

The Role of Higher Education for Sustainable Development in Africa

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Abstract

This paper argues that the rising sustainability concern in Africa's development is making new capacity-building demands on African universities, which may have a far-reaching impact not only in altering the structure and functioning of these universities but also in enhancing their relevance and utility to society. The rising capacity-building demand is for the generation of professionals who are trained in systemic and holistic thinking, familiar with field-based conditions, experienced in problem-solving approaches and endowed with leadership qualities for mediating among multiple groups of stakeholders, and who are ready to tackle complex issues such as poverty reduction, rural and urban livelihood improvement, resource development, management and conservation, biodiversity preservation and so forth. Traditional academic/disciplinary structures cannot cope with these demands adequately. The problem-driven nature of sustainable development concern is changing the relationship between university and communities. There is a need to change higher education curricular to address this changing relationship. In addition, it is important to change university departmental structures to promote inter-disciplinary approaches. This will lead to the transformation of higher education's role to knowledge creation, exchange, and sharing for sustainable development.

Keywords: Higher Education, Sustainable Development, Africa

Introduction

Sustainable development of any society would demand coping simultaneously with a multitude of problems which are characterized not only by complex causal chains and contextual difficulties but which also involve individuals and organizations with different aspirations and orientations. Holistic and integrative thinking based on a systematic compilation of wide-ranging information, that is, knowledge, and bringing together of like-minded actors across boundaries, be they geographic, ethnic, gender, or socio-economic, should be regarded as the foundation requirement for the scientific understanding of sustainable development phenomenon (Komiyama & Takeuchi, 2006). Stakeholder collaboration for knowledge mobilization to solve practical problems is the essence of sustainable development effort. Higher education institutions have a key role to play in this respect as they are in a position to create knowledge through research, to distribute knowledge through education and training, to utilize knowledge through public outreach services, and, combining all these functions in an integrated manner, to assume leadership for the promotion of sustainable development (Yarime et. al., 2012]. The central role of higher education institutions in sustainable development is therefore critically important.

Arguably, the rising sustainability concern in Africa's development is making a new capacity-building demand on African universities, which may have a far-reaching impact not only in altering the structure and functioning of these universities but also in enhancing their relevance and utility to society. The rising capacity-building demand is for generation of professionals who are trained in the systemic and holistic thinking, familiar with field-based conditions, experienced in problem-solving approaches and endowed with leadership qualities for mediating among multiple groups of stakeholders, in tackling complex issues such as poverty reduction, rural and urban livelihood improvement, resource development, management and conservation, biodiversity preservation and so forth.

The paper starts with a brief examination of the challenges facing African universities, reviews how international collaborations with industrialized countries have failed to alter it, and how the emerging sustainability concern calls for a new and different look at the way African universities should contribute to development, especially through inter-university collaboration. In order to illustrate this possibility, the paper

introduces the initiative by eight leading African universities, with the support of the United Nations University, three jointly-organized Master's programs – respectively, on integrated sustainable rural development, sustainable urban development and minerals and mining resources.

Africa's Higher Education: Historical Perspectives and Current Realities

As a rapidly changing society, Africa has experienced levels of explosive growth in higher education enrolment for the last 4 decades, a period in which the enrolment in higher education institutions has grown on average of 8.6% annually. The fast paced growth has resulted in increased challenges that education planners are faced with including but not limited to recruiting staff for systems that are doubling in size every decade.

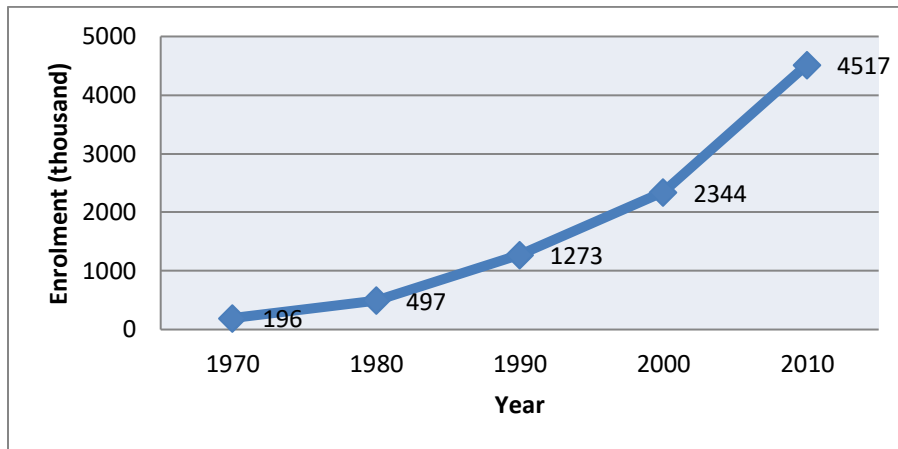


Figure 1: Growth of enrolment in higher education in Sub-Saharan Africa
Data source: UNESCO Institute of Statistics, GED 2010

Yet, the absolute size of the system is behind: 3.7 million more students in 40 years, this took two years in China or five years in Latin America and the Caribbean. Other regions have had an even faster level of growth in higher education enrolment, leaving Africa as the region with the slowest growth as shown in Figure 2.

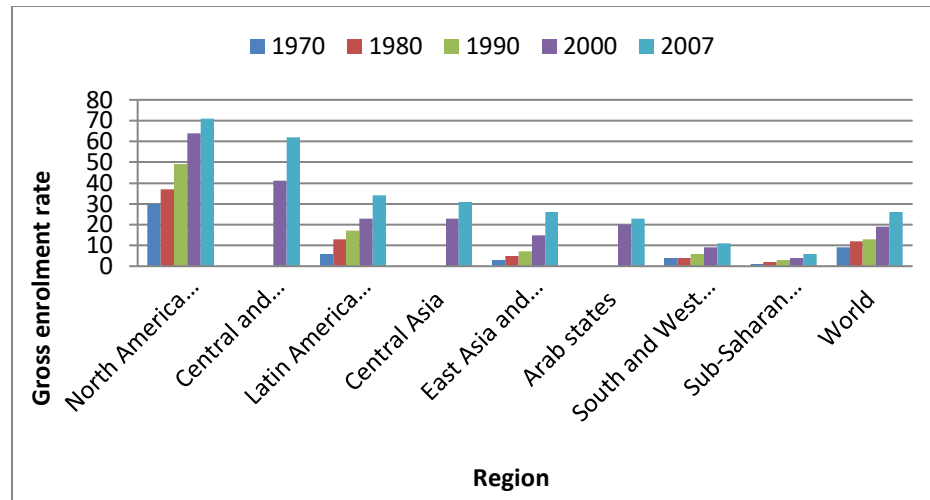


Figure 2: Global Tertiary Education Gross Enrolment Ratio

Data source: UNESCO Institute of Statistics, GED 2009

These higher education enrolments in Africa vary by country. Some countries like Mauritius, Cameroon, Namibia, and Senegal have experienced faster growth in comparison with countries like Malawi, Niger, and Tanzania that have experienced the slowest growth. In many African countries however, the enrolment is quite low compared to other countries in other regions of the world as indicated in Figure 3.

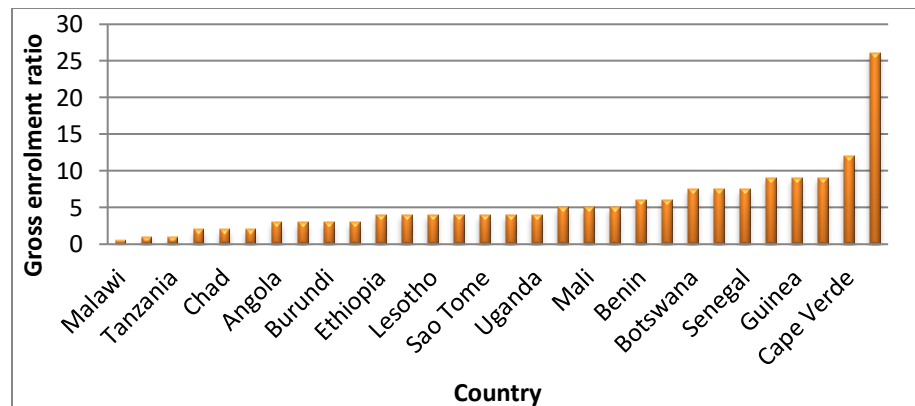


Figure 3: Gross Enrolment Ratio for tertiary education in SSA

Data source: UNESCO Institute of Statistics, GED 2010

As a result of poor statistical data collections methods in African countries, evolution of African universities overtime is difficult to examine and analyze. Enrolment and drop-out rates are difficult to document. Educational systems differ from one African country-to another and challenges affecting each country's higher education are unique to each specific country. However, tertiary education in the continent face common problems including but not limited to the inability to access higher education, poor governance, and inapplicable policies. Recent developments in the education sector show a shift towards higher education as indicated in the report of the Commission for Africa, which marks the clearest signal that communities both national and international have recognized higher education's value for development in Africa. The role of higher education in Africa's development is clearly outlined by Eshiwani (1999), who argues that it is imperative that the university in Africa continues to demonstrate its relevance to local problems. A combination of top-down, bottom-up and inside-out processes seems possible in any higher institution that has ideals to be a true learning organization. Marquardt (1996, p. 218) contends that it is possible for actors in higher education in collaboration with the government and the community to be an awareness-enhancing agent or an advocate for new competence development and thus both top-down and bottom-up initiatives are made possible.

Needless to say, the present structure and functioning of higher education institutions in many developing countries, especially in Sub-Saharan Africa, weakened by financial and institutional handicaps, would not promise easy realization of such a role (Eshiwani, 1999; Bor & Shute, 1991 and Teferra & Altbach, 2003).

Problems Facing African Universities - "Survival and Relevance" Crisis

Higher education in Africa is confronted with serious financial, epistemological, political, structural and ethical challenges that together reduce their ability to effectively tackle the challenge of sustainable development (UNESCO, 2004). These challenges need to be overcome if higher education institutions are to become more accountable for economic, environmental and human development. The universities are key agents in any strategy for improving sustainable development in Africa. Higher education in Africa faces a host of challenges and opportunities in the context of international developments. African higher education has

evolved overtime during and after colonization. Before colonization, the first forms of internationalization of higher education took place in the form of physical mobility of scholars and students crossing regions and borders for higher learning and scholarships. These forms of internationalizing higher education learning were replaced by new education systems that were imposed by the colonial powers. The intention of expanding education in the colonies was not meant to educate the colonial subjects but to serve the interests of the colonizing elements in the colonies (Knight, 2006).

The other form of internationalization of higher education – Europeanization of higher education in Africa – was imposed directly from Europe through government supported initiatives like the Phelps-Stoke Commission. The language of instruction, programmes, and curriculum, governance, books reflected the vested interests of the colonial powers. Today, all countries in Africa use the colonial language as a medium of instruction and this remains one of the key components of internationalization of higher education in the continent (Knight, 2006; Knight, 2005; Teferra, 2005). In the context of higher education internationalization and inter-university collaboration, African universities are faced with two key challenges in their quest to support Africa's developmental agenda:

The Challenges for Survival and Relevance

The following are the survival and relevance challenges that affect higher education for sustainable development in Africa:

- *The Global Policy in Higher Education*

Higher education in Africa has been shaped and influenced by the World Bank and UNESCO policies on higher education (Teferra, 2005). These policies have had a dramatic impact on higher education in the continent. As Leslie (1990) argues, "over the past 30 years, studies of rate of return to higher education probably have impacted higher education financing policy more than any other information produced by researchers". Measures on higher education by the World Bank and other international organizations have had a major impact on policy development, planning, implementation, and welfare of regional and national institutions. These policies had to be complied by the countries so as to qualify to borrow money to support their higher education systems

(Knight, 2006). This is because credit worthiness became conditional upon accepting to implement the set reforms (Stiglitz, 2006). African governments therefore had to make sweeping changes to higher education to align institutional policies along the lines of international regimes, and this has led to a decline in the quality of Africa's higher education system.

Funding of Higher Education

The financing of higher education from a global perspective has a direct impact on higher education funding policies at country level as shown in Figure 3. Financing higher education in the global North to support these policies means that African higher education has to accept the policies to fit well in the global arena. The policies of developed countries towards African higher education do not support affordable education, and therefore, higher education is left to the top cream in the African society. This is because the costs of higher education in the continent are passed to the students and their guardians (Jonson & Teferra, 2004). With the challenge of lack of enough facilities to absorb the overwhelming demand for higher education in Africa, most institutions of higher education have resorted to generating more resources, demanding that beneficiaries pay for services, and promulgating national policies to introduce loan schemes (Knight, 2006). Internationally, higher education institutions have received support to implement these national and strategic planning schemes.

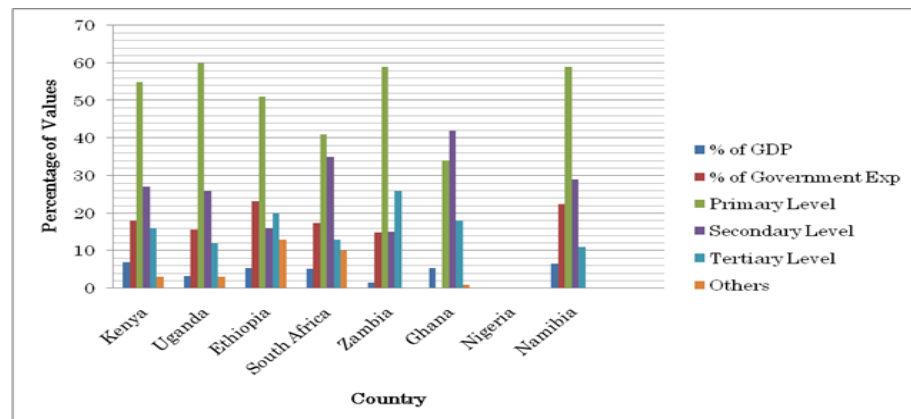


Figure 4: Expenditures on Education (%) in selected countries
Source: Compiled using statistics from UNESCO database

The development of higher education in Africa is dependent on external resources unlike higher education institutions in the global North. These external sources include foreign governments, multilateral development agencies, and foreign scholarly societies (Lulat, 2003). More than 70% of research grants in Africa are externally generated (Enos, 1995). It is common knowledge that African universities, with the exception perhaps of those in South Africa, do not receive sufficient funding to carry out their core mandates of teaching, production of graduates and research. Given the limited resources they have thinly spread over academic activities, it is not surprising that African universities are taking a back seat in the efforts on education for sustainable development.

The Place of Private Education in the International Context

In the recent past, there has been a rapid growth of private education providers in Africa's higher education. This rapid growth has resulted from increased student demand for higher education access, the declining capacity of public institutions, the retrenchment of public officers, pressure by external agencies to cut public services, a growing emphasis of and need for a highly skilled labour force largely targeting the local market, and the interest of foreign providers (Teferra & Altbach, 2003). In most of the countries, the number of private institutions is greater than the public ones but the enrolment in these private institutions is 25% compared to the public ones. Most of these private education providers are domestic entities and few are international (Knight, 2006).

Post-colonialism of Higher Education

The system of higher education inherited by African countries from the colonial times has remained intact with little changes. The system puts a lot of emphasis on: knowledge hierarchies; publish or perish criterion to assess contribution and upward mobility of academics; and academic excellence (Knight, 2005). This structure promotes dislocation in social equilibrium between Africa's higher education institutions and the wider public.

Challenge for its Expected Role – Relevance and Utility

Quality of Higher Education

The problem of quality of higher education in Africa remains a growing concern. The rapid growth of higher education and the continued decline in its quality has become a major problem in the continent (Eshiwani, 1999). In the 1970s, when Africa fell into socio-economic and political quagmire, higher education lost its lustre because of domestic and international pressures. Though the quality of higher education has gone down over the years, today there is a concerted effort to improve it due to the place of higher education in the national, regional and international arena. Instruments used to rank universities globally show that African universities are at the bottom of the scale and this clearly shows that Africa's place in the international knowledge market remains at the extreme margins (Knight, 2006). No African University appears in the top 100 global universities, and in the top 200 universities, only the University of Cape Town appears (THES-GS, 2008). Most of the top universities in the continent are from South Africa. These web rankings might have shortcomings but these rankings provide the picture of the place of higher education internationally. This quality issue has become an aspect of discussion in African universities and especially in upcoming institutions and private universities. There are numerous efforts to revitalize higher education in Africa an example being the Association of African Universities.

Research and Publishing

Research promotion and development is the vehicle to knowledge production and sharing. Publishing is the means to which this knowledge is formally organized, disseminated and established. The biggest proportion of research is generated in the global North and consequently the norms and paradigms of research and publishing are formulated and shaped there. Research and publishing is very expensive and more so to countries from the global South and especially Africa. Resources for research and development in the developed countries are supported by not only the government but also private businesses and wealthy corporations (Knight, 2006). Compared to other regions, Africa's investment in research is very low with Sub-Saharan Africa contributing only 1% of global knowledge. African research institutions depend on external funding sources. The

international values of knowledge production are perpetuated by means of existing regimes nurtured and advocated by powerful forces.

Languages of Instruction

Africa's higher education uses several international languages as a mode of delivery. The use of these international languages exhibits the internationalization of higher education. The continued use of these languages signifies the powerful legacy of colonialism. This has promoted globalization of knowledge and raised competitiveness. However, the low level of proficiency in these languages has contributed to the low quality of higher education in Africa. This poor language capacity hinders students from effectively participating in the teaching and learning process as well as research and publication.

Reconciling the Current Discipline-based Structure with the Transdisciplinary Requirements of Education for Sustainable Development

Perhaps the greatest challenge faced by higher education in the implementation of education for sustainable development programmes is how to reconcile the current discipline-based structure of the universities with the transdisciplinary requirements of education for sustainable development. As observed by Dam-Mieras, (2008), the fact that the traditional discipline-based structure of knowledge and research will be difficult to change against the transdisciplinary nature of sustainable development poses a problem for implementing education for sustainable development. Given that universities may not want to restructure completely, it is possible to institute some kind of arrangement with overview and responsibility outside and across the traditional disciplines.

Higher education has a key role to play in response to problem-solving focus on complex sustainability issues in the continent. In the field-based problem solving approach, Africa's higher education further faces the challenge of change of curriculum from the current exam-oriented theory-based to a problem solving curriculum. A new or revised curriculum will require the re-training of teachers to aid faculty on course delivery and research. In addition, to have the capacity to afford to deliver a new or improved curriculum; building linkages with communities and collaboration with stakeholders will be extremely important. Until then,

tertiary education in Africa will continue to fail to address development in Africa.

Africa's Changing Development Context and Emerging Sustainability Concern

With changing development demands and challenges, tertiary education institutions are currently getting recognized as avenues of instilling practical knowledge and skills applicable to sustainable development in Africa. Today, 'sustainability challenge' is the emerging concern for the higher education sector in the region. Unlike other countries where higher education has and still is the centre for current and future innovations, Africa's higher education sector has for decades lacked focus on development; the cornerstone for sustainable continent. According to Coomber (1991), the decline in real value of university budgets, increase in undergraduates' intakes, increase in academic staff turnover, and research facilities deterioration including library support has put tertiary education in the region under severe pressure leading to a decline in admissions and completion of higher education. Without a strong foundation in higher education, Africa risks lagging behind the rest of world in all important aspects of life such as the economy, technology, and quality of life. It is evident therefore that Africa as a region cannot afford to neglect higher education any more (Bloom *et al*, 2005).

The widespread recognition that tertiary education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy has made high-quality tertiary education more important than ever. Countries with higher skill levels are better equipped to face new challenges and master technological discoveries. The imperative for countries is to raise higher-level employment skills, to sustain a globally competitive research base and to improve knowledge dissemination to the benefit of society by overcoming its sustainability challenge.

This "sustainability challenge" is an opportunity for the higher education sector to re-define its role, with the increasing importance of 'knowledge' for development in Africa to tackle complex development questions and the need to combine education, research and outreach for tackling sustainable development issues, both of which universities should be the primary driver. This calls for the need for universities to produce graduates with relevant skills for addressing the development concern. For

this to happen, the focus of higher education has to be in the field. A change of the curriculum therefore, to field-based problem solving is important because inherited systems from the North do not fit the current development realities in the region. The new requirements for the curriculum should incorporate the practice of multi-disciplinary problem-solving approach, the need to integrate education, research and service functions and the need to contribute to strengthening of societal resilience free from political upheavals.

African Universities' Response to the Challenge of Sustainable Development in Africa

As an attempt to respond to the challenge of sustainable development in Africa, initiatives have been implemented in some African universities. The Association of African Universities (AAU) has done a survey on the promotion of sustainable development by higher education institutions in sub-Saharan Africa that was done in 2011. The survey was to establish current sustainability practices in higher education institutions in Africa. The overall aim of the study is to assist Africa's sub-Saharan higher education institutions to develop institutional strategies to enhance their practices towards achieving sustainable development in Africa. The study was intended to be extensive to develop an overview of sustainability practices in the region. An online survey was launched and 498 higher education institutions were invited to participate. Seventy-three (73) institutions responded (14.7%), either fully or partially, to the questionnaire. Results of the study show that higher education institutions in Africa are promoting sustainable development both on their campuses and in their communities. Commitment to sustainability is reflected in some of the universities' written statements. Some have integrated sustainability in their curricula; some are involved in sustainability research and outreach projects. African universities are also involved in sustainability partnership at various levels and some are setting aside funds for sustainability projects. Involvement in sustainable development initiatives is, however, still significantly small in most universities. However, the momentum attained so far is a sign of progress which universities can take advantage of in improving their sustainability practices (GUNi, IAU and AAU, 2011).

One initiative is led by Sustainability Institute (SI) and Stellenbosch University. The SI is an international living and learning centre that

provides a space for people to explore an approach to creating a more equitable society that lives in a way that sustains rather than destroys the eco-system within which all society is embedded. SI focus has been combining practice with theory in a way that integrates ecology and equity in support of a sustainable South Africa, with special reference to ways of reducing and eradicating poverty. Jointly with Stellenbosch University's School of Public Leadership, SI designed and developed an MPhil in Sustainable Development. The main aim of this taught, multi-disciplinary programme is to provide participants with an understanding and practical experience of the wide ranging contextual, conceptual and thematic issues involved in the planning, management and practice of sustainable development throughout the world. As the various global social and environmental crises deepen, a new generation is rising up to leadership positions in the public, private and non-profit sectors that are required to possess a broad trans-disciplinary understanding of the various dimensions of these crises and related solutions. This integrated Master's Programme (which comprises two connected formal degrees at the Honours and Masters level) aims to equip these people with the knowledge, experience and skills they will need if they are to grow and develop within this new field of career development.

The second initiative is the development of a joint postgraduate programme by the United Nations University and eight leading African universities to shape a new generation of professionals to face the challenges of Africa's sustainable development. This development work, seed-funded by the Japanese Government, is now complete, and the African partner universities have launched, three Master's programs - namely, 'Sustainable Integrated Rural Development Program', 'Sustainable Urban Development Programme' and 'Mining and Mineral Resources Program'- enveloped together as 'Education for Sustainable Development in Africa (ESDA)'. These programmes not only combine the curricular and didactic strengths of the participating universities for synergistic effect but also promote interactions with all the relevant stakeholders of the development process, including community, industry and government through adoption of field-based, problem-solving approaches 'on site'. With the field-based and problem-solving oriented approach as well research by the Next Generation of Researchers (NGR) needed to support sustainable development in Africa, the programme has the aim of generating a new breed of African professionals who will work for greater social relevance and towards creating a lasting

impact on the developmental reality of Africa. As such, the ESDA programmes can offer a unique and innovative opportunity for professional development to mid-career development agents needing upgrading of specific skills as well as first degree finishers aspiring to pursue a career in sustainable development. Once fully established, the programmes will serve as a vehicle for capacity generation to sustain the structural transformation of African countries, including building up of the private sector and strengthening of governance mechanisms.

Conclusion

The emerging “sustainability challenge” in Africa requires active participation of academia at higher education level to spearhead education, research and outreach that informs development. Higher education should address the challenge of relevance and survival through the promotion of field-work problem-solving curricular in support of its role of informing sustainable development in Africa. The embedding sustainability across all the functions of higher education offers the potential for a university to make a significant contribution to sustainable development. This practice provides higher education an opportunity to confront their core values, their practices, their entrenched pedagogies, the way they programme for student learning, and the way they think about resources and allocate these resources and their relationships with the broader community (Wals and Jickling, 2002).

In Africa also, qualified human resources remain scarce compared to the continent’s development needs. This situation hinders growth and undermines the foundation for sustainable development. Because skills for the knowledge economy are built at the tertiary education level, improving tertiary education systems should be high on the African development agenda. African tertiary education institutions and policy makers must ensure that the workforce acquires the skills to compete, innovate, and respond to complex social, environmental, and economical situations. The paper argues for the promotion of inter-university collaboration among ‘like-minded’ African universities to establish joint graduate education and research programs for sustainable development in Africa. African universities should therefore be repositioned to secure its place domestically in the continent’s quest for sustainable development and to contribute to global knowledge pursuit for Future Earth’s global sustainability initiatives.

References

- Bloom, D., D. Canning and K. Chan (2005). Higher Education and Economic Development in Africa. World Bank.
- BorW. and J. C. M. Shute (1991). Higher education in the Third World: status symbol or instrument for development? Higher Education, July 1991, Volume 22, Issue 1, pp 1-15.
- Coomber, T. (1991). A consultation on higher education in Africa: A report to Ford foundation and Rockefeller Foundation. London University Institute of Education, England.
- Enos, J. (1995). In pursuit of science and technology in Sub-Saharan Africa: The impact of structural adjustment programmes. New York: Routledge.
- Eshiwani, S. G. (1999). Challenges and Strategies for the 21st Century; IIE Research Report Number Twenty-nine.
- GUNi, IAU and AAU, (2011). The promotion of sustainable development by higher education institutions in Sub-Saharan Africa, Survey Report. GUNi, IAU and AAU.
- Johnston, D.B., and D. Teferra (2004). Introduction. Journal of Higher Education in Africa 2(2), 1-5. Special issue. Cost-sharing and other forms of revenue supplementation in African higher education.
- Knight, J. (2005). An internationalization model. Responding to new realities and challenges. In H.de Wit, I.C. Jaramillo, J. Gacel-Avila & J. Knight (Eds.), Higher education in Latin America. The international dimension (pp.1-38). Washington, DC: World Bank.
- Knight, J. (2006). Internationalization of higher education. New directions, new challenges. 2005 International Association of Universities Global Survey Report. Paris: International Association of Universities.
- Komiyama H. and K. Takeuchi (2006). "Sustainability science: building a new discipline" *Sustainable Science* 1 DOI 10.1007/s11625-006-0007-4.
- Leslie, L.L. (1990). Rates of return as informer of public policy: With special reference to the World Bank and third world countries, Higher Education, 20, 271-286.
- Lulat, Y.G.M. (2003). The development of higher education in Africa: A historical survey. In D. Teferra & P.G. Altbach (Eds.), African higher education: An international reference handbook (p 15-31). Bloomington: Indiana University Press.

- Marquardt, M. (1996). *Building the learning organization*. New York: McGraw-Hill.
- Stiglitz, J.E. (2006). *Making globalization work*. New York: W.W. Norton.
- Teferra, D. (2005). Financing higher education in Sub-Saharan Africa. In *Higher education in the world 2006: The financing of universities* (p 153-164). New York: Global Network for Innovation (GUNI) and Palgrave Macmillan.
- Teferra, D. & P. Altbach (2003). Trends and Perspectives in African Higher Education. In Teferra, D. & Altbach, P. G. (Eds.). *African Higher Education: An International Reference Handbook*. Bloomington, Indiana: Indiana University Press. 3-14.
- THES-GS. Time Higher Education Supplement and Quacquarelli Symonds. (2008). *World University Rankings 2007*.
- UNESCO (2004). Report by the director-general on the modalities of implementing South-South Cooperation and solidarity in the field of education and on the feasibility study for the creation of a fund thereon. <http://unesdoc.unesco.org/images/0013/001356/135648e.pdf>.
- UNDP (2003). Report on the implementation of the second cooperation framework for technical cooperation among developing countries, Annual session 2003. UNDP.
- Van Dam-Mieras, R., A. Lansu, M. Rieckmann & G. Michelsen (2008). Development of an Interdisciplinary, Intercultural Master's Program on Sustainability: Learning from the Richness of Diversity. *Innovative Higher Education*, 32(5), 251-264.
- Wals A.E.J. and B. Jickling (2002). 'Sustainability' in higher education: From doublethink and newspeak to critical thinking and meaningful learning, *International Journal of Sustainability in Higher Education*, Vol. 3 No. 3, 2002, pp. 221-232.
- Yarime, M., G. Trencher, T. Mino, R.W. Scholz, L. Olsson, B. Ness, N. Frantzeskaki J. Rotmans (2012). Establishing sustainability science in higher education institutions: towards an integration of academic development, institutionalization, and stakeholder collaborations, *Sustain Sci* (2012) 7 (Supplement 1):101-113 DOI 10.1007/s11625-012-0157-5.