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**Postgraduate Education in Africa: Challenges and Prospects**

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This essay examines the characteristics of postgraduate education in Sub-Saharan Africa in broad political and economic contexts and against the backdrop of the broader history of university development on the continent. This approach reflects the disciplinary orientation of the author, who is a historian of Africa and who during 2019-2020 was the Dean-in-Residence of the Council of Graduate Schools (GGS). The essay is a product of a CGS initiative on postgraduate education in the Global South (a brief description is appended).

**Introduction**

University and postgraduate education in sub-Saharan Africa has a relatively shallow history rooted in the powerful colonial legacy that continues to shape many aspects of developments on the Continent. Although colonial era policies differed according to the particular colonial regime, without exception colonial states made little investment in tertiary education—and virtually none in postgraduate education (the distinctive internal colonialism characteristic of South Africa is addressed separately below). Although colonial states did lay the groundwork for the development of universities in Sierra Leone, Sénegal, Ghana, Nigeria, Uganda, and other territories, colonial education policy typically focused on primary level instruction for basic literacy. In many areas of the continent there were few opportunities even for secondary education. As late as the time of independence in the 1960s, for example, many countries could claim no more than a handful of university graduates—all of whose degrees had been obtained overseas (Sawyerr 2004).

The expansion of education, including the establishment of strong universities, represented a central mission of Africa’s newly independent states. In the 1950s and 1960s, often in collaboration with European institutions, colonial and successor states established relatively well-resourced public universities, notably the University of Nigeria, Ibadan; the University of Ghana, Legon; Université Cheikh Anta Diop in Sénegal; the University of Nairobi; the University of Dar es Salaam; and Makerere University in Uganda. These institutions boasted strong research programs in focus areas and offered postgraduate programs to a select number of students. In apartheid South Africa, premier universities such as the University of the Witwatersrand and the University of Cape Town offered only extremely limited opportunities to Black students for advanced study.

The initial plans for the establishment of universities occurred in the political context of decolonization and the emergence of cultural nationalism. Writing in 1958, the eminent Africanist and anti-colonial activist, Thomas Hodgkin, argued that African education leaders needed to develop new identifiably African approaches to advanced education that broke from
the European models that at that time (and subsequently) closely shaped the development of African institutions (Hodgkin 1958). In an argument that remains familiar today, Hodgkin maintained that African universities should develop distinctive approaches to higher education in both organizational terms and in areas of specialty—universities rooted in African experience and tailored to African needs.

Five years later the Nigerian scholar and later Vice Chancellor of the University of Lagos, S.O. Biobaku, extended Hodgkin’s critique of the colonial university, while making a strong case for the expansion of university education broadly (Biobaku 1963). Biobaku answered critics of the rapid expansion of universities by asserting the importance of universities to the processes of “modernization” and “development” – terms that find echoes today in assertions of the role of universities in the development of “knowledge economies.” For Biobaku, university education was no luxury but “really the most urgent need in Africa.” Newly independent nations needed universities to provide the pool of highly trained women and men who would represent the “key to rapid ‘modernisation’.” The issue of how university faculty would be trained and where was largely ignored (Dillon 1963).

Reflecting the confident optimism of those early years of independence, Biobaku took aim at the colonial notion of the “ivory tower” and demanded that “African universities must enter the lists in the adventure of nation building.” Like most progressive African political leaders and intellectuals at that time, Biobaku demanded that universities be engaged in the enterprise of social and economic development (Livsy 2017; Samoff and Carrol 2004). He explicitly drew a comparison to American land grant universities and their missions of directly serving the needs of their states. Although discussion of the development of African universities rarely explored the establishment of postgraduate and research programs, strong arguments were made for a focus on “African Studies,” as a strategy to create the basis for a reorientation—what would today be described as “decolonization”—of the educational curriculum at all levels (Biobaku 1963). Across the continent, universities and funding agencies made significant investments in research programs aimed at “recovering” African history and culture—the very existence of which had often been challenged in colonial orthodoxy. Efforts were made as well to reorient research toward social and economic problems as a means to support aggressive efforts to address poverty and development, but not infrequently, such research would prove controversial in domestic political contexts.

By 1980 the convergence of economic crisis, political instability and shifting development priorities led to a sharp decline in university funding and a deterioration of human and material infrastructure. IMF-driven structural adjustment programs resulted in the defunding of the public sector, a trend reinforced by a shift in World Bank priorities away from education. During this period the Bank published four education policy documents, all of which reflected growing disillusionment with African higher education and what the reports described as “over-expansion” (Samoff and Carrol 2004). The perception that universities nurtured elitist political dissent further undermined state support; authoritarian regimes certainly took a dim view of politically-engaged faculty and students. With faculty salaries stagnating and student financial support rapidly eroding, promising advanced students and faculty sought opportunities elsewhere—either in the local private or NGO sectors or overseas. In the early 1990s substantial
new investments were made in basic education, but this often occurred at the expense of universities—which were often seen as expensive and largely irrelevant to “development.”

From the mid-1990s, however, as apartheid ended in South Africa, the World Bank and other international development leaders gradually shifted toward support of university education, stressing the key role of universities in research, high-level workforce development and the promotion of technologically driven economic growth. But years of neglect and limited resources has meant that even two decades later, African universities are often still trying to make up for decades of neglect. At the same time, across the continent dramatic growth in the youth population and the emergence of sizeable middle classes in many countries fueled a rapidly rising demand for university education. In the last two decades public universities have expanded dramatically in number and size. At the same time there has been explosive growth in private institutions in countries where the education sector is less tightly regulated (Samoff and Carrol 2004).

Most profit-making institutions focus on undergraduate and master’s studies in technical areas. But some of the non-profits, most of which are church-affiliated, have developed substantial research and postgraduate training programs. Among the most prominent is the United States International University in Africa (in Kenya); in fact, by some measures, Covenant University in Nigeria is now the most highly ranked institution in that country.

Postgraduate Education in Africa

Despite a renewed interest in university development on the Continent, there has been very little study of postgraduate education in Africa south of the Sahara. African states increasingly acknowledge the need for PhD-trained university faculty and researchers, but the crucial role of graduate education in sustaining the entire educational system remains under-appreciated as do its more direct roles in supporting research and providing professionals for key roles in public and private sectors. Outside of South Africa there are few organizations supporting graduate education; thus there are few structures to support graduate education advocacy and the development and dissemination of best practices. State agencies provide varying degrees of regulation of university education, but this does not extend significantly into graduate education.

In line with common practice, this essay focuses on Sub-Saharan Africa. However, it should be noted that the Association of African Universities and the new African Union-sponsored Pan African University encompass participation of the Arabic-speaking North African states (that are often grouped with their neighbors in the Middle East). This essay incorporates very little original research and has been assembled from published materials mostly available in English (as of August 2020). Although a number of publications address postgraduate education in particular countries or universities, there are no more than a handful of brief articles that address postgraduate education in Africa overall (see e.g. Hayward and Ncayiyana 2015).

Most of this meager literature focuses on the PhD., although there are some studies of MBA programs and other professional master’s. Very little work looks at the elements of postgraduate study, for example career preparation, mentorship, student mental health or curriculum that are common themes in the scholarship on programs at universities in the wealthier countries. The
The modest CGS initiative reflects a generally optimistic perspective on the development of graduate programs in Africa (and elsewhere in the Global South) and the possibilities for international collaborations, notwithstanding serious concerns about staffing, infrastructure and funding which have become substantially more acute because of the global covid pandemic.

Across the continent, since the 1990s discussion of university development has typically invoked the critical role of universities and research in the establishment of “knowledge economies” (see Amaghionyeodiwe 2012). Authors point to the correlation in East Asia and elsewhere between the growth of universities and economic development, although the specific linkages often remain elusive. Little attention has been paid to postgraduate education broadly or in specific, critical disciplines. Nigeria, with the largest population in sub-Saharan Africa and the largest university system, has explicitly articulated policies connecting expansion of universities to economic growth, even as investment has lagged behind goals. The representation of scientists in the population is much lower than in comparable countries such as Brazil, India or South Africa. Percentages of the age-eligible population enrolled in universities is similarly low, as is state investment in research related to postgraduate training (Amaghionyeodiwe 2012). As elsewhere on the continent (and elsewhere globally), the confident assumption that investment in postgraduate education yields economic growth has not been studied sufficiently closely to determine how such investments pay off or if they do.

The graduate education community outside Africa has a crucial stake in supporting high quality graduate education in African countries. Rapid growth in university education has been accompanied by a modest expansion in the numbers of African students who study overseas—in the U.S., Europe and increasingly in China. Given the growth in population in Africa and the lack of university capacity, that increase will likely accelerate. Strong graduate programs in African universities ensure the high quality of faculty and research that will ultimately support superior undergraduate programs. This project aligns with key policy initiatives including the Carnegie-funded Africa Humanities Project and especially those led by the World Bank. The focus of the CGS effort was an engagement with postgraduate education leaders regionally in Africa to initiate a conversation that might lead to partnerships around the development and dissemination of best practices and advocacy. The first steps in that direction occurred in April
The Shifting Context for Postgraduate Education in Africa

As newly independent states made it a priority to establish high quality national universities to drive development and to provide the trained individuals (most men) that could make the urgent task of Africanization possible, a number of the new institutions established postgraduate programs in some disciplines. By the 1970s, declining state support for high education cut off support for postgraduate programs, especially in areas that were not seen as directly relevant to national development. Since independence, per capita investment in higher education has declined by more than 80 percent, from more than $6,000 U.S. to less than $1,000 (Hayward and Ncayiyana 2015).

As noted, the economic and political pressures on public support for universities intersected with declining interest on the part of external funders, including notably the World Bank. Amid the intense demands on governments to promote economic development in the very challenging global economic climate of the 1970s and 1980s, few political leaders were interested in making investment in universities a priority. Fewer still could see the value in postgraduate education, which was viewed locally and in particular by funders as a luxury that Africa could not afford. Instead, funders supported scholarship programs for master’s and doctoral program overseas, particularly in Western Europe and the United States and Canada (Sawyerr 2004). This decision, however inevitable, meant that African universities would be poorly placed to address the rapid expansion of demand for higher education and the research requirements associated with the development of the “knowledge economy” in the 1990s.

Beginning in 1963 and over a span of 40 years, the USAID-funded program AFGRAD and its successor, ATLAS (administered by the Africa America Institute), provided graduate education opportunities for more than 3200 professionals from Sub-Saharan Africa. A 2004 assessment of the program’s impact, *Generations of Quiet Progress: The Development Impact of U.S. Long-Term University Training on Africa from 1963 to 2003*, revealed a remarkable success story. Contrary to popular assumptions, the report documented that the program did not contribute to “brain drain,” but in fact often had the opposite effect. AFGRAD alumni served as role models for other professionals and created conditions that reduced pressures on professionals to emigrate. Many remained in academe, but the report also demonstrated the important role that the AFGRAD training played in providing alumni with the skills that made them successful in a range of sectors.

The critical contributions that graduates of programs like AFGRAD made in providing leadership in government, education and the private sectors in their home countries should have underscored the need for high quality master’s and doctoral programs in African countries, but the international political climate made such initiatives unthinkable. Through the 1980s, the structural adjustment programs (SAPs) associated with the neo-liberal economic policies championed by the United States and the IMF criticized “social spending” and demanded sharp reductions in state bureaucracy. In many countries the circumstances of universities became increasingly dire. Students struggled to survive on stipends and faculty often could not make
ends meet on their official salaries. Many took jobs or consultancies with NGOs or in the private sector, further undermining institutional quality. Few universities were positioned to expand postgraduate programs.

Since the 1990s, however, as the continent has experienced general, if uneven, economic growth, the circumstances of universities has shifted markedly. Rapid population growth and the expansion of middle classes associated with economic growth have fueled an expanding demand for university education. During the 1970s, perhaps 200,000 students were enrolled in universities across sub-Saharan Africa. By 2015 that number would rise to more than 6 million. Educated Africans no longer necessarily saw careers in the public sector as the pathways to individual success, but advanced education involving skills that translated internationally continued to be regarded as essential, particularly with a focus on technical fields. As countries such as Kenya, Uganda, Nigeria and Ghana expanded the numbers of public institutions, the higher education sector increasingly reflected market forces. Public institutions, notably the prominent Ugandan flagship institution, Makerere University, funded ambitious development through the introduction of market-based degree programs, which ultimately have served to exacerbate wealth disparities.

These developments coincided with the shift in the perspective of international funders regarding support for universities and research. At a 1992 World Bank sponsored seminar, the sociologist Manuel Castells articulated what would become an increasingly powerful argument: that investment in universities and research represented a necessary strategy for economic development in African (and other “Third World”) countries (Cloete, Mouton and Sheppard 2015). Within a few years the World Bank had itself embraced that perspective (Salmi 2018). By 2013, the report of a meeting on postgraduate education in Africa sponsored in part by the Carnegie Foundation confidently noted that there was “broad agreement that Africa needs tens of thousands more PhDs in order to renew an aging professoriate, staff the rapidly expanding higher education field, boost research and generate the high-level skills growing economies need” (quoted in Cloete, Mouton and Sheppard 2015). Nevertheless, the proposition that investment in postgraduate education and research should be prioritized was a tough sell. And the means to achieve a rapid expansion in PhD production remained elusive.

Postgraduate Education in South Africa

The development of university education, including graduate education, in South Africa has been systemically linked to the country’s distinctive historical experience of white supremacy, racial oppression and internal colonialism. From the perspective of the country’s majority African population, however, the very limited provision of educational opportunities at any level and the minimal access to university education meant that, as elsewhere across the continent, very few Africans attained university qualifications, let alone graduate degrees, before the 1970s.

The modern South African state took shape around the turn of the 20th Century rooted in the exploitation of Black labor and the denial of political rights for the Black population (meaning in the South African context, indigenous African people who make up by far the largest proportion of the population, people of South Asian origin, and the “Coloured” descendants of South Africa’s former slave population). During the first half of the twentieth century the exclusively
white political and economic leadership gradually entrenched long-established practices of racial segregation. The political triumph of Afrikaner nationalism in 1948 led to the systematic imposition of an apartheid racial policy that reached into every aspect of national life, including university education.

The first doctorate was awarded in South Africa in 1899 (Herman, 2017) and by the 1920s the English-language institutions, the Universities of Cape Town and Witwatersrand, had established doctoral programs and others followed. After the Second World War, the numbers of doctoral graduates increased substantially. Virtually all of them were white. During the 1970s, for example, as the South African state invested sizeable funds in building modern research universities, only 30 of a total of 2,917 doctorates were awarded to Black students (Cloete, Mouton and Sheppard, 2015). Apartheid education policy created separate, underfunded institutions for Black students, such as the University of the Western Cape, Durban-Westville University and a number of marginal institutions in the sham “homelands” that the apartheid state created in a failed attempt to preserve white hegemony. Only after democratic elections in 1994 did the South African state begin to dismantle apartheid education policies and make serious efforts to expand the numbers of Black recipients of graduate degrees.

Since 1994 the growth of postgraduate education in South Africa has reflected a tension between the goal of equity and the growing perspective that investments in postgraduate education and university research represent critical elements in positioning South Africa’s future in a global “knowledge economy” (Cloete, Mouton and Sheppard, 2015). In the mid-1990s, policy debates focused mostly around equity, especially regarding representation by race—a goal characterized as “transformation.” Limited resources prevented major institutional redress, but the number of Black students in doctoral programs steadily increased. By about 2010 the proportion of African students enrolled in doctoral programs for the first time exceeded the representation of whites. It was not until the late 1990s that the state recognized the economic development implication of research growth in educational institutions.

Notwithstanding mergers and consolidations that occurred after 1994, the institutional structure developed under apartheid continues to shape university and postgraduate education. The vast majority of doctoral graduates are awarded by the eight formerly white universities. White scholars still dominate the ranks of faculty at the leading institutions and although the proportion of white students earning doctorates has sharply declined, it still approaches half, when the population is approximately 80 percent Black. Previously advantaged universities continue to produce the vast majority of graduates in the core science and applied science disciplines, with the growth of doctoral education at historically disadvantaged institutions (or units of institutions) concentrated in other areas, including the social sciences, education, and the humanities.

The national development plan for 2030 published in 2012 placed relatively little emphasis on equity in advanced higher education and instead fully embraced the assumption that the creation of a knowledge economy required a large expansion of doctoral programs focusing on science and technology disciplines. The plan set a very ambitious target of producing more than double the number of doctoral graduates by 2030. Without strategic innovation in doctoral education and a major infusion of resources it seems unrealistic that this goal can be met—particularly if
the emphasis remains on expensive research doctorates in science and technology. Without substantial enticement, doctoral programs whose faculties generally measure success against metrics derived externally, are unlikely to introduce the kinds of changes that might make major doctoral program expansion possible (McKenna 2017). The leading PhD programs remain committed to producing future faculty—a critical goal given the persistent low proportion of faculty with terminal degrees in South African institutions of higher education.

From the mid-1990s, South Africa has actively and successfully positioned itself as a destination for postgraduate students from other countries, notably from elsewhere in southern Africa and other parts of the continent. Compared to the financial burdens students might incur in programs in Western Europe or North America, South Africa represents a relative bargain; and for universities, these students have represented a source of revenue. At the same time a substantial proportion of South Africa’s success in increasing the number of African students in doctoral programs has involved students from outside South Africa. This is especially notable in the sciences (Keet 2020).

In South Africa, as across the continent, the shortage of research active senior faculty and the persistence of individual mentorship models in doctoral education has seriously undermined the drive to expand the numbers of doctoral graduates and to expand the numbers of Black students earning doctorates. Since 2000 the number of faculty with PhDs has expanded substantially, but by 2015 only natural sciences and humanities (with 52% and 55% respectively) could boast more than half with doctorates. Engineering was close to the bottom with only 37%. The relative small numbers of Black faculty who can act as mentors and role models further challenges these expansion efforts in many disciplines in South African universities (Mouton).

The Centre for Higher and Adult Education (CHAE) at Stellenbosch University has held a series of international conferences on postgraduate supervision since 2007 (http://www0.sun.ac.za/chae/conference/index.html) that have framed best practices in mentorship in international terms consistent with the efforts of leading South African universities to position themselves as institutions competing in a global knowledge economy (Fourie-Malherbe et al.). At the same time, this work explores the truly daunting challenges involved in the development of innovative models of doctoral education required for programs in South Africa, and across the African continent, to meet the challenges of burgeoning university student populations and demands for research productivity.

A comprehensive state-funded 2019 study of research funding and productivity in South Africa concluded that South Africa was “punching above its weight” in research productivity as measured by the volume and quality of publication in a global context (Mouton 2019). The report also documented the dominant position of South African and North African scholars in research productivity across the continent, with more than two thirds of all scholarly publications by Africa-based authors originating in those areas (Mouton 2019). The positive news regarding publication productivity was tempered by other sobering data regarding South Africa’s research infrastructure, which was characterized as underfunded and inadequate. Although South Africa clearly invested substantially more in research than other sub-Saharan African countries, the proportion of GDP devoted to R&D had not significantly expanded since 2000 and the levels of funding per capita remained far below that of other large economies in the Global South.
The report also documented a significant retreat on the part of private sector funders, largely a consequence of major South Africa-based corporations having been absorbed by trans-national entities. According to the report, however, a deliberate policy to provide state subsidies for doctoral students (and students in research master’s programs) has had substantial success, with numbers of students enrolled growing rapidly after 2000. Yet this policy had not resulted in an increase in the number of full-time equivalent research staff, which suggested problems ahead for efforts to propel a knowledge economy. The persistent underrepresentation of Black scholars among researchers equally pointed to future challenges. In the period from 2002 to 2015, the proportion of Black PIs on grants did increase rapidly, but the totals remained relatively low. For example, in the agricultural sciences (the discipline with the greatest success) the proportion increased from 9% to 37%. The engineering data showed an increase from 11% to 35% and the natural sciences, 14% to 30%. Interestingly the humanities lagged behind the scientific fields: the increase was from 9% to only 21% (Mouton 2019). These numbers suggest significant progress, but also signal a need for intensified effort if South Africa is to develop a faculty of the future that mirrors the undergraduate student population.

Shireen Motala has pointed out in a recent essay that the task of decolonizing South African universities (and African universities more broadly) offers substantial challenges amid heated debates regarding the meanings of equity and the demands on universities to propel national economic development (Motala 2018). Even as Motala notes, “enabling Africa to grow its own capacity for producing knowledge must remain a key principle,” innovation in doctoral education (including pipelines to doctoral education) designed to expand the numbers of doctoral graduates in critical disciplines can provide models that may prove valuable in the transformation of graduate education elsewhere including the United States and Europe.

**Supporting Postgraduate Education in Africa**

In the late 1990s and early 2000s, the combination of commitments to support development of knowledge economies and the challenges resulting from rapid university expansion built a broad consensus for investment in postgraduate programs, especially PhDs in what were perceived as the critical disciplines. According to a 2013 article in *University World News*, there was by then “broad agreement that Africa needs tens of thousands more PhDs, to renew an ageing professoriate and to staff rapidly expanding higher education, boost research and generate the high-level skills growing economics need” (MacGregor 2013). This article reported on a workshop on doctoral programs in Sub-Saharan Africa organized by the South Africa National Research Foundation and the Carnegie Corporation of New York. Beginning with the assumption that research and knowledge production play critical roles in socio-economic development, participants acknowledged that most African universities lacked the resources to effectively fulfil their research goals and expand and sustain strong postgraduate programs.

The challenge remains daunting. For example, in Ethiopia where rapid economic growth has driven the development of a sizeable middle class and the expectation of achieving middle income status, there were only 22 PhD students in local universities in 1999. By 2011 that number had jumped to almost 800, still a modest number for a population exceeding 100 million (Molla and Cuthbert 2016). It was estimated that even South Africa needed to raise the number
of doctoral graduates from approximately 1,500, the number at the time, to 6,000 by 2020—a goal that was correctly seen as unrealistic without a substantial infusion of additional resources.

In a context in which it was acknowledged that both students and faculty often valued degrees obtained overseas over those earned in Africa, discussion stressed the importance of building programs with international reputations for quality (Building PhD Capacity 2018). The starting point of the workshop was a fundamental conundrum: substantially expanding the number of doctoral graduates requires substantially more faculty supervisors; but expanding the number of faculty supervisors requires more PhD graduates. In a climate in which state financial support for graduate education is rarely prioritized, the focus of the workshop was on the development of innovative strategies that would move PhD education beyond the limitations of individual supervision while maintaining program quality and ensuring that PhD-trained faculty could be retained.

The workshop participants drew attention to a series of strategies that remain critical to doctoral program development and the development of research capacity. Although it would be naïve to diminish the profound resource challenges faced by most African universities, it is worth noting that these strategies do not fundamentally differ from those that leaders of universities in Europe and North America would list in parallel discussions.

Notwithstanding the rapid increase of university enrollments, expanding the pipeline of students with the particular training and interest to qualify for PhD programs (especially in STEM areas) remains a critical concern for postgraduate education leaders and program faculty in African universities. Massification of African universities has not only intensified the demand for qualified faculty but made it less likely that undergraduate students will have opportunities for the kinds of research experiences and individual mentorship that typically lead to postgraduate enrollment. In addition, the pull on resources associated with expansion of student populations has meant that less is available to support postgraduate programs and students when such programs were already typically underfunded. Even at some of the most prestigious research universities the proportion of postgraduate students has declined (Tettey 2009).

Master’s program enrollments have grown substantially as well, in some cases providing important revenue streams for institutions, but the students in these programs—substantially technical and career-oriented—rarely represent a pool of interest for recruitment to PhD study. Given the high percentage of academic staff lacking the terminal degree, a number of programs have provided incentives for existing faculty to complete doctorates. However, such faculty share the difficulties that their PhD student colleagues face in completing dissertations while employed. If they succeed it is relatively unlikely they will manage to sustain an ongoing research program and train PhD students themselves. Finally, outside of South Africa, males continue to dominate PhD programs both in faculty ranks and among students. The development of programs that build pools of prospective female postgraduate students represents an important goal.

Amid the admittedly meager literature on postgraduate education in Africa, student mentorship is the most prominent theme or focus. Although American models of university organization and instruction have become increasingly important in African universities, the highly individualized,
researched-focused approach to supervision associated with PhD programs in the United Kingdom and Europe have continued to shape African practice. As already noted, this represents a structural impediment to ramping up the production of doctoral graduates, exacerbated by thinning in the ranks of the senior professors who typically manage most PhD student supervision. The research initiative on postgraduate student mentorship based at Stellenbosch University in South Africa has attracted substantial attention in particular for the efforts there to consider models of mentorship that are rooted in local and regional circumstances (Fourie-Malherbe 2016).

Most recently the study of PhD education in Sub-Saharan Africa supported by the British Council and the German Academic Exchange Service (DAAD) has pointed to the need for strategic collaborations in order to achieve rapid growth in PhD graduation numbers (Building PhD Capacity 2018). This report, synthesizing more detailed examinations of PhD program development in six countries in Sub-Saharan Africa and reflecting other key studies of doctoral education, stresses both the imperative of expansion and the critical role of a range of collaborations in maintaining efficiency and quality in PhD programs (see British Academy 2009; Barnes and Tymowski 2007; International Association of Universities 2012). Certainly in Nigeria and a number of other African countries there is a tension (not dissimilar from debates in the United States and elsewhere) between those advocating for the concentration of resources at existing premier research universities (notably those member institutions of the Association of African Research Universities) and those claiming, at least implicitly, that only expansion of the numbers of PhD programs and the numbers of PhD-granting institutions can achieve continental PhD graduation goals and stimulate the economic development that is popularly associated with research and doctoral education.

Although this tension is far from resolved, regional and continental initiatives relating to doctoral education in Africa generally reflect an assumption that focused resource investment represents the preferred course (even as graduate programs proliferate in a number of countries). Drawing together data from a number of local, regional and externally-funded efforts to develop PhD education, the British Council/DAAD report concluded that students would profit from collaborative research training that extended existing individual mentorship models in single university contexts, to regional arrangements among universities, and through global mentorship partnerships that put students in team contexts. The report particularly drew on the success of a number of programs that linked students and scholars across the continent and in some cases with scholars abroad (note British Academy 2009; Barnes and Tymowski 2007).

It would be difficult to exaggerate the impact of World Bank initiatives in effecting the shift on the part of governments and funders toward support for postgraduate education in African universities. In the 2014 press release announcing the launch of the African Centers of Excellence (ACE) initiative, the then World Bank Vice-President for Africa Makhtar Diop stated, “I can think of no better way to grow African economics, create jobs, and support research in Africa, than educating young graduates with expertise in high-demand areas such as chemical engineering, crop science, and the control of infectious diseases” (World Bank 2014). As noted above, during the 1990s the Bank increasingly recognized the importance of higher education and research in promoting and sustaining economic growth. In 2014 the Bank moved decisively to initiate a model of postgraduate education that was Africa based, targeted toward
development-critical disciplinary areas and that invested in established public institutions through the creation of “centers of excellence” that would become regional hubs for advanced education and research (World Bank 2014). Now moving into its third cycle, the ACE program involves the investment of more than $450 million by the World Bank as well as substantial contributions from partner states and other funders (World Bank 2019). The Bank has funded the Association of African Universities to manage “coordination and knowledge sharing” among the centers.

The program by design focused on institutions in West and Central Africa, supporting centers in agriculture, health and STEM in Nigeria, Ghana, Togo, Senegal, Bénin, and Cameroon. Nine of the original 19 centers were located in Nigeria. The program announcement stressed the need for high-quality science and technology programs to attract promising local students and avoid the migration of productive scholars to North America and Europe. The emphasis on quality was underscored by noting that “not a single university from this part of Africa features in the rankings of the world’s top 500 universities” (World Bank 2014). This emphasis on the importance of building a cadre of locally-based researchers and “nurturing specialized world-class higher education institutions” in Africa was matched by a similar stress on the direct connection between the applied research to be undertaken through these centers and the fundamental human needs of people in societies where for example maternal mortality remained shockingly high. Thus, the centers at Université Cheikh Anta Diop in Sénégal and the University of Benin in Nigeria were dedicated to maternal and infant health. Other centers focused on tropical and infectious diseases, environmental sustainability and at the University of Port Harcourt in Nigeria, oil field chemicals.

The postgraduate degrees offered include PhDs and research master’s as well as more applied master’s. By 2019 there were 58 centers located in 45 universities in 19 countries, with a total of 24,000 students enrolled—10,500 at the master’s level and 2,400 at the PhD. The phase approved in 2019 supported 16 centers and two “emerging centers” that focus on master’s and undergraduate programs in the focus field. Each of the existing and new centers is regionally unique to avoid duplication and waste. Certainly, the Bank and its partners regard the initiative as having been successful in keeping “the best African talents in the continent as well as attracting the best African professors from the diaspora and ensuring the dissemination of knowledge throughout the sub-region” (World Bank 2019). The second phase of the ACE initiative involved universities in Ethiopia, Kenya, Uganda, Tanzania, Rwanda, Zambia and Malawi.

The World Bank ACE strategy in many respects took up the modernization and developmentalist perspectives articulated by first generation of nationalist intellectuals and political leaders, notably the Pan-Africanist, Kwame Nkrumah. Fittingly, one of the initial Centers of Excellence, in water and environmental sanitation, was located at the Kwame Nkrumah University of Science and Technology in Kumasi, Ghana. At the same time that the World Bank launched the much more robustly-funded ACEs, the African Union had moved ahead with implementation of the long-anticipated postgraduate Pan African University (PAU) (https://pau-au.africa/). Following approval by the heads of state in 2010, the Pau opened in 2011 with the establishment of a limited number of master’s and doctoral programs in four broad focus areas—each of which was based at a leading university: water and energy in Algeria at Abou Bekr Belkaid University
of Tlemcen; life and earth sciences including health and agriculture at the University of Ibadan in Nigeria; basic sciences, technology and innovation at the Jomo Kenyatta University of Agriculture and Technology in Kenya; governance, humanities and social sciences at the University of Yaounde II in Cameroon. A fifth center for space sciences is planned for South Africa but has not yet opened.

Like the World Bank ACE, the PAU strategy was to create regional or continental hubs where groups of highly qualified faculty would build high-quality programs relevant to Africa’s development needs that would attract students and researchers from across Africa. To date, the PAU has struggled to build a faculty base, instead relying on contract arrangements with faculty at other institutions (Waruru 2020). Critics have argued that a cumbersome governance structure has hampered the entrepreneurial initiatives that the PAU was designed to promote. Still, PAU programs have attracted significant numbers of applicants: more than 13,000 in 2019 compared to about 5,000 the previous year. Given limited financial resources and slots, the application process was highly competitive. Only 323 students were admitted to master’s programs and 119 for PhDs. The online arm of the PAU was due to open in 2020 in the midst of the COVID-19 pandemic.

The Africa Economic Research Consortium (AERC) established in 1988 represents a different, highly regarded approach to the strategy of concentrating resources to develop high-quality postgraduate programs (https://aercafrica.org/). The AERC, based in Nairobi, has developed a dispersed model that is aimed explicitly at expanding the pool of economic researchers in Sub-Saharan Africa through doctoral and master’s programs in economics and agricultural economics. There are three collaborative programs: a PhD, a master’s in economics for Anglophone Africa (except Nigeria) and a MS in Agricultural and Applied Economics for Eastern, Central and South Africa. 26 universities in 21 countries participate. Of those, four universities fully host core and electives, while seven offer core courses and fifteen send their students to the other universities. Begun in 2002, the PhD program involves eight degree-awarding universities in training future university faculty, researchers and policy analysts in a context that stresses an Africa focus and supports the retention of African scholars in Africa. Students take core courses at home institutions but are linked to colleagues across the continent through virtual seminars and networks. They gather in Nairobi for elective courses taught by leading international and Africa-based scholars. Students work with supervisors at their home institutions to develop dissertation topics but participate in a centralized proposal workshop.

RUFORUM, the Regional Universities Forum for Capacity Building in Agriculture, is similarly discipline focused. Although it promotes economies of scale through collaboration and academic mobility, it does not offer degrees. Established in 2004 by ten university Vice Chancellors, RUFORUM grew out of an agriculture research consortium supported by the Rockefeller Foundation (https://www.ruforum.org/about-us). With financial support from the Gates Foundation, it now involves 126 member universities in 38 countries. Conceived as a network to support development-related research and professional training, it is moving in the direction of establishing formal regional partnerships and supporting academic mobility.

Beginning in 2009, the Carnegie Corporation of New York, working with the American Council of Learned Societies (ACLS), funded a program of fellowships in the humanities for PhD
students and postdocs (https://www.acls.org/Competitions-and-Deadlines/African-Humanities-Program). Although Carnegie had a consistent history of support for higher education in Africa, this relatively modest initiative represents a systematic effort to achieve goals similar to those laid out by RUFORUM for agriculture research. Since 2009, more than 400 Africa-based junior scholars have received fellowship support and more than one hundred senior scholars have undertaken peer reviews of proposals and served as mentors for fellows, often in the context of workshops offered at African universities. The goal was the establishment of networks of support among African humanities scholars in African institutions and an organizational foundation for advocacy, which was realized with the formation of an African Humanities Association at a meeting in Abuja, Nigeria in February 2020.

Although these initiatives and others represent important efforts to develop and strengthen postgraduate education in African universities, the push to expand doctoral education has produced an expansion in the number of degree programs and student enrollments that far exceed the relatively small numbers engaged in critical initiatives like the World Bank ACE. And in contrast to students fortunate enough to be supported by the ACE, the Carnegie/ACLS humanities program or the PAU, most of these master’s and PhD students face enormous challenges finding the time and money to complete their degrees. For example, in Nigeria alone, there are almost 250,000 students enrolled in master’s and PhD programs (about 90,000 master’s students in the Nigerian Open University alone) at more than one hundred institutions.\(^1\) More than 25,000 of those students were enrolled in PhD programs at 77 institutions. There were more than 500 PhD students at twelve of those universities. Many of the remaining schools enroll quite small numbers. Convenant University, a Christian institution that is by some measures the leading research university in the country, in 2018 had about 450 PhD students (albeit concentrated in relatively few disciplines). Nigeria’s most prominent university, the University of Nigeria, Ibadan, hosts more than 4,000 PhD students, the largest number of any Nigerian university. Several other of the Federal institutions enroll PhD students in the thousands.\(^2\)

In contrast, in Sénégal, a country with less than 10 percent of the population of Nigeria, the proportion of PhD students to the total population is similar to Nigeria’s, with most of the country’s approximately 2,000 PhD students concentrated at just two universities, most at the major institution, Cheikh Anta Diop (Deme 2018). In Kenya, there are about 7,000 PhD students enrolled. While the proportion to the population is similar to that of Sénégal and Nigeria, the pattern of enrollment is dispersed like that of Nigeria (Barasa and Omulando 2018). Recent press reports have documented substantial problems with quality and attrition (Business Daily 2019). Although these numbers certainly raise issues regarding resources and program quality, they also testify to the powerful roles that postgraduate education and doctoral programs in particular are playing in contemporary Africa. While the impact of the dramatic growth in university education

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2 The National Universities Commission expressed concern in 2019 that a number of additional institutions were also awarding degrees in programs that had not in fact been approved. National Universities Commission, Nigeria, 2019, accessed Aug. 29, 2020. https://www.nuc.edu.ng/approved-universities-to-run-postgraduate-programmes/
and postgraduate programs remains to be assessed, the continued interest of the World Bank and other funders (as well as governments) in supporting this growth (at least in key select areas) is evidence of the potential for postgraduate programs and associated research programs to promote and sustain economic growth and raise people out of poverty. In addition to providing an appropriately trained faculty of the future for rapidly-expanding higher education institutions, training cadres of highly qualified master’s and doctorally-prepared professionals is also critical to ensuring a strong civil service and high-quality, locally-based professional leaders in the non-profit and private sectors.

**Conclusion**

In a paper circulated just prior to the COVID-19 pandemic, Paul Tiyambe Zeleza, Vice Chancellor of the United States International University-Africa, in Nairobi, sketched a rather bleak picture of the financial situation and stability of African universities and particularly those in Kenya (Zeleza 2020). Although Kenya may represent an extreme case, according to Zeleza, the “majority of the country’s universities are virtually bankrupt” and unable to meet salary obligations. Analyses of postgraduate and undergraduate education in Africa uniformly point to the fundamental inadequacy of financial support for higher education. Universities faced with a demographically driven rise in demand have responded by expanding enrollments and shifting the burden of university funding onto students, in the process undermining university reputations and placing a heavy debt burden on students—most of whom come from families with relatively limited resources. Upper middle class and wealthy families look to educate their children overseas and few students from overseas find African universities (with the partial exception of those in South Africa) attractive propositions for international study. Faced with the impracticality of raising tuition significantly, universities respond by increasing enrollments—perpetuating the cycle of overstrained resources. Given the uncertainty, many faculty must not only cope with expanding demands on their time but look for additional sources of income. This situation represents bad news for postgraduate students.

As previously noted, few if any African universities have sufficient numbers of PhD-trained faculty and many are woefully understaffed. It is estimated that in Kenya, for example, only 34 percent of faculty hold the terminal degree. In order to begin to close this gap, the Kenya government a number of years ago proposed producing one thousand PhD graduates each year. But that number has not even reached 700, and critics of the Kenyan educational system have charged that many of them are not well qualified. This shortfall contributes to quality concerns at all levels, but particularly for postgraduate programs.

What does this selection of examples and trends tell us about the future and prospects for postgraduate education in Africa? The recent British Council/DAAD report on doctoral education in Africa emphasizes a number of critical areas of concern regarding postgraduate education and PhD programs in particular. These areas are echoed in part or altogether in all of the limited number of studies that address postgraduate education in Africa. These areas are in addition to those systemic issues faced by higher education more generally, including weak infrastructure, political instability, limited regulatory oversight, and alignment of investment with stated policy goals.
1. The shortage of qualified, research-active faculty to train PhD students; this relates to the
development of new models of doctoral training that provide alternatives to highly
individual mentoring models and exclusive emphasis on research projects. The individual
research model provides little space to prepare doctoral students as future faculty.
2. Insufficiency of support for faculty, including salaries and in particular research funding
and funds to support professional activities;
3. Lack or insufficiency of funding for doctoral students. As a result, a large proportion of
doc toral students attend part time, work at other jobs, and often experience high degrees
of precarity. Rates of attrition are often extremely high.
4. The importance of the collection and analysis of appropriate data to measure program
quality and the impact of postgraduate education on social and economic development.
5. The need for enhanced national, regional, continental and international collaborations to
contribute to solutions for these first four areas of concern;
6. Insufficient alignment of program development with economic and social needs in local
and regional economies can result in absence of professional opportunity, contributing to
emigration and underemployment. This also involves substantially increased engagement
with industry and other employers.
7. The dearth of structural opportunities for graduate education leaders to develop and
disseminate best practices and articulate and advocate for common issues of concern.
The initiatives discussed above, including RUFORM, the Africa Humanities Association,
and the meetings supported by the World Bank ACE programs have demonstrated the
importance of such opportunities. The Council of Graduate Schools Africa Global South
initiative (see below) with its Africa-based partners represents an effort to address this
area of concern (a brief summary of that project is appended).

The COVID-19 Impact

Since the onset of the pandemic, a great deal has been published documenting specific
challenges and responses in particular African countries and universities, but at this point (June
2022) the longer term impact of the pandemic on postgraduate education and higher education
generally remains uncertain. In the short term the pandemic has put into stark relief regional and
global inequalities, particularly related to technology infrastructure and funding. The impact of
the pandemic on enrollment and completion at the undergraduate and postgraduate levels has yet
to be systematically assessed. The longer term effects of reduced funding and other cutbacks also
remain unclear, especially as the pandemic merges into an uncertain period of global economic
instability. Even as universities in Africa as well as elsewhere have resumed in person
instruction and research, however, it is apparent that at least for the near term faculty, researchers
and students in Africa and globally have integrated virtual communication into their research and
educational lives to an unprecedented degree. This shift creates a context for postgraduate
program innovation through regional and global networks and collaborations.
Sources Cited


Da Wan, Chang and Abel Benjamin Lim, “Developing Doctoral Education to Achieve the Sustainable Development Goals: The Case of Commonwealth African Countries,” in Tackling


Council of Graduate Schools Global South Initiative

The purpose of the CGS Global South Initiative is to develop a comprehensive strategy for expanding connections and developing a sustainable network of networks between CGS member universities and their counterparts in the Global South. An ad-hoc committee, chaired by Janet Rutledge, Vice Provost and Dean of the Graduate School at the University of Maryland Baltimore Count, seeks to identify strategies for collaboration between CGS and CGS member institutions and universities in the Global South focused on building research and postgraduate educational capacity in those areas of Africa and Latin America not already actively engaged in global partnerships or collaborations. It will identify promising models and financial support for global collaborations that have the capacity to be scaled and sustained and promote mechanisms for sustainable two-way flow of students with institutions in the Global South. Those interested in contributing to the committee’s work should contact Dean Rutledge:

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The Council of Graduate Schools is the only organization in the United States that is dedicated solely to the advancement of post-graduate education and research. The Council, based in Washington, DC, represents nearly 500 member institutions in the United States and Canada, as well as a number of universities internationally. Member universities award the vast majority of U.S. doctoral degrees and a majority of master’s. The Council advocates in support of post-graduate education in the policy arena, engages in innovative research, and facilitates the development and dissemination of best practices in doctoral and master’s education in all fields. The Council is strongly committed to global engagement, including support for an annual Global Summit of post-graduate education leaders and innovators. As part of this commitment, the Council is working to build strategic alliances with post-graduate education institutions beyond North America, including sub-Saharan Africa. [https://cgsnet.org]

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