Management and Misallocations
Improving Post-Secondary Education in Sub-Saharan Africa

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Abstract

Education in developing countries is a key force for development, an instrument to overcome social inequalities and a guide out of poverty. Particularly post-secondary education can equip young citizens with necessary expertise and knowledge to find sustainable solutions to the challenges their nations face in the 21st century. In Sub-Saharan Africa, the demand for higher and further education is growing at a high pace; yet, researchers observe the constant decline of financial resources provided by governments to academic institutions. The purpose of this paper is to investigate how tertiary education can be improved, while academic institutions in Sub-Saharan Africa are constrained by budget cuts and resource scarcity. In order to meet this challenge, misallocation and misappropriation of existing resources in higher institutions must be revealed and acted upon. In this respect, the article will investigate the problems and consequences of school internal misallocations of financial resources, before then turning to an inefficient use of human resources, concerning teachers, administrative staff and volunteers. Management problems of low capacity utilization and corruption will also be discussed. A participant observational study conducted in the Lugarawa School for Nurses and Midwives in Tanzania will contribute to the analysis by providing first-hand experiences and observations obtained through voluntary teaching.

In sum, the article calls for a reduction of mismanagement and inefficiencies, which will help tertiary institutions to live up to the challenge of educating tomorrow’s experts and leaders. This issue is at the center of Sub-Saharan Africa’s future economic and social development.

Key Words: Post-secondary education, Sub-Saharan Africa, management, inefficiency, finance
**Introduction**

“Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.”

This Chinese Proverb captures the significance of education: it is the basic tool for self-help and autonomy; it leads a way out of the poverty trap and drives innovation and prosperity. Developing countries in Sub-Saharan must embrace education as a key towards sustainable solutions to the challenges of the 21st century (Unesco, 2008). While primary and secondary education render the highest returns, only post-secondary education can equip the younger generations with the expertise to lead their nations to a more prosperous future (Perkins et al., 2006).

The demand for higher education in Sub-Saharan Africa has been increasing tremendously during the past years, while the financial resources provided by governments have become scarcer (Devarajan et al., 2011). Consequently, academic institutions fail to meet the desired standards in quality. This paper’s purpose is to shed light on this dilemma and find a way to improve the quality of tertiary education without using additional resources. In this respect, the paper seeks to uncover inefficiencies in academic management and argue that “academic institutions and governments must address the misallocations and mismanagement of existing resources, in order to sustain and improve post-secondary education in Sub-Saharan Africa.”

First the paper will show that post-secondary education is highly important for development, while being utterly underfunded. In order to address this dilemma, next internal inefficiencies of tertiary academic institutions will be identified. Misallocations and misappropriation of financial resources, human resources and corruption will be at the center of investigation. A participant observational study conducted in the Lugarawa School for Nurses and Midwives in Tanzania will serve as a more specific, illustrative case of proof of
inefficient institutional management and provide first-hand experiences obtained through voluntary teaching. All findings will serve as a basis for recommendations to reduce inefficient resource allocation and mismanagement.

**Tertiary Education – the Benefits and Challenges**

Scholars generally agree upon the positive externalities of education for economic- and social development. Yet, the role tertiary education plays for the economic prosperity of developing countries has long been neglected by the international community (Bollag, 2004). The focus of governmental institutions, as well as non-governmental organizations, such as the World Bank, has mostly been directed towards primary- and secondary education. The reasons are multifold. First, the rates of return to education are said to be higher for primary education and decrease for secondary and post-secondary education (Perkins et al., 2006). Secondly, many fear that post-secondary education is merely succeeded by brain drain. Governments are reluctant to fund expensive programs for individuals, who eventually decide to leave the country for better opportunities (Bloom et al, 2006).

Despite these well-founded reasons, it would be a mistake to neglect the importance of tertiary education, as it is vital for a sustainable, long term development. It equips tomorrow’s leaders with the tools to build a more prosperous future, battle poverty and inequality and find sustainable solutions independent of foreign assistance. Sub-Saharan African countries are in need of such highly skilled workers to compete on the global market and face international competition. In addition, tertiary education has the important tasks of driving innovation through Research and Development (Perkins et al., 2006; The World Bank, 2011).

Accordingly, some scholars assert that tertiary education can have an influence on economic growth. Research conducted by Moyer (2007) shows that the Gross National
Income and university enrollment are strongly correlated in a cross-sectional- and in a time series model. Bloom et al. (2006) supports the notion, showing that by increasing the stock of tertiary education by one year, African economies can increase growth by 0.24\% from factor inputs and 0.39\% through an increase of productivity.

In account of these positive externalities, the quality and sustainability of universities, colleges and vocational schools is of utmost relevance. Thus, the current alarming state of post-secondary education in Sub-Saharan African countries must be taking seriously. Sub-Saharan Africa is the least developed region in regard to tertiary education institutions. Although the region is highly diverse and generalizations should be avoided, many of its 300 universities and numerous colleges face common challenges.

In most countries 90-95\% of the total budget is paid by the government (Teferra and Altbach, 2004). Since education competes with other sectors, institutions operate under enormous financial constraints. During times of economic crises and recessions, including the African economic crises in the 80s and 90s, or 2008’s world financial crisis, educational institutions are additionally constrained by governmental budget cuts (Teferra, 2006, The World Bank, 2011). It is little surprising to find a significant gap in the support institutions demand and the funding they actually receive. Five universities in Ghana, for example, requested a total of $32 million in 2000; however, the government merely provided $18 million, which is 56 \% of their initial request (Teferra and Altbach, 2004). With few exceptions\(^1\) institutions all across Sub-Saharan Africa lack adequate funding.

The resulting resource scarcity is intensified by the ‘massification’ of post-secondary education that Sub-Saharan Africa has experienced during recent years. Universities and colleges are increasingly overwhelmed by tremendous numbers of enrollments (Teferra, 2006). The number of tertiary students increased from 800,000 in 1985 to approximately 9.3

\(^{1}\) The governments of Botswana and Nigeria provide their higher education institutions with high funding in comparison.
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million in 2006 (Devarajan et al., 2011). The demand for higher education has been increasing at a higher pace than the government’s funding capacity. According to Devarajan et al. (2011), the total number of tertiary education students has increased at a rate of 16% annually, while aggregate expenditures in the education sector have only risen at an average rate of 6% per year.

The implications are obvious: overcrowded lecture halls, excessive student-teacher ratios and diminishing salaries are only a few examples. If the current trend continues, in 2015 at least ten countries in Sub-Saharan Africa will face at least triple the number of students compared to 2006. If these predictions prevail, the quality of tertiary education in Sub-Saharan Africa will not only decrease profoundly; it might even become difficult to sustain it in the long run (Devarajan, 2011). New solutions are needed urgently and tertiary education is currently in transition.

The most recent trend goes to cost-sharing. In countries like Tanzania, where governments are no longer able to carry the financial burden, costs are increasingly transferred to the students (Ishengoma, 2004). Another trend is the establishment of private universities and the ‘marketization’ of education. About 1/3 of the 300 universities currently operating across Sub-Saharan Africa, are privately funded (Teferra, 2006). One might argue that these developments will suffice in rendering tertiary education sustainable and overcoming government dependency. However, if school tuition continues to rise, the tertiary education system is bound to become an elitist one and will ultimately exclude poor students, who are unable to bear the high costs (Teferra, 2006). Hence, raising student tuition fees should be the last resort. Educational institutions must first explore measures that improve the quality of education, without spending additional money. ‘Efficiency’ is the key to this undertaking and will be investigated in the following section.

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2 These countries include Tanzania, Senegal, Mali, Ethiopia and Rwanda.
Efficiency in Tertiary Education

Economic efficiency refers to the use of resources (input) in such a way that the production (output) is maximized. Efficiency is achieved when no additional output can be obtained without increasing the amount of input (Rosen and Gayer, 2009).

The following section argues that the management and system at tertiary education institutes is largely inefficient. In other words, we can obtain additional output (better educated students) without increasing the input (money). Uncovering mismanagement, misallocations or corruption is a tool to improve the quality of education without using additional resources. Minimizing inefficiencies might even achieve financial savings.

Internal misallocations of financial resources

Research on the allocation of public resources within higher education is scarce and management mistakes vary across different institutions (Bollag, 2004). Nevertheless, some scholars have identified some common flaws among institutional managements. Devarajan et al. (2011) show that approximately 80% of higher education funding is spent on costs not directly related to the quality of education. By the same token, Galabawa (1991) criticizes that most financial resources in educational institutions in African countries are directed towards non-academic facilities, such as sport fields, accommodations, school uniforms or food. Respectively, little resources for academic facilities and equipment, such as laboratories, computers, or reading material, remain. This resource misallocation not only prevents an effective quality of education, but encourages students to study longer as being provided with free food, housing and recreational facilities. This consequently blocks opportunities for other students to enroll (Wa Kariuki, 2009).

Poisson (2010) further asserts that many African institutions have not been reformed
since their establishment in the 1960s. Among others this causes curricular to be outdated. Bollag (2004) recommends that financial resources should be channeled to those courses and research facilities that equip students with knowledge and skills demanded on the labor market. Offering courses entails costs for teachers, materials or scheduling. Nevertheless, the course contents frequently overlap, which renders at least one course in the curriculum redundant (Bollag, 2004). Reviewing the curriculum could save costs and increase the educational quality considerably. Unfortunately, institutional rigidities often prevent the adjustment of curricula. Hence, universities and colleges must become more flexible to improve their quality by serving demands posed by students and the labor market (Devarajan et al., 2011).

**Internal misallocations of human resources**

Similar to the allocation of financial resources, many institutions set the wrong priorities when hiring academic and non-academic staff. Effective quality assurance in the classrooms largely depends on highly qualified teachers, which are often difficult to attract with the offered salaries. Consequently, many institutions are largely understaffed and suffer from high teacher-student ratios (Devarajan et al., 2011). The quality of education suffers tremendously. Teferra and Altbach (2004) criticize that the hiring of teaching staff is often neglected for the sake of investing excessively in non-academic staff, such as administrative personnel, cleaning staff and technical assistance. The national university of Lesotho employs twice as much nonacademic support staff as academics. More than 60% of the institution’s budget goes to staff costs (Teferra and Altbach, 2004). By financing the disproportionate presence of non-academics, the resources needed to pay the teachers’ salaries are withdrawn. Educational quality could be improved if the resources for the staff were reallocated.

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3 For example, the academic staff to student ratio in West Africa rose from 1:14 in 1990 to 1:32 in 2002 (Devarajan et al., 2011).
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According to Teferra and Altbach (2004) the employment of foreign assistance and voluntary teachers is another example of a mismanagement of human resources. Foreign teachers are very common in Sub-Saharan African schools, as they are hired to fill the staff gap. Although foreign staff members are frequently provided by donors and usually receive no or little salary, their well-intended help often turns out to be counterproductive for a sustainable long term development of education (Bollag, 2004). Most foreign teachers only stay for a limited amount of time and are barely able to adapt to local customs, the curriculum, staff and students. Finally, they often lack teaching experience and knowledge about the local labor market. Hence, although filling the staff gap in the short run, these volunteers are unable to transfer knowledge and skills to the students on the same level as local long-term employed teachers can. They hinder the development of a stable local teaching staff and foster African dependency on donor states. Training and employing local teachers and experts is part of the process of becoming self-sustainable and contributes to the development of tertiary education institutions. In conclusion, rather than investing in non-academic staff and foreign assistance, resources should be funneled towards attracting local teachers, who would increase the educational quality in the long run.

A note on corruption

Researchers have only recently started to investigate the problem of corruption in tertiary education (Poisson, 2011). The problem of general corruption in developing nations is reflected in numerous academic papers (Osipian, 2007). Svensson (2005) notes that “all of the countries with the highest levels of corruption are developing or transition countries” (p.24). Definitions of corruption in literature about higher education includes the abuse of authority for material gain (textbooks, equipment and school meals) and monetary amounts and is generally defined as the misuse of public office for private gain (Osipian, 2007; Poisson,
The costs of corruption vary across institutions and are difficult to estimate (Poisson, 2011). Nevertheless, what can be concluded from the literature is that corruption in further education institutes intensifies the problem of financial resource scarcity. Money intended to flow towards public academic equipment and material is misdirected for private benefits (Livacic and Downes, 2004). Hence, it is unquestionable that this costly abuse must be fought. Corruption and the inefficient allocation of resources result from the same source: insufficient, intransparent management of resources. Consequently, both problems can be addressed by the same means, which include a better organization of financial and human resource management and more transparency for all stakeholders (Poisson, 2011).

Participant Observational Study: Lugarawa School of Nurses and Midwives

Method

This project was conducted in the frame of teaching two hour English lessons per day over a course of fifteen working days. The research method was covert participant observation, as participants were not informed of the research until after it had been conducted. The advantage of a covert participant observational study is that participants and circumstances behave naturally and give an authentic account of the subject. Since the researcher participates herself, she can include her own first-hand impressions and experiences. The participants were 66 nursing students (50 female and 16 male), originating from different regions in Tanzania, five academic staff members and one headmaster. All participants remain anonymous.

The data was gathered in the form of short daily reports. The first subject of investigation is the quality of education at the school, which is assessed in terms of general
provision of resources, student teacher ratio and learning progress (measured subjectively). The second subject to be investigated is mismanagement. The research will stay conform to the literature review, exploring the allocation of financial- and human resources and corruption.

When drawing conclusion of this study, several limits have to be taken into account: The analysis of quality and mismanagement is subjective. Generalizations can only be drawn with high caution, since this single college cannot represent the diversity of vocational schools, colleges and universities in Sub-Saharan Africa. In particular, high discrepancies exist between colleges and universities. Nevertheless, a detailed description of specific examples for misallocations and mismanagement might help to give impulses for further research in the field and help other institutions to review and improve their own institutional management.

**Setting**

The study was conducted at the Lugarawa School of nurses and midwives, which is a tertiary education college located in the district Iringa in Tanzania. The college can accommodate approximately 140 students. Every student is required to successfully complete two years of education to qualify for a diploma in nursing and midwifery.

**Results**

**Allocation of financial resources**

The college’s academic resources were, compared to standards in Western Europe, barely sufficient and of low quality. With regard to academic facilities, the school offered two classrooms and a small room with used books that served as library. It lacked computers, printers, projectors, internet connection and laboratories. The theoretical education in science
was, hence, rather basic with no possibility to conduct experiments or do research. For example, due to a lack of projectors and printers, I was forced to write all the relevant texts on the board, and students would afterwards copy everything. As this method was very time consuming, little time remained to discuss questions, and practice grammar, writing and speaking in the English class. Hence, due to a lack of technical facilities, the learning progress was very slow. Nevertheless, the college had the advantage of being located directly next to the local hospital, which enabled the students to gather lots of valuable practical experiences.

Concerning the learning progress, contents and academic research the quality of education could have been raised if financial resources were allocated to solve the problems mentioned above. However, instead of investing in technical and academic facilities, the school management allocated a large amount of resources to non-academic facilities. For instance, high efforts and finances were funneled towards the college’s outward appearance and dormitories. While the learning environment should be appealing to a certain degree, the focus should predominantly lie on academic facilities. On day 13 students engaged in a gardening project for which plants and seeds had to be purchased. Meanwhile the small library room remained unorganized. Books were outdated, not well sorted and no personnel were responsible for the room.

The provision and maintenance of dormitories serves as another example. Instead of searching for existent housing facilities in the local village, the school spent a large amount of financial resources to build new dormitories. The money spent on these non-academic facilities, could have been spent on computers and printers instead. Finally, students were obliged to pay tuition fees for costly school uniforms. Consequently, many lacked the financial resources to buy books and writing material. If there was less emphasize on outward appearance and non-academic facilities, the college would have more money to improve its educational quality.
Allocation of human resources

The teacher-student ratio was 1:20 for the entire college, and 1:66 in the respective English class. Teaching and studying in a class with 66 students leaves very little time for the teacher to assist students with their individual learning processes. As a teacher, it was very difficult to oversee the entire class, to motivate all students and to check on those that were inattentive. In these learning conditions, student motivation and learning progress easily decreases. In addition, all 66 students originated from different parts of Tanzania, and had different levels of English proficiency, which made it utterly difficult for the teacher to foster those that were already fluent in English and support those that were lagging behind.

The high teach-student ratios could have been decreased through better scheduling management. Instead of scheduling the English class for two hours for 66 students, one could divide it into two modules, each taught for one hour. The 66 students could have been allocated to two different classes, rendering each the teacher-student ratio of each class significantly smaller.

Contrary to the literature review findings, the college did not excessively spend money on non-academic staff, which was, indeed barely existent. Except for the headmaster and a secretary, no other personal was responsible for administrative tasks. In this regard, the allocation of human resources could not have been rendered more efficient.

Nevertheless, the school frequently hired voluntary teachers to make up for its small teaching staff. While the need for additional staff is understandable, the voluntary teaching was ineffective in my case. In only 15 days, it was nearly impossible to adapt to the student’s different learning standards and needs. While I, the teacher, had no prior experience in teaching, I was trusted with 66 students. The lack of experience, the difficulty of adapting to the environment and the program’s short duration lead to ineffective teaching. Although I was not paid, the college provided me with free accommodation and meals. Hence, the college
spent money and resources on me, although I did not increase the quality of education. Again, this allocation of resources is inefficient and could be improved to increase the overall quality of education.

Corruption

No cases of corruption were observed while working at the college.

Impulses for Solutions

The reasons for the above mentioned inefficiencies and mismanagement are multifold. Insufficient management abilities of administrators and headmasters certainly play a role. Hence, individual abilities in accounting, financial management and education expenditure tracking must be strengthened (Levacic and Downes, 2004).

Besides individual incapability, institutional rigidities and inflexibility prevent revising old structures and replacing them with a more efficient management of resources. These inflexibilities evolve as most institutions do not enjoy legal autonomy and are constrained by strict governmental control (Bjarnason and Lund, 1999). For example, universities in Tanzania, Cameroon and Madagascar, ministries of education, often guided by political criteria, select and appoint faculty members, determine salaries and establish conditions for promotions (Devarajan et al., 2011). While governmental supervision can be useful to some extent, for example for legal frameworks and quality controlling, institutions must also enjoy freedom and flexibility to render minder inefficiencies. In this respect, legal frameworks play a vital role in ensuring the success of institutions (Bjarnason and Lund, 1999). Finally, in order to hold managers and corrupt public employees accountable, the institutions’ financial procedures must be made more transparent to stakeholders and the general public (Poisson, 2010).
Conclusion

Tertiary education is a driver for the development of Sub-Saharan Africa. However, as student numbers are reaching new peaks every day, the government budgets of most countries in the region are unable to satisfy the schools’ financial needs. Hence, the quality and sustainability of tertiary education in Sub-Saharan Africa is at stake. One way of improving the educational quality, without being dependent on more governmental funds or on higher tuition fees, is to render the institutions’ financial management more efficient. The literature suggests that many institutions overfund non-academic facilities, and overemploy non-academic staff and foreign volunteers. Besides the poor management of financial- and human resources, corruption intensifies the problem of resource scarcity, which leads to insufficient quality.

The findings of a participant observational study, conducted at a college for nurses in Tanzania, mostly confirm these assertions. The observed nursing college prioritized investment in outward appearance and non-academic facilities over investment in academic facilities. Although the college did not excessively employ non-academic staff, it provided food and housing for a foreign voluntary teacher, who was incapable of increasing the quality of teaching. The college’s general management could also be improved, particularly with regard to scheduling. Corruption could not be observed and might be difficult to detect in public institutions. In sum, it can be concluded that institutions across Sub-Saharan Africa should review their institutional management with regard to financial- and human resource allocation, as well as corruption, as was done in this observational study. Inefficiencies and mismanagement are present and must be acted upon in order to improve the quality of education, an asset so vital for the development of Sub-Saharan Africa.
Bibliography


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