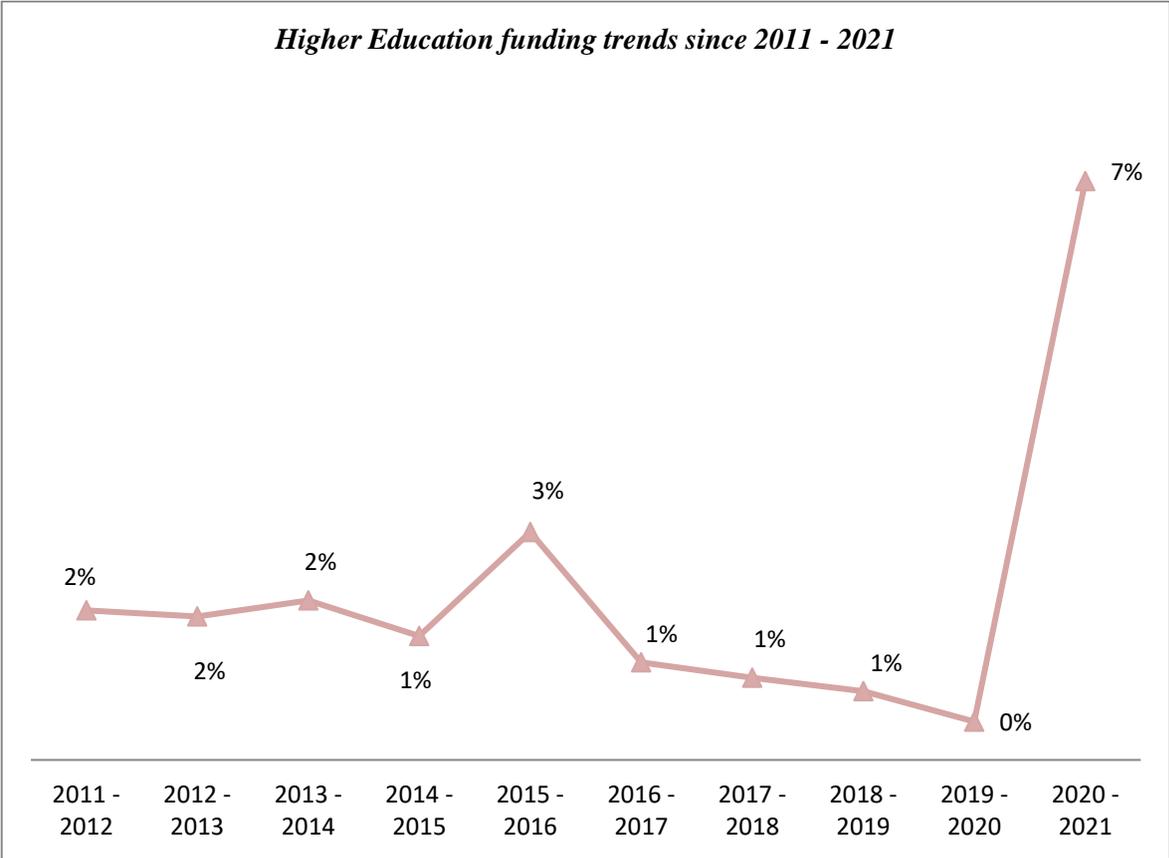


- *Data Source: compiled by the Researcher from secondary data*

Comment: The above figure (2), shows the budget allocated to higher education from the Government of South Sudan since 2011 that has been at a minimum rate not exceeding 3% for nine (9) years except in the budget of 2020 – 2021; whereby higher education budget was increased to 7% of the total national annual budget of the Country that was amounting to SSP 15,045,657,102 out of SSP 218,191,096,717; which was equivalent to \$93,451,286.34 and \$1,355,224,203 with exchange rate of \$1 = SSP 161 (2020 - 2021). The budget allocated to higher education is stated in red colour and national annual budget for the whole Country is in blue colour.

4.1.3. Higher Education funding trends in South Sudan since 2011 – 2021:

Figure 3: Higher Education funding trends in South Sudan since 2011 - 2021

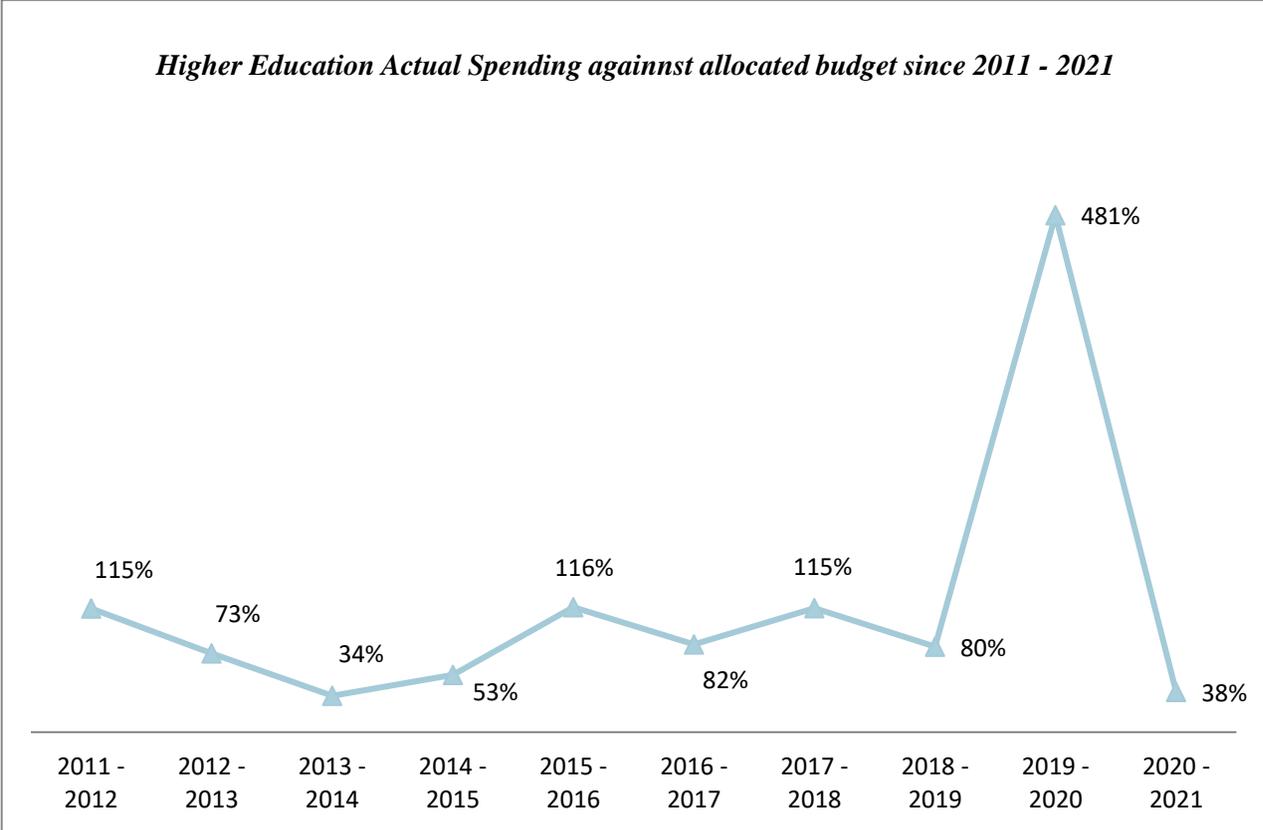


• Data Source: compiled by the Researcher from secondary data

Comment: From the above figure (3), Higher Education funding trends from the Government of South Sudan has been the least among other sectors since independent in 2011; whereby HE has been allocated a budget within a range of less than 1% to 3% throughout the last 10 years of independence except in 2020 – 2021 when its budget was increased to 7% of the total national annual budget of the Country.

4.1.4. Higher Education actual spending trends in South Sudan since 2011 – 2021:

Figure 4: Higher Education actual spending trends in South Sudan since 2011 - 2021



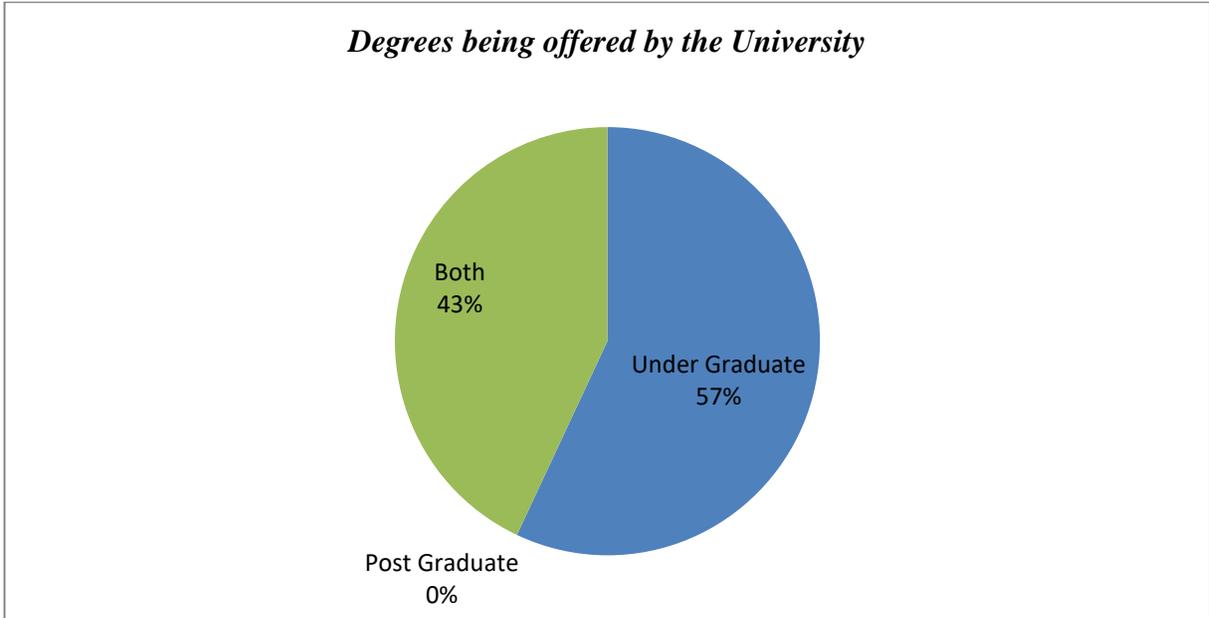
- *Data Source: compiled by the Researcher from secondary data*

Comment: From the above figure (4), we could see that higher education has been spending lesser than its allocated budget for six years and within the other four it has been overspending more than its allocated budget such as in 2011, 2015, 2017 and 2019; whereby it has spent 115%, 116%, 115% and 481%, respectively. That overspending or under spending indicates to us that there was one of the three issues present there. One it was either the budget was wrongly estimated due to lack of planning and vision; or there was diversion of funds that is why they will have to come back and ask for supplementary budget which resulted into overspending as well as lack of willingness to release funds from national ministry of finance and economic planning.

Note: The above analysis is based on government funding grants to the five public universities only.

4.1.5. Degrees being offered by the Universities in South Sudan:

Figure 5: Degrees offered by the University

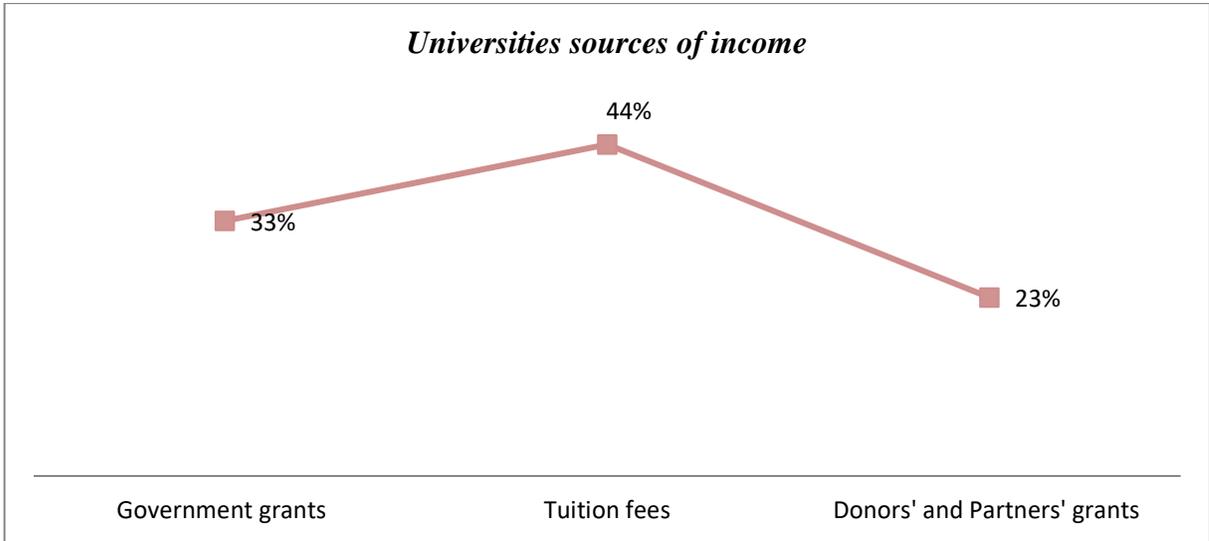


- Data Source: compiled by the Researcher from primary data

Comment: From the above figure (5), most of the Universities offer under graduate degrees varying from Diploma degrees to Bachelors which represents 57% that is around 7 universities and 43% of the universities do offer both under graduate and postgraduate programmes and degrees in different fields of academics; which is equivalent to.

4.1.6. Current University sources of income in South Sudan:

Figure 6: Current Universities sources of income in South Sudan

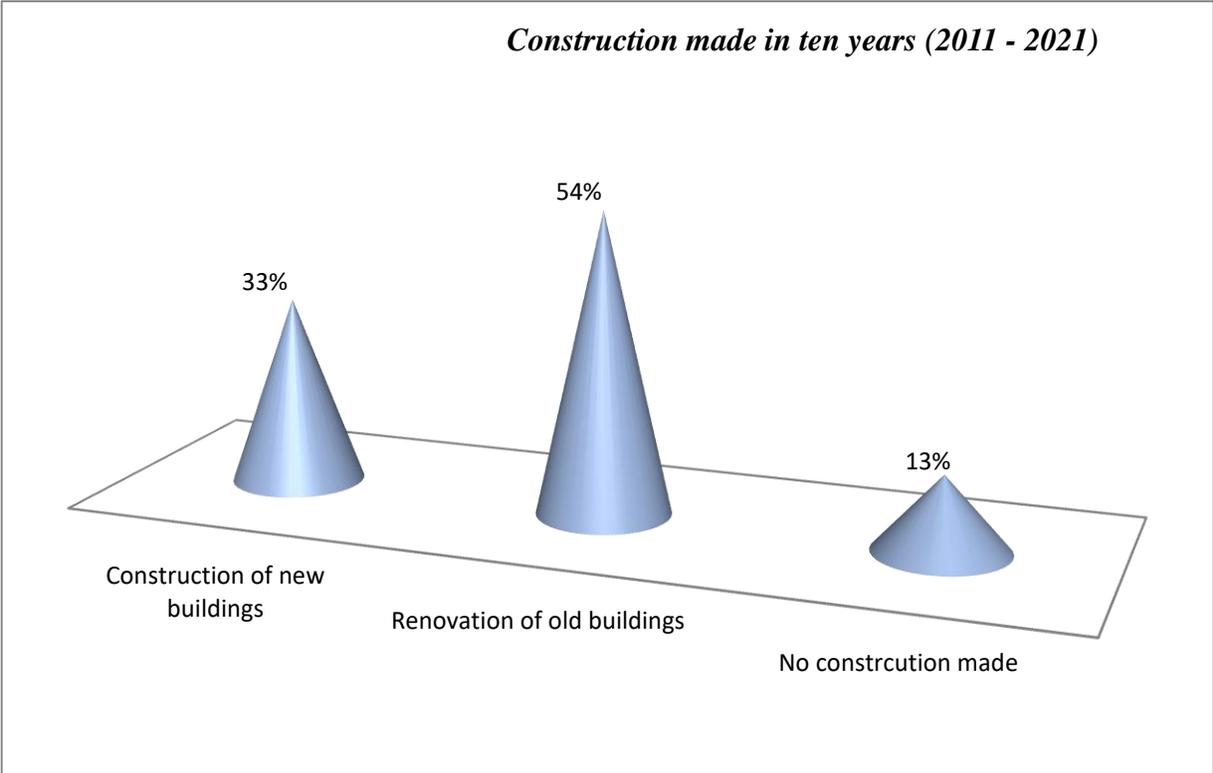


- Data Source: compiled by the Researcher from primary data

Comment: From the above figure (6), most of the universities have tuition fees, that is 44%, as their source of income particularly private universities and colleges, then Government grants is the second source of income for public universities only in the country which is representing 33% and donors & partners grants are provided for private and faith-based universities and colleges such as Catholic University, The Episcopal University and St. Mary University College.

4.1.7. Universities physical Infrastructure development since 2011 – 2021

Figure 7: Infrastructure Development of the Universities in South Sudan

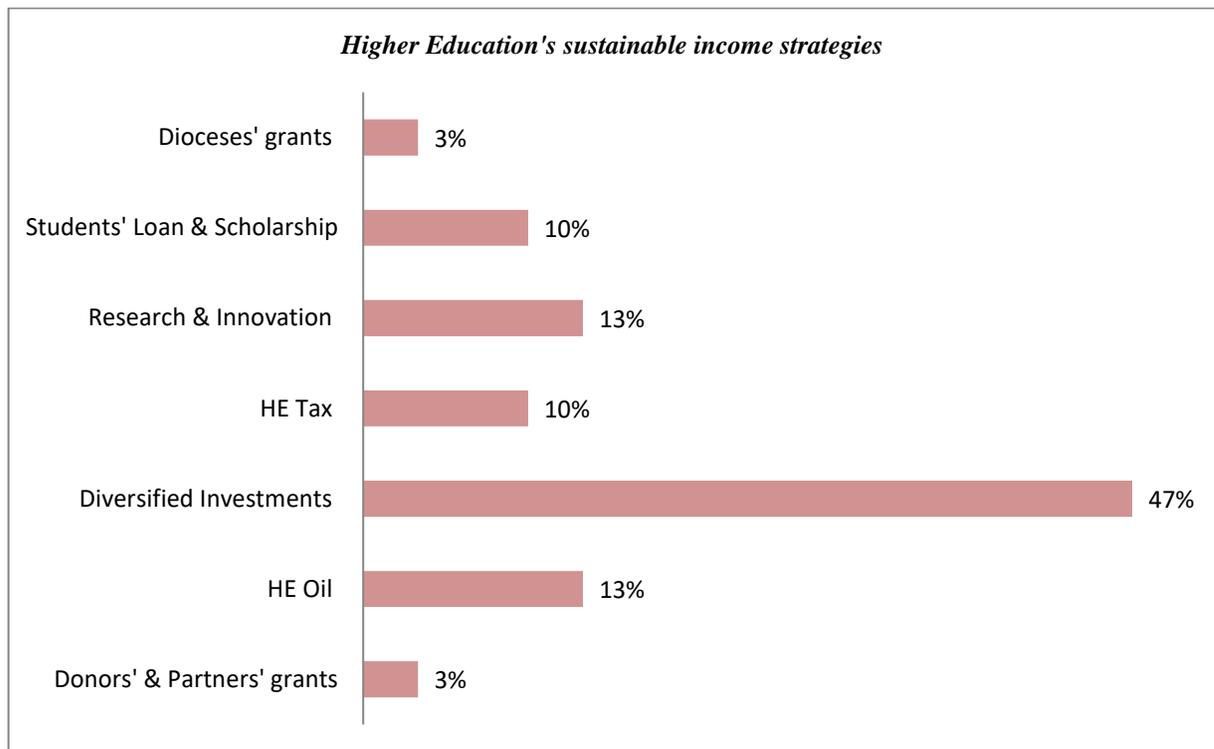


- *Data Source: compiled by the Researcher from primary data*

Comment: From the above figure (7), most of the Universities in South Sudan in the last ten years have just renovated old buildings which represent 54% of the respondents participated in the study research that is equivalent to almost four (4) Universities. 33% of the Universities in South Sudan have little new construction made within the same period of time, which is an average equivalent to only two (2) Universities and the last group of 13% that is an average equivalent to almost two (2) Universities. This study stated clearly that during the last ten (10) years after independence of South Sudan most of the Universities didn't construction new buildings due to financial challenges.

4.1.8. Higher Education (HE)'s proposed Sustainable Income Strategies:

Figure 8: Proposed Higher Education (HE) sustainable income strategies



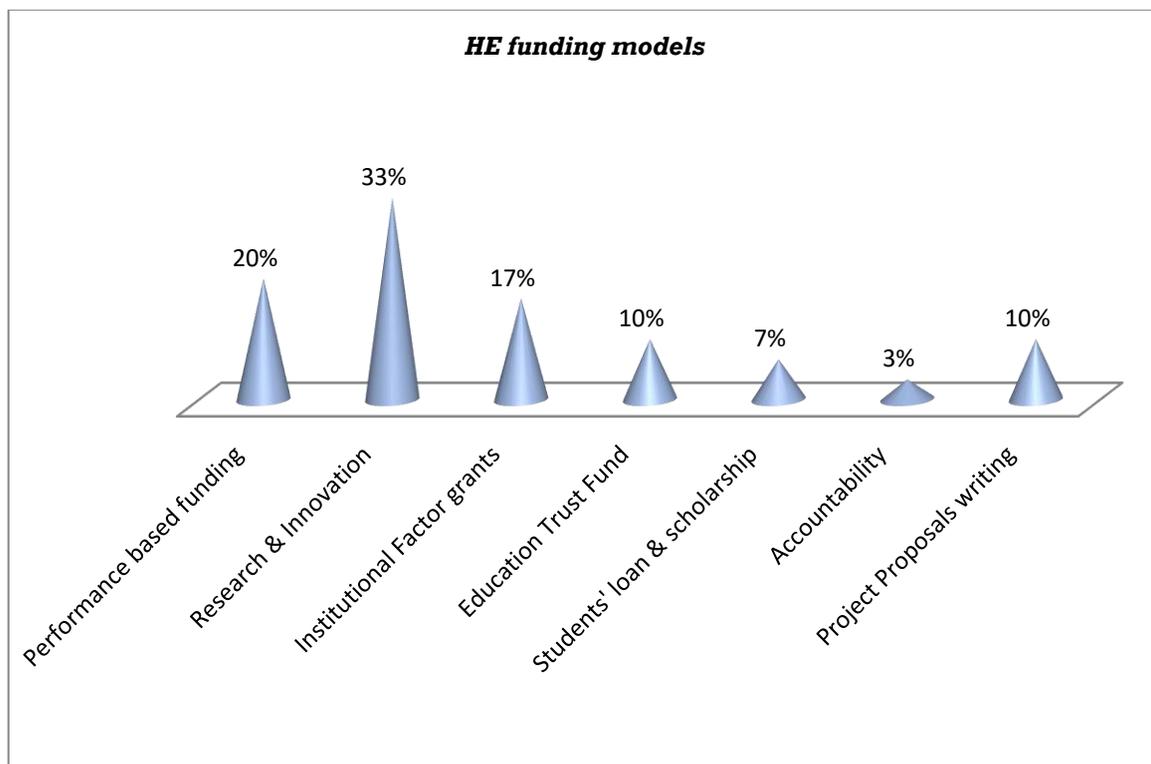
- *Data Source: compiled by the Researcher from primary data*

Comment: From the above figure (8), professors and lecturers proposed that, for higher education to overcome financial challenges, universities must engage in diversified investments such as Agriculture, Estate, Animal husbandry, Hotel & catering, etc, which represents 47% of respondents; 13% of respondents opted for oil for higher education and Research & Innovation; while 10% of respondents seen tax for higher education should be applied as well as students loans and scholarships; and 3% of respondents have concluded for donors & partners grants as well as contributions from dioceses for church based universities. That means that HE funding could be expressed in terms of equation as a function of many different elements such as diversified investments, Oil and Research & Innovation, HE tax, and students' loan & scholarship.

That can be expressed mathematically as $HEF = f(DI, HEO, RI, HET, SLS, etc.)$.

4.1.9. Proposed Higher Education funding models

Figure 9: Proposed Higher Education (HE) optimum funding model



- *Data Source: compiled by the Researcher from primary data*

Comment: From the above figure (9), there are seven funding models that can be employed for funding of higher education in South Sudan and beyond. The most viable models are Research & Innovation, performance based funding and Institutional factor funding; while Educational Trust Fund, Project Proposal writing and Students' loans and Scholarships can be applied also.

4.2. Findings

Based on the outcome of data analysis, it was found that funding of higher education (HE) in South Sudan has been lower than 5% for the last ten years since independence except in 2020 – 2021; whereby the budget allocated to higher education was 6.8% for the first time; although it is required by law to allocate 5% of the total national annual budget of the whole country to HE as per the Higher Education Act, 2012. It was found also that most of the universities in South Sudan offer only undergraduate programmes and little number of them offer both undergraduate and postgraduate programmes, especially public universities.

Findings stated clearly that the main sources of income for universities in South Sudan are tuition fees grants from the government (public universities) and others receive little grants from donors and partners. It was noted that most of the Universities in South Sudan didn't have opportunity to develop their physical infrastructure since independence in 2011, but renovated old buildings (54%); while little number of them have constructed few new buildings in the last ten years (43%) and the rest didn't make any construction due to financial challenges. The study proposed that the most sustainable income strategies, for universities to overcome financial challenges are: diversified investments in Agriculture, Estate, Animal husbandry, Hotel & catering, etc (47%); allocation of oil for higher education (13%), Research & Innovation; levying of HE tax (10%) as well as students' loans and scholarships could be applied. The study proposed

that sustainable funding models that can be employed for funding of higher education in South Sudan are Research & Innovation; performance-based funding, Institutional factor funding, Educational Trust Fund, and Project Proposal writing.

It is clear from the findings that higher education institutions in South Sudan have been facing financial challenges for the last ten years as some of them depend on government grant which is less than 5% as confirmed by the findings and as stated by Kuyok (2017) that higher education institutions were receive grant that was less than 1% during the same period and agreed by Professor John Akec that higher education funding in South Sudan dropped to 85.5% within the same period of the study (Akec, 2021). The case is similar in America, Europe, Asia and Africa (Scott et al., 2020; Karimov, 2021; Yang, 2018; Kiamba, 2015).

Also, it came up during the study that most of the universities have tuition fees and government grants as main sources of income; which was confirmed also by the above-mentioned studies all over the world. That limited funding affected their infrastructure and effectiveness as well as expansion of their programmes; because tuition fees and government grants sources of funding are unsustainable which is being confirmed by Professor Dr. Bryan L. Garton (Garton, 2019). Universities in South Sudan as in America, Europe, Asia and Africa have used different funding models such as Institutional Factor Grants, Innovation Grants, Performance Funding Grants and Research Grants, students' loans and scholarship, etc. (Emmanuel & Mahama, 2015); Envelope System, Education Intervention Funds, Education Trust Fund, and Petroleum Technology Development Fund (Okebukola, 2015); and state interventions and internally generated resources as well as performance contracts (Sikina 2015) among others.

This is a significant study for higher education leaders to use it for overcoming financial challenges and the government of South Sudan and others can use it also to eradicate financial difficulties being faced by higher education institutions and reduced pressure of demanding more budget and high payments of staff on itself on daily basis and allow universities and colleges to be autonomous financially and administratively. By identifying and selecting sustainable income strategies as well as suitable funding models; the research questions are being answered that way. Hence, the sustainable income strategies for funding higher education in South Sudan are diversified investments, 1% HET, HEO 1,000 barrels daily, Research & Innovation and students' loan & scholarship. The answer to the second is that the most suitable higher education funding models are Research & Innovation; Performance based grants, Institutional factor grants, and students' loans and scholarships.

5.0 Conclusion

Higher education in South Sudan like is facing tremendous financial challenges that have made it difficult for universities to develop their physical infrastructure, expansion of the academic programmes and limited trained academic staff due to limited funding; which has compromised quality of higher education in the country. To the best of my knowledge, it was found that there is a gap of lack of sustainable income strategy that could have been presented as a solution against financial challenges. Financial challenges facing higher education can be solved by engagement in diversified investment strategies that generate much and sustainable income, levying HE tax and oil and use proceeds for funding of higher education through Research and Innovation, performance-based funding, Institutional factor funds, students' loan and scholarships, etc. funding models to make sure that funds have been utilize effectively and accountably. Therefore, financial problems of higher education in South Sudan cannot be solved by giving one single solution; it is a function of multiple strategies attached together accountably funding mechanisms.

We recommend that Government of South Sudan to allocate for higher education a budget at a rate of 25% of the National Annual Budget of South Sudan every year to allow the Universities to discharge their mandate successfully and produce high qualified and skillful cadres for transformation of South Sudan into productive and innovative society; by levying higher education (HE tax) on income of all working classes and businesses in South Sudan at a rate of one percent (1%) to be used for funding specific university projects and promotion of laboratories and libraries; and allocation of 1,000 barrel of crude oil per day for enhancement of Universities infrastructure and transformation of education sector in South Sudan to compete with its counter parts in the region, Africa and the whole world.

The universities must engage in diversified and sustainable investment strategies such as agricultural schemes, Estate investment, tourism and catering investment, etc. that will generate sustainable income for the university to overcome financial challenges and to become autonomous financially by using their own professors from respective specializations with innovative ideas; while tuition fee can solve little.

The subject matter is inconclusive and in – exhaustive in a sense that there are many related matters which are not covered here. Those issues may include total optimum finances needed by higher education sector and the best funding model for all higher education institutions are yet to be explored and concluded in the future. This study is being limited by small sample size and mostly based on qualitative aspect.

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