Sustainability of Higher Education in Africa in the Knowledge-Based Economy: Growing Demand for Participation and the Myriad Challenges

Objective and Introduction

The changing global economic trends and the demand for highly skilled human capital for the knowledge-based economy have placed an unparalleled pressure on tertiary education institutions across the globe, particularly in Sub-Saharan Africa and other developing countries. This paper reviews the challenges facing higher education institutions in Africa. The paper analyzes the sustainability of Africa universities in meeting the demands of the global knowledge-based economy. Overall the paper is partitioned into four parts: the first part briefly chronicles the history of tertiary education in Africa and the challenges posed by the colonial governments. This is followed by an appraisal of the role played by multilateral financial institutions in educational development in Africa. Part three of the paper looks at the threats to higher education sustainability (emphasis placed on declining financial resources), with particular reference to Sub-Saharan Africa. The final part of the paper summarizes the issue of sustainability due to the current rate of “massification”, declining of financial resources and rising per unit cost of student.

History of Higher Education in Africa

Historically, higher education in Africa is shaped by three ancient civilizations: the Alexandria Museum and Library (AML) established in the 3rd century BC in Egypt, the influence of Christianity through the established monasteries and monastic orders in Egypt and the Islamic traditions (Zeleza, 2006). The AML is estimated to have housed 200,000 volumes and supported over 5,000 scholars and students (Lulat 2003, Zeleza 2006). The monasteries and monastic orders played an important role in the education of various ancient scholars and provided spaces for reflection, writing, and learning across Africa, Europe and Asia (Lulat 2003, Zeleza 2006). The Islamic tradition gave Africa its first higher education with the oldest Al-Azhar mosque university established in Cairo in 969 B.C. (Zeleza,
With the exception of Egypt and South Africa whose higher education dates back to the 10th and 19th respectively, the modern universities in Africa today are objet d’art of colonial establishments. Generally, the development of modern higher education in Africa slowed until the end of the World Wars due to colonial governments’ fear of opposition of educated African elite (Lulat, 2003 and Zeleza, 2006).

Although there were a few early colonial university colleges such as Gordon Memorial College founded in the Sudan in 1902, which became the Khartoum University College in 1951 and later Khartoum University at independence in 1956, and Fourabay College in 1827 in Sierra Leon, it was the Asquith Commission appointed by the British government in 1943 to investigate the principles that will guide the establishment of universities that gave countries like Ghana and Nigeria, their first modern university. Upon the recommendations of the Asquith Commission in 1943, the University College of Ibadan (now the University of Ibadan) in Nigeria and the University College of Gold Coast in Ghana (now the University of Ghana) were both established in 1948 (Daniel, 1997). In East Africa, Uganda’s Makerere College was also upgraded into University status in 1949, while Kenya’s Royal Technical College was established in Nairobi in 1951. However, the pace of educational development in the French and Belgian Colonies was slower than in British West Africa. According to Zeleza (2006), the development of higher education in French Colonies was stifled by the preference among both the colonial authorities and the African elites, spawned by the French’s ruthless policy of assimilation.

Overall, colonialism left behind Africa very few universities patterned on European model. Whilst the quality of education during the immediate years of independence was comparatively higher as institutions still exist in “special relations” with the metropolitan universities, this metropolitan glory was shortly outlived. However, as a result of the restrictive colonial policy and the slow pace of higher education development in Africa many countries gained independence without the required
human capital needed to run their respective public and civil service. A World Bank report of 1991 points out that at the time of independence less than a quarter of professional civil service posts were held by Africans. For example,

“Zaire...reached independence without a single national engineer, lawyer, or doctor.” With all its copper wealth, Zambia had only a hundred university graduates and a thousand secondary school graduates. In 1961, the University of East Africa (serving Kenya, Tanzania, and Uganda) turned out a total of only 99 graduates for a combined population area of 23 million” (p.10).

As result, new governments were faced with the challenge of direct involvement in the provision of higher education. Higher education from the onset was ontologically embedded in the developmental state (Assie- Lumumba, 2006), making tertiary education a publicly provided entity.

From 1970s and through the 21st century, universities across sub-Saharan Africa continue to face severe challenges such as limited academic and infrastructure resources, poor teaching and research management facilities, poor conditions of service to attract high quality and experienced academic personnel, unbridle skill flight, limited academic freedom, limited management capacities at the administrative level, and above all the uncontrolled demand for participation amidst serious financial austerity. Not only do these factors account for the demise of quality of education, but also in aggregate the severity of these problems threaten universities’ sustainability in meeting the demands of the knowledge-based economy.

**Growing Participation**

In spite of the multiple challenges facing universities in Africa, tertiary education has grown to exist in almost every part of Africa. Enrollment has increased beyond capacity. Unfortunately, the available capacities (e.g. residential and academic infrastructure) that were initially designed for a few thousands of students are overstretched as a result of the escalating demand for participation. By the close of the 1960s the number of students enrolling in various institutions of higher education in Africa increased from an estimated 120,000 to 3.4 million in 1995 (Zeleza, 2006, UNESCO, 2007).
Globally, it is estimated that the total number of students attending different institutions of higher education increased from 28.6 million in 1970 to 152.5 million in 2007 (representing an increase of 433% within a period of 37 years) with Sub-Saharan Africa registering the highest regional average of 8.6% annually (UNESCO, 2009). In Africa alone, there were about 6 million registered students pursuing some type of higher education between the 1994 and 2000 periods. By the close of 2006, the collective number of students attending tertiary educational institutions in Africa increased to about 9.3 million, an impressive increase of 155 percent (World Bank, 2010) with a projected enrollment increase of about 20 million by the year 2015. Despite the rapid demand for participation and soaring enrollment from 2.7 million in 1991 to 9.3 million in 2006, resources needed to run public universities remained largely the same (World Bank, 2010) while the per unit cost per student declined from US$6,800 in 1980 to US$1,200 in 2002 (Materu, 2007).

**Impact of Global Reforms on African Universities**

Few years after independence many African countries faced various socio-economic and political changes, which change the fiscal support climate of Africa’s development partners particularly, the International Monetary Fund (IMF) and the World Bank (WB) in the 1980s. What came out of these changes was the prescription of neo liberal economic ideology. As Sawyer (2003) noted,

“The pro-market/anti-state bias of this ideology was both an outcome of the specific form of globalization in the last quarter of the Twentieth Century, and a means for reinforcing those material forces, by pushing for and facilitating the removal of barriers to the flow of private capital in the domestic and international spheres” (p.8).

In response to these global developments and the challenges facing Africa governments, the World Bank (WB) and the International Monetary Fund (IMF), recommended the Structural Adjustment Programs (SAPs). Under this program, Africa governments were required to adopt neoliberal economic policies as the panacea to their economic malaise. This policy included massive economic
liberalization and deregulation initiatives – such as currency devaluation, reduction in public sector spending, and the introduction of cost sharing mechanisms into the educational system.

Added to this debate was the reduction of public support for higher education and withdrawal of state subsidies. This debate was also supported by the rate of returns argument that was promoted by the research work of George Psacharopoulos (1981) who argued that in Africa and other developing countries, primary and secondary education contributed more to economic growth than higher education. The World Bank and IMF consequently bought into the findings of this study and cut of all spending for African universities. By implementing SAP, Africa’s public debt soared from $6 billion in 1970 to $170 billion in 1998 (World Bank, 1999 cited in Ilon, 2003). Meanwhile, the Bank’s lending support for Africa's higher education declined from 14.5% in 1976 to 7.8% in 1983, compared to an increase in primary education spending from 13.9% to 22.6% (Ilon, 2003).

However, after decades of neglecting higher education in Africa, the Bank reconsidered its approach and concluded that if Africa and other developing nations want to catch-up with the global north, a vibrant higher education system is a necessity. This was clearly articulated by the World Bank’s former president, James Wolfenson, who suggested that a strong higher education system with centers of excellence, learning and training is necessary for a country’s advancement. A well-developed higher education system would not only train and prepare the human capital potential needed for the knowledge economy, but also well-educated citizens have the potential for contributing to the social development of a country.

As part of its policy shift and support for the overall development of the continent, the Bank believes that developing countries in general have to expand access, develop alternative funding sources, and improve research management capacities in their universities for a sustainable democratic development. For example, the Bank raised the awareness concerning the importance of tertiary education, research and development in its 2000 report, Higher Education in Developing Nations:
*Peril and Promise* that higher education is the conduct for building a vibrant democratic and accountable political system while promoting spaces for research and knowledge dissemination. This was followed by the Bank’s 2002 report *Constructing Knowledge Societies: New Challenges for Tertiary Education*, which recognized as a ‘critical pillar for human development’ and also serve as a platform for training high-level skills necessary for every labor market. In 2006, the World Bank provided several empirical evidence in *Higher Education and Economic Development in Africa* to support the role of higher education in economic development, while the 2008 report, *Accelerating Catch-up: Tertiary Education for Growth in Sub-Saharan Africa* chronicled the achievement made in primary and secondary education in Africa and the need to garner resources to increase enrollment at post-secondary education to prepare Africans the skills need to compete in the knowledge-based economy.

**Higher Education Sustainability – Financial Challenges**

Relatively, funding remains the number one critical problem facing higher education in Africa. The soaring enrolment and the increasing per unit cost of student cause a greater part of this problem. The World Bank (2010) estimated that in Africa “the mean ratio between the average increase in the number of students and the increase in resources between 1991 and 2006 is 1.45” (p.17). In fact, for Africa to keep the current transition rate from primary to lower secondary education, the number of students will have to increase by a factor of 2.5 by the year 2020, which is only feasible for 10 countries. This means financially, if African countries allocate 20 percent of their national resources to the education sector, “… they will have to seek international financing equivalent to 150 percent of national funds if they are to respond to quantitative development while ensuring a level of quality considered “favorable” or at least “acceptable.” This would imply reaching an estimated 60 percent rate of dependence on external assistance.” (p.18).
Unfortunately, public universities particularly in Sub-Saharan Africa massively depend on central government finance with little support from the private sector. This “massification” and inadequate public support for higher education had impacted on the quality and relevance of academic programs needed to compete in the knowledge-based economy. Although Africa has witnessed shrinking of public expenditure per student cost of 30 percent over the last 15 years (World Bank, 2010), its average annual current public expenditure per student remains relatively high of approximately US$2,000 in 2006 – twice the amount allocated in non-African developing countries (World Bank, 2010). Within the framework of financial sustainability, African universities have been operating under the yearly fiscal and economic performances of their respective countries.

Students’ Contribution and Challenges

As it has been clearly indicated above, there was a drastic decline in public support for higher education following George Psacharopoulos’ 1986 rate of returns publication in which he argued,

“Education is an economically and socially productive investment. Therefore, the educational systems in developing countries must continue to improve in quality, in efficiency, and in equality of opportunity if they are to continue serving as important instruments for improving the national economy…. The heavy subsidization of education implicit in traditional policy especially of higher education at the expense of primary schooling with its concomitant economic inefficiencies and inequities is no longer appropriate” (p1.)

Further Psacharopoulos (1986) argues, “expanding primary education through user charges in higher education will also improve the future distribution of income”. The World Bank embraced this argument and later in 1995 the Bank indicated in a document entitled Priorities and Strategies for Education that,

“in low- and middle-income countries the rates of return to investments in basic (primary and lower secondary) education are generally greater than those to higher education. Therefore basic education should usually be the priority for public spending on education in those countries that have yet to achieve near universal enrollment in basic education” (World Bank 1995, 56).

As a result of this, most governments in Africa started to introduce some form of fees, and tuition to support their institutions. Unfortunately, the introduction of student loans has also faced
implementation challenges such as high default rate, low interest rates, depreciation of initial value of loan amount, and poor loan recovery. However, considering the current rate of graduate unemployment in most African countries, setting up high interest rate may simultaneously increase the debt ratio without improving recovery. The effectiveness of student loans in Sub-Saharan Africa will

“…require both proper design and good execution. Student loans in Africa must be accompanied by other forms of financial assistance, including a judicious use of grants, especially where there is genuine evidence of aversion to student debt, as well as repayment forbearance and eventual forgiveness in cases of lifetime low incomes or other conditions that contribute to unmanageable repayment burdens” (World Bank, 2011p8).

Africa governments have not been successful with student loan programs because of poor implementation and in some cases logistical problems such as lack of accurate and reliable data to track graduated students.

**Governance**

While funding remains a major threat to higher education sustainability in Africa, poor governance is another critical problem facing universities. Until recently President or Head of States or Prime Ministers in most countries were the titular Chancellor who then appoints the vice chancellor of the universities. This was particularly the norm during the immediate years of independence. Today, while some countries have universities councils that appoint chancellors, the central government remains an important force in the administration and governance of universities in most countries. The academic profession has less power in Africa than it does in the Western world (Teferra and Altbach, 2003). The role of the state in the administration and finance of African universities is evidenced by the overdependence on the central government for financial resources. The crucial role of the state in higher education is even compounded by the role played by multilateral cooperation and donor agencies as most countries depend on the agencies for funding most of their social and economic programs. As a result of great state involvement in African universities, academic freedom has
curtailed which has affected curriculum development and deterred private involvement especially in public universities.

**Intellectual Capital Flight and insufficient experience Academic Staff**

Intellectual capital flight and the shortage of experienced teaching and research academic staff in African universities threatens institutional sustainability while compromising quality of academic programs. Africa lost greater percentage of its academic staff as a result of political persecution during the 1970s and 1980s. Most academic staff flew their countries for personal and family safety from dictators. For example, the Biafran war (1967-1970s) in Nigeria led to the exodus of many educated Nigerians. The Killings of Academic personnel’s in countries such as Rwanda, Algeria based on ethnicity and religious background caused massive skill flight in both countries (Teferra and Altbach, 2003). However, the majority of the African intellectuals left their countries for economic reasons. Experienced intellectuals have found better employment opportunities abroad. Internally, best scholars have also left the academic profession for better paying jobs in the private sector. Estimates by the of the International Organization for Migration (IOM), shows that in aggregate, Africa lost over 200,000 skilled individuals between 1990 and 2000 with an average of 20,000 per year. It is estimated that 60% of Ghanaian trained Doctors left the country in the 1980s. Approximately 65,000 African-born physicians and 70,000 African-born professional nurses were working overseas in a developed country in the year 2000 (Woldetensae, 2007). As Africa continues to lose its vital human capital, it is difficult for the continent to compete with the rest of the world. As Woldetensae (2007) indicated “the continuous outflow of skilled personnel contributes to a widening gap in science and technology between Africa and other continents. Africa’s share of global scientific output has fallen from 0.5 in the mid-1980s to 0.3% in the mid-1990s” (p.3). By the mid 2000, it was 0.8% compared to 37% of North America, 30.5% of Asia, 2.9% of Latin American and the Caribbean (UIS, 2005).

**Curriculum and National Development**
Another challenge that African universities face is the disconnect between institutions’ missions and national developmental goals. The number one responsibility assigned to African universities was to train the human capital needed for the socio-economic development of their respective countries. According to Bloom, Canning and Chan (2005),

Tertiary education may improve technological catch-up and, in doing so, maximize Africa’s potential to achieve its greatest possible economic growth given current constraints. Investing in tertiary education in Africa may accelerate technological diffusion, which would decrease knowledge gaps and help reduce poverty in the region (p.ii).

Over 50 years of independence, many economies in Sub-Saharan Africa remain stagnant without signs of economic growth. One may assumed that universities have lost their raison d'etre. Every year universities graduate students who lack the entrepreneurial and creative job skills needed for the knowledge economy. Universities are running academic programs that are unresponsive to manpower needs and socio-economic needs of their countries. There is too much emphasis placed on the replication of western developed knowledge in Africa with limited adaption to national and cultural circumstances. Fifty years has passed since independence and African universities should be playing leading roles in developing locally generated knowledge to enhance the economies of the countries in the continent.

**Quality and Relevance of Academic Programs**

Quality Assurance (QA) provides the tools for measuring the quality of academic programs offered at various universities and their relevance to national economies. As at 2009 there were about 16 countries in Sub-Saharan Africa carrying out quality assurance in their universities – some being simple program assessment and other very comprehensive (Nigeria and South Africa are examples). Materu (2007) in a World Bank report indicated that the main challenges limiting QA in Africa universities are cost and human capacity. To carry out an effective and efficient national QA requires not less than an annual budget of US$450,000. The direct cost of accreditation averages US$5,200 per institution and US$3,700 per program. According to Materu (2007),
“the costs of a full scale QA system are therefore unaffordable for most Sub-Saharan African countries. In countries with large tertiary systems, the report recommends institutional rather than program accreditation as a cost-effective option. In most other countries, where tertiary systems are small and underdeveloped, a less formal ‘self-assessment’ for each institution may be necessary until the capacity could be strengthened to support a more formal national QA agency in the long run” (p.vii).

However, this has not prevented universities from going through the various accreditation processes needed to continue with their academic programs. Over the past 10 years most countries and universities have made it part of their institutional mission to conduct QA. Overall, QA is perceived narrowly for the development of university programs, but there is no accountability to ensure the effectiveness of quality of programs. Also, QAs carried out in Africa universities are limited to institutional level without effective program accreditation, although Nigeria and South Africa conduct programs accreditation.

Thus, at a point that universities and academic departments are expected to maintain quality of programs to meet international standards in order to compete globally, most African universities are lagging behind. This partly explains why only one university (the University of Cape Town in South) made it at the top 200-world university by Times Higher Education in 2011-2012.

**Conclusion**

With its socio economic and political history, and contemporary global developments, the continent of Africa has witnessed various levels of changes. While many social institutions in the continent have declined in terms of performance, there still remain other areas that have seen considerable growth. Universities have seen expansion and development albeit they face multitude of challenges that portend their sustainability in meeting the demands of the knowledge-based economy. However, African governments are committed to supporting their institutions to meet the demand of the knowledge-based economy. The past few years have witnessed various transformations such as the growth of private universities to expand access; universities have introduced different and alternative modes of funding such as the “dual track” policies to increase their incomes. There has been the
upsurge establishment of various agencies charged with the responsibilities of connecting African Universities and countries with the Diaspora to address the issue of intellectual capital flight. Distance education is also expanding in most African countries and it is expected to grow vigorously by 2020 as Africa expands its ICT infrastructure. Private universities have seen dramatic growth from estimated 7 in 1960 to 27 in 1990 to over 450 by 2012. Organizations such as the Partnership of Higher Education in Africa (PHEA) and the US-Africa Higher Education Partnerships are among others that support programs to help improve the quality of higher education in Africa. Nonetheless, in view of these and other transformations taking place in the higher education system in Africa, the major problem of financial austerity remains a threat to university development while meeting the challenges of expansion, equity and quality. Universities are restructuring their curriculum to be responsive to the need of the labor economy of their respective countries in order to competitively prepare African graduates for the globalized economy.
Reference


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