

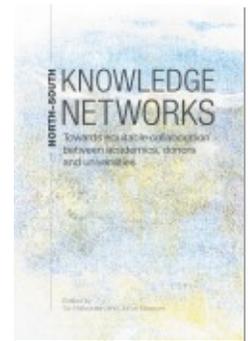


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North-South Knowledge Networks Towards Equitable Collaboration Between

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CHAPTER 4

The status of research at three Ugandan universities

ABK Kasozi

In this chapter, I review research at three Ugandan universities. My main focus is Makerere University in Kampala but I also make some observations about the Mbarara University of Science and Technology and the Uganda Christian University in Mukono. I argue that although Makerere University has achieved some impressive results in research, the lack of local funding, an unfriendly legal framework, inadequate research-management systems, and an overemphasis on teaching at the expense of research, are undermining its struggling research capacity. This study shows that micro-level co-operation between academic staff and institutions of the North and the South should supplement, and eventually overtake, African universities' existing agreements with large multilateral institutions such as the World Bank, the IMF, UNESCO, the OECD, ISESCO and so on. Such co-operation will enhance the research function of African universities.

Understanding the background

Most of Africa's universities were established to train a handful of the more obedient local elites as civil servants so that they could be relied

on to keep the colonial system's administrative and economic systems running smoothly. Higher education has therefore always been, and still is, elitist.

The role of African universities did not change as the continent achieved political independence. Between 1960 and 1980, African universities remained 'development institutions', designed to produce the workforce that African countries needed for state administration (Yesufu 1973; see also the Accra Declaration). Research was never emphasised, and even teaching staff were able to access only the bare minimum in terms of equipment, books and facilities. From the 1970s to the 2000s, many African states weakened to the point of collapse (Harrison 2004), and years of mismanagement by military and authoritarian regimes seriously undermined Africa's universities. Most universities lost any autonomy they might have hoped to win with the ending of colonialism; nationalisation turned most of them into government institutions and they began to be governed as state departments.

When multilateral organisations such as the World Bank and the IMF imposed their conditionalities on collapsing African states from the 1980s onwards, the accompanying neoliberal policies further undermined African universities. Based on a theory that rates of return on higher education were lower than those from basic education, and that higher education primarily benefited private and not public interests (Psacharopoulos 1980; Psacharopoulos et al. 1986), African countries were encouraged to spend less on higher education. The World Bank considerably reduced its own spending on higher education in Africa (Banya and Elu 2001; Carrol 2005; Kasozi 2009). In 2008, the World Bank noted that its 'official development assistance to postsecondary education averaged just US\$110 million a year between 1990 to 1999' and that its 'financing for tertiary education on the continent, which had averaged US\$103 million annually from FY90-FY94 declined to US\$30.8 million per year from FY95-FY99' (World Bank 2008: 1, 2). African governments were encouraged to view higher education as a luxury and enormous budget cuts to higher education spending drastically weakened universities in a number of African countries. From 1980 to 2002, public expenditure per student fell from US\$6 800 to

\$1 200, and by the mid 2000s, it had dropped to a per student average of \$981 in 33 sub-Saharan African countries (World Bank: 2008: xxvii).

The funding cuts dealt a major blow to research and knowledge production in universities, and by 2008, the continent's academics were contributing less than 3 per cent of articles published in international journals (Paul Zeleza quoted in Cloete et al. 2015: 8). In Uganda, from 1985 to 2005, the Ministry of Education allocated an average of between 9 and 11 per cent of its budget to higher education, and over 60 per cent to basic education.¹ The Ugandan government still sees universities primarily as teaching institutions, and has barely funded research since the mid 1990s. In the 2014/2015 financial year, research at Ugandan universities was allocated just 420 million shillings (about US\$210 000) in state funding.²

It is clear therefore that the education policies of the World Bank and other multilateral financial institutions have had disastrous consequences for African institutions of higher learning. While advancing their own ideological agendas, these macro-level 'same-size-fits-all' policies have neither emphasised the knowledge production function of universities nor have they facilitated the production of the next generation of academics in Africa.

The urgency of research and knowledge

So, how can Southern institutions support one another to enhance research and knowledge accumulation while working with their Northern counterparts? Can collaboration between North and South at institutional and faculty levels enhance research capacity in the South and give both Southern and Northern collaborators greater insight into global problems?

In this information age, knowledge plays a key role in development (World Bank 2000, 2002, 2006, 2008). Human societies need knowledge to manage all their activities and resolve problems that arise. Higher education institutions, particularly universities, are major sites of knowledge production. Because of this, universities should be at the centre of any country's innovation system (this includes public and

private research centres funded by industry and commerce). But universities do not only produce knowledge, they also pass on knowledge to the next generation, award academic and professional qualifications, recruit social elites and diffuse dominant ideologies into society (Castells 2001; see also Cloete et al. 2015). Unfortunately, African universities have never fully carried out their knowledge-creation functions effectively for a number of reasons, some of which I discuss briefly in the sections that follow.

Gaps in the creation of home-grown knowledge

Ideally, collaboration between North and South, at the inter-faculty, inter-institutional or bilateral-agency levels should advance home-grown knowledge. Instead, multilateral agencies tend to draw up blueprints of knowledge for emulation and implementation by weaker Southern partners. These blueprints are often loaded with cultural and ideological content generated by the major powers.

The importing of these conceptual models that are allegedly ‘universally applicable’ is one of the major causes of slow development in Africa (Okolie 2003). African farmers, for example, tend to embrace only those agricultural technologies that are not contrary to their beliefs or ways of life, and which are affordable, safe and sustainable. However, most of what is taught in our agricultural faculties and colleges is based on Western agricultural practices. These assume that mechanised, large-scale commercial farming is the ultimate goal, despite its high costs, and disastrous social and environmental impacts. For this reason, most African academics agree that scholars who have knowledge and experience of African conditions must produce Africa-centred knowledge.

Researchers and teachers in African universities should be trained in the environments they are likely to work in if they are to appreciate the problems they will be called upon to resolve. In this way, they will ask the right questions when confronted with problems for resolution. Due to the lack of funding, homegrown researchers and supportive research environments, most of what is taught in African universities is imported. Virtually all the knowledge quoted in the Science Citation

Index is produced in developed countries. No wonder Africa remains peripheral in terms of knowledge production (Altbach 2002, 2003). Although African-produced academic articles rose from 1 250 in 1996 to 5 200 in 2006, this still comprised only about 2.3 per cent of global output (Musiige and Maassen 2015). Clearly, this is an area where improvement is needed and collaboration is feasible.

Too little funding for research

How can African scholars co-operate to lobby governments to fund research as a major function of universities? Most African leaders see universities as teaching institutions and therefore do not sufficiently fund knowledge production. Yet, poor funding is a key reason for the lack of research outputs from sub-Saharan Africa. From 2008 to 2012, most developing nations spent the equivalent of 3 to 4 per cent of their country's total GDP on research and development. In the same period, African countries spent the equivalent of less than 1 per cent of their (much smaller) GDPs on 'mainstream science-based' research (Sanyal and Varghese 2006; Teferra and Altbach 2003). Uganda performs even worse than the rest of sub-Saharan Africa when it comes to funding research. In 2007, the country spent the equivalent of 0.41 per cent of its GDP on research and development and relied on external funding for a good percentage of its research expenditure (Cloete et al. 2015: 151).

Looking back to how this came about, Mamdani has reported that, in 1993, 'both the [Makerere] University and the government suspended research funding' (2007: 131). Although the government then allocated 300 million shillings (about US\$3 million at the time) towards research in its 1994/1995 budget, general state policy was to do away with research funding. In December 1996, the 'government scrapped scholarships for graduate studies' (Mamdani 2007: 131) and linked all further training to public staffing requirements. This meant that government funding for all other types of research – including basic research, applied research, strategic research, and the training of a national cadre of highly skilled researchers at universities – was scrapped. According to statistics supplied by the Ministry of Education

for the period 2000 to 2007, basic research was not funded.³ Fortunately reasonable funding from donors helped to fill part of the vacuum.

Issues of institutional autonomy

How should university autonomy be understood, and how do different types of autonomy influence the way research is done? A major obstacle to expanding and enhancing research at Makerere and other Ugandan universities is the lack of institutional autonomy and academic freedom. In Uganda, universities have passed through various stages, being: institutions for training African colonial functionaries (1948–1963); regional and independent universities (1963–1970); national institutions governed from the Ministry of Education (1970–2001); and semi-autonomous institutions with key management areas still controlled by the state (since 2001). The Universities and Tertiary Institutions Act of 2001 granted Ugandan universities some freedoms, but they remain stifled in many ways. For example, section 6A of the Act (as amended in 2006) states:

The Minister may issue directives of a policy nature to all institutions of higher education, whether public or private, and the institutions shall give effect to those directives.

Accordingly, although, under section 41, university councils have powers to ‘fix scales of fees and boarding charges’, the government prevented Makerere University’s council from increasing fees in the 2004/2005 academic year and again in 2014. In addition, section 62(3) of the Act forbids public universities from spending any money not approved by the Ugandan parliament, and section 59(5) states that no public university has the right to invest any of its funds without approval of the minister of education. The Treasury can also ask public universities to remit monies collected to the government under section 44(4) of the Public Finance and Accountability Act. All these legal restrictions means that universities in Uganda, particularly public universities, have no power to freely manage their finances, and therefore cannot accumulate funds for academic or research purposes.

Types of research conducted at Ugandan universities

Research activities in Ugandan universities can be classified into six broad categories. A few staff and students do the critically important basic or *disinterested research* conducted solely with the aim of searching for truth. However, research with immediate practical outcomes for implementation is preferred. The majority of academics and institutions therefore seek out and conduct *applied research* with the aim of resolving specific social or scientific problems.

Makerere and Mbarara universities are involved in a number of research projects that aim to find solutions to various medical, agricultural and social problems. The College of Agriculture at Makerere University has done pioneering work in its efforts to modernise agriculture, prevent animal and plant diseases and conserve the environment. The Mountains of the Moon University, in the town of Fort Portal in Central Western Uganda, conducts a number of research projects in horticulture and ecology.

Meanwhile public and chartered university institutions are permitted to train postgraduate students to carry out *training-based research*, to fulfil the requirements of masters and doctoral degrees. Virtually every academic in Uganda attempts to obtain *consultancies*, which sometimes bring new information to light. Both local and international issues are addressed, and the research is often carried out on behalf of businesses or NGOs. Perhaps the most sought after form of research is *donor-driven*. A number of foreign donor agencies have supported research in Uganda. Most donor-driven research has focused on social and scientific issues. In the process, new knowledge has been produced and academics have been trained. Many of the beneficiaries have been the applied science-based faculties that work in sectors such as agriculture, forestry, health and technology. External donors are, understandably, interested in funding areas that they consider important. Lastly, some academics conduct *publication-driven research* aimed at increasing their publication records with a view to promotion and academic advancement.

Research and research capacities

Despite all the obstacles they face, Ugandan academics persist in conducting research, disseminating their results, and training postgraduate students. In this section, I focus on the status of research and research capacity at Makerere University and then briefly touch on two other higher education institutions. All three institutions have benefited from collaborating with universities and researchers from the North.

Makerere University

Research capacity depends on qualified academic staff, adequate facilities, a friendly legal framework that gives institutions the freedom to conduct research, and a good graduate-training system. Makerere University was established as a training institution (Sicherman 2005). Not only has it stuck to this tradition but new universities have followed its example. The massification of tertiary education has made Makerere University's problems more acute by dramatically increasing the need for additional lecturers. As shown in Table 4.1, in the 2012/2013 academic year, Uganda had only 973 PhD graduates, but in the same year over 200 000 students were registered to study at the country's 30 universities (UNCHE forthcoming).

In the 2012/2013 academic year, about 69 per cent of the country's PhD graduates were at, or associated with, Makerere University (see Table 4.2). That is, of the university's 1 585 academic staff, 640 or approximately 40 per cent had terminal degrees. Of the administrative staff, 23 had PhDs and another 12 non-administrative support staff also held this qualification.

The staff attrition rate at Makerere University increased when retirement was made mandatory for employees when they reach 60 years of age. Many seasoned academics were forced to leave and the university was unable to replace them with people of similar calibre. Of late, however, professors aged between 60 and 70 can be hired on contract, but this issue is being debated and had not been finalised when this chapter was written. Competition from smaller universities, as well as from the public and private sectors, is also having an impact on

Table 4.1: Distribution of academic staff in Uganda by qualification, 2004–2013

Qualification	2004/05	2005/06	2006/07	2010/11	2011/12	2012/13
PhD (%)	549 (10%)	558 (11%)	746 (12%)	858 (11%)	914 (11%)	973 (10%)
Masters (%)	2 221 (42%)	2 167 (41%)	2 651 (41%)	2 967 (38%)	3 657 (42%)	3 455 (37%)
Bachelor (%)	1 715 (33%)	1 694 (32%)	1 949 (30%)	2 621 (34%)	2 923 (34%)	2 585 (27%)
PGD (%)	?? (0%)	153 (3%)	224 (3%)	209 (3%)	269 (3%)	264 (3%)
Other (%)	764 (15%)	686 (13%)	895 (14%)	1 214 (16%)	939 (11%)	2 187 (24%)
Total (%)	5 249 (100%)	5 258 (100%)	6 465 (100%)	7 785 (100%)	8 594 (100%)	9 464 (100%)

Source: UNCHE (forthcoming)

reducing the proportion of senior staff at Makerere. In 2014, for example, the university's academic staff dropped from 1 585 to 1 447.

Postgraduate training

Despite having attracted the highest number of the country's PhD graduates, Makerere's facilities in terms of book-to-student ratios, internet access, library space, classroom space, laboratory facilities and administrative infrastructure, are not particularly conducive to research. Nevertheless, the training of the next generation of academics at doctoral level is integral to higher-education-based research, and contributes to the vibrancy of the research culture at any university. One area of collaboration that can, and I think it has, benefited both North and South is the training of doctoral students at Northern institutions, as long as Southern students continue to have study periods and assignments in the local environments in which they will be expected to work after they have graduated. Makerere University has benefited from such collaboration, and a number of postgraduates have received financial and intellectual assistance from institutions from abroad. Table 4.3 lists the numbers of doctoral students who graduated

Table 4.2: Qualifications of academic, administrative and support staff at Makerere University, January 2014

Academic department	Full-time staff				Part-time staff	Grand total
	PhD	Masters	Bachelors	Sub-total	Various degrees	
Agricultural and Environmental Sciences	118	4	61	183	14	197
Business and Management Sciences	36	10	69	115	12	127
Computing and Information Sciences	25	2	62	89	1	90
Education and External Studies	54	4	55	113	3	116
Engineering Design, Art and Technology	55	5	86	146	6	152
Health Sciences	70	11	203	284	19	303
Humanities and Social Sciences	137	11	120	268	4	272
Natural Sciences	89	4	59	152	9	161
Veterinary Medicine	37	4	54	95	2	97
School of Law	16	5	23	44	2	46
Jinja campus	3	13	8	24	0	24
Admin and support staff	35					
Total	675	73	800	1 513	72	1 585

Data source: Obtained from Makerere University's administrative staff linked to colleges, department and research units

from Makerere University between 2008 and 2014. Several of these had dual registration at Makerere and an overseas institution. Immersion in a local area helps students learn to ask relevant questions and helps them to frame their conclusions appropriately, while visiting overseas institutions helps students to appreciate global issues and problems and broadens their experience of academic study.

Table 4.3: Doctorates completed at Makerere University, 2008–2014

College/discipline	2008	2009	2010	2011	2012	2013	2014
Agriculture and Environmental Sciences	1	6	3	12	8	7	12
Business and Management Sciences	1	0	0	5	3	8	8
Computing and Information Sciences	0	1	2	3	4	4	0
Education and External Studies	1	3	1	5	10	12	6
Engineering, Design, Art, and Technology	1	3	4	4	1	6	4
Health Sciences	0	5	1	4	9	3	4
Humanities and Social Sciences	0	4	20	7	4	6	13
Law	0	0	0	0	0	3	0
Total	4	22	31	40	39	49	47

Data source: Senate Graduation Books

Research output

From 2005 to 2012, Makerere University made significant strides in terms of disseminating its research results. With increased foreign funding, Makerere’s research outputs, in the form of publications and doctoral theses, increased tremendously, accounting for over 70 per cent of Uganda’s publication output (Cloete et al. 2015: 116). Table 4.4 gives the picture.

In an assessment of Africa’s ‘flagship’ universities published by Cloete et al. in 2015, Makerere University was ranked second to South Africa’s University of Cape Town in terms of research and publication output for the period 2007 to 2011, and first in terms of international co-operation for the period 2006 to 2012. However, in spite of this success, there are four major weaknesses that Makerere and its stakeholders must resolve if the institution is to maintain and improve its knowledge-production function.

Firstly, the institution is dependent on external funding for these activities. Figure 4.1 shows some of the donors that funded research

Table 4.4: Research-related publications and doctoral theses produced by disciplines at Makerere University, 2010–2012

Fields of study	2010	2011	2012
Business and Management	3	4	10
Science and Technology	2 374	2 293	2 164
Humanities and Social Sciences	22	13	21
Education	22	33	27

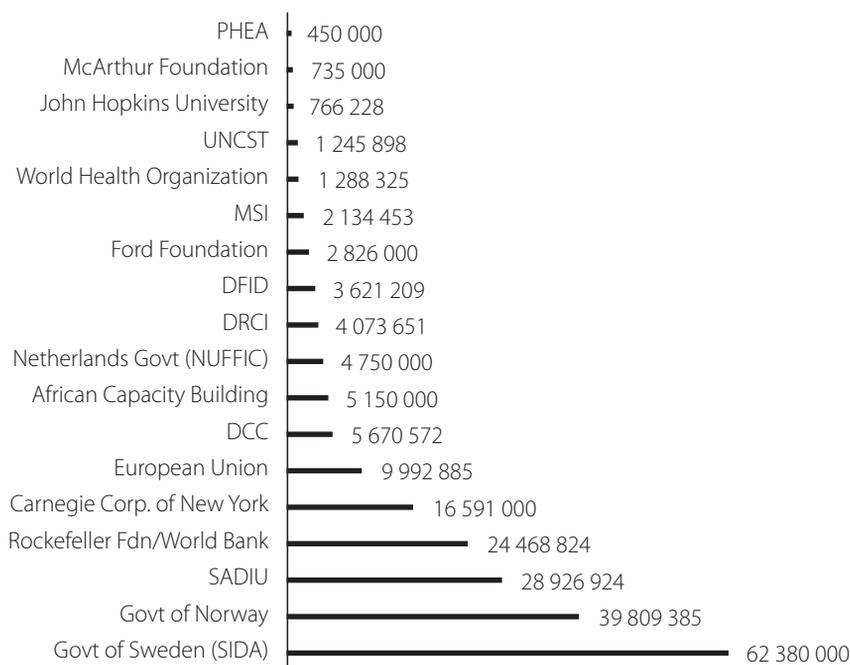
Data source: Directorate of Quality Assurance, Makerere University

via the university from 2000 to 2012. By 2013, 80 per cent of the US\$85 million available for research funding came from foreign donors (Musige and Maassen, 2015: 122). In my view, there is nothing wrong with foreign funding. Many universities in the North *and* South obtain foreign funding that opens the door to opportunities that any university should be happy to receive. It is, however, unsustainable for any university to rely *primarily* on external funding because these funds are affected by several variables that the universities cannot control. Donors' priorities change, diplomatic relations with donor governments can be unpredictable, and strict conditions or forms of soft manipulation can be imposed on recipients. Makerere University urgently needs to develop a strategy for sustaining its research output and ensuring that it has funding sources that can be depended on if donors decide to close their taps.

Secondly, Makerere is still mainly an undergraduate teaching institution. By late 2014, undergraduate students made up more than 80 per cent of total enrolment, and staff could not handle the teaching load effectively. Further, too few staff are qualified to teach postgraduates. With just 675 (43 per cent) of staff holding PhDs, 57 per cent of the academic staff were qualified to teach undergraduates only. They could supervise neither doctoral students nor carry out serious research. Table 4.5 highlights this problem in more detail.

As shown in Table 4.5, most programmes, especially those in the College of Arts and Humanities, were oversubscribed and understaffed. Only the Colleges of Health Science, Natural Science and Veterinary Science met the National Council for Higher Education's benchmarks

Figure 4.1: Research funding given to Makerere University by donors, 2000–2012



Note: PHEA = Partnerships for Higher Education in Africa; UNCST = Uganda National Council for Science and Technology; MSI = Millenium Science Initiative of the UNCST; DFID = Department for International Development, UK; IDRC = International Development Research Centre; CDC = Centers for Disease Control and Prevention; USAID = US Agency for International Development

Data source: Directorate of Quality Assurance, Makerere University

for staff-to-student ratios. It is no coincidence that faculties and colleges that are less crowded publish more research than the overcrowded ones. For example in 2012, the faculties related to science and technology produced more than 90 per cent of Makerere’s research output (2 164 compared to 58 for Business, Humanities and Education combined, as shown in Table 4.4). This was also true in 2010 and 2011.

Thirdly, the management of research at Makerere, as in most Ugandan universities, is disorganised. After experiencing much frustration while trying to obtain data from various academic units at the university, my research assistant noted that, ‘There is no central office that records and documents research projects and the publications of

Table 4.5: Undergraduate student/staff statistics at Makerere University, December 2014

College	Students			Staff	Ratio of students per staff member	Ratio recommended by the UNCHE
	Female	Male	Total			
Agriculture	927	1 471	2 398	151	16	10
Engineering	835	2 458	3 293	143	23	10
Education	3 139	3 658	6 797	118	58	15
Health Science	592	1 145	1 737	313	6	8
Humanities and Social Sciences	5 389	3 437	8 826	215	41	24
Business and Management	2 472	3 054	5 526	128	43	24
Computing and Information	1 982	2 529	4 511	94	48	24
Natural Science	380	904	1 284	153	8	10
Veterinary Medicine	241	536	777	89	8	8
Fort-Portal campus	21	38	59	n/a	n/a	
Jinja campus	207	244	451	n/a	n/a	
Law Development Centre	550	855	1 405	43	32	24
Business School	3 807	2 403	6 210	n/a		
Total			43 274	1 447		

Note: Makerere University is divided into a number of colleges on its main campus, and has two up-country campuses, one at Fort Portal to the west and one at Jinja to the east.

Sources: UNCHE (forthcoming) and the Directory of Quality Assurance, Makerere University

staff at unit or departmental levels.’ (Two exceptions to this are described in the next section of the chapter.)

Lastly, the creation of Makerere University’s college system was rushed. The roles of the colleges and the faculties in relation to academic departments are not properly defined. In most universities, departments are hives of research and teaching activities, the recipients of research and innovation funding and the distributors of privileges and sanctions. But these roles were blurred when the colleges were

established as a kind of superstructure above the departments and faculties. As a result, deans of faculties and principals of colleges struggle to manage their academic and financial affairs. To sustain even the modest momentum attained in research activities to date, Makerere's researchers and administrators must improve their management of this important university function.

Research at other universities in Uganda

In Uganda, public and chartered private universities are permitted to offer graduate programmes. As part of a broader research project, I surveyed 15 tertiary institutions (see Appendix 1 for a full list of Uganda's tertiary institutions). Most had similar problems to those experienced at Makerere University. However, due to the lack of staff and facilities, some had begun to 'churn out' improperly trained doctoral candidates. In 2012, for example, the Uganda National Council for Higher Education (UNCHE) used its powers to ask one institution to review more than 40 PhD degrees that it had planned to award in one academic year!⁴ Nevertheless, I identified two institutions – Mbarara University of Science and Technology and the Uganda Christian University – that I think organised and managed their research functions slightly better than Makerere University, although their outputs were relative to their respective sizes. Although both institutions are much smaller in terms of enrolment and infrastructure, they have laid good foundations for the management of research. Both institutions have created elaborate mechanisms for collaborating with international academics and research institutions, and some of their staff and students benefit from these collaborations. These two university institutions are briefly reviewed below.

Mbarara University of Science and Technology (MUST)

MUST's research efforts are well organised. Its Centralized Institutional Research Innovations and Management Office (CIRIMO) co-ordinates effectively with units (departments) that report directly to faculties or

institutes. In addition, the university has a *Grants Management Manual*, a strategic plan for research, and a 'Research Innovations, Management and Uptake Policy'. At the time of writing, MUST's research policy was being reworked and was expected to be approved shortly thereafter. In addition, the medical faculty has its own research administration office and its own strategic plans.

In the 2014/2015 financial year, MUST received 75 million shillings (US\$37 500) from the Ugandan government and 260 million shillings (US\$130 000) from non-taxable revenue for research – a total of 335 million shillings. This was distributed to the institution's five faculties as follows: Faculty of Medicine, 85.5 million shillings (US\$42 750); Faculty of Science, 85.5 million shillings (US\$42 750); Institute of Computer Science, 55 million shillings (US\$27 500); Institute of Management Science, 55 million shillings (US\$27 500); and Institute of Interdisciplinary Training and Research, 50 million shillings (US\$2 500).

The university also obtained funding from a number of state agencies and foreign governments including the National Institute of Health, the Center for Global Health, the European Union, the United Nations (through World Vision), the Bill and Melinda Gates Foundation, Grand Challenge Canada, VLIR-UOS (for the Belgian government), Google, the Ugandan Ministry of Health, the Rockefeller Foundation, as well as from the governments of Sweden, the Netherlands, the UK, the US and others.

What is impressive is that the university spent 335 million shillings (US\$167 000)(about 4 per cent) of its annual budget of 7 810 million shillings (US\$4 million) on research in the 2014/2015 financial year.

MUST does not have its own publishing unit, but certain faculties have plans to start publishing their own journals. Researchers for the Institute for Tropical Forest Conservation, a semi-autonomous post-graduate research institute linked to the university have published work in highly regarded ISI journals such as *Conservation Biology*, *Oryx*, *Forest Ecology and Management* and *The Lancet*, among others.

MUST also collaborates in various ways with a number of institutions nationally and internationally. These include: Massachusetts General Hospital, the University of Calgary, the University of California

San Francisco, Harvard University, Johns Hopkins University, the University of British Columbia, MUST Bogoye, Case Western Reserve University, Indiana University, the University of Minnesota, Ghent University, Oxford University, the University of KwaZulu-Natal, Moi University, Makerere University, Gulu University, Busitema University and Kampala International University (Western Campus).

All five of MUST's faculties prepare students for bachelors, masters and PhD degrees. In addition, research teams of staff and students undertake non-degree-related research through MUST's Epicentre Research Base. Meanwhile, the Consortium for Affordable Medical Technologies (CAMTech) aims to accelerate innovations in medical technology and build entrepreneurial capacity to improve health in low-and middle-income countries.⁵

Uganda Christian University, Mukono

Alumni of the Uganda Christian University have an excellent reputation among employers in Uganda. That the university has begun to put a modest research infrastructure in place is evident from the following:

- 1 per cent of the university's total budget is allocated to research and publications. In the 2013/2014 financial year, this amounted to about 370 million shillings (US\$185 000).
- The institution also receives some research funding from Christian donor organisations, and collaborates with several international Anglican research and training institutions.
- The university's research activities are organised under the umbrella of its School of Research and Postgraduate Studies.
- The university has a fully-fledged research policy, a student research manual, a digital repository, an open-access policy, as well as a university bulletin in which academics and students can publish information about their research.
- At the time of writing, only one staff member's work had been included in international journal listings.

The university's research infrastructure includes the new Ham Mukasa Library, which has good ICT facilities and dedicated staff. The shortage

of terminal degree holders in Uganda is, however, hampering the institution's efforts to train its staff and enrol larger cohorts of postgraduate students.

Conclusions

Although Uganda's higher education sector is both cash-strapped and legally disempowered, research activities are still taking place at several of the country's tertiary institutions. However, most Ugandan universities see themselves mainly as teaching institutions, and do not aim to produce substantial new knowledge. University management teams tend to perceive their institutions primarily as places of teaching, and seem to see research as a lower priority. In my view, co-operation between national, regional and international institutions is needed to advance the basic notion that knowledge production *should be* a major function of *all* universities.

As relative latecomers to the establishment of universities, polytechnics and research centres as centres of knowledge creation, Africa must collaborate with regions and states that have nurtured such institutions for centuries. However, Africa needs homegrown thinkers who are able to use locally focused conceptual models to resolve local problems.

To avoid repeating mistakes made in the past, levels, types and methods of cross-regional co-operation must be carefully defined. Co-operation and relationships should hinge on the assumption that universities are primarily centres of knowledge creation and that good teaching is the *product* of quality research.

While, in the past, international and multilateral bodies allocated most of their resources to co-operation at a macro level, it is high time that more emphasis is placed on the micro levels of individuals, faculties and institutions, via country-specific and bilateral relationships. Unfortunately, even this form of co-operation is likely to remain unequal in terms of financial and intellectual resources. The North tends to have more of both than the South. To remedy this, the South must take

responsibility for funding their own research and teaching institutions. The South must nurture their own academics and develop local research capacities in their universities and other research institutions. Donors cannot forever bear the burden of funding research in Africa's universities.

Defined co-operation can help African academics to devise ways of lobbying governments not only to increase funding, but also to free universities from government-imposed red tape. For now, in a number of countries in the South, universities' research efforts are crippled by their lack of funding and an absence of institutional autonomy. Yet, the need to improve the knowledge production function of universities in the South remains (Cloete et al. 2015).

In my view, it is better to train doctoral students in their native environment if they are to participate in resolving local problems. In addition, while the South needs to increase its numbers in this area, it is important to acknowledge that students from the North gain much from study trips to the South and from consulting Southern academics.

The following are key areas that must be addressed:

- Co-operation at the micro level between faculties and institutions, and bilateral relations between countries in the North and South should be encouraged because this is likely to be less loaded with mismatched ideologies.
- The need to transform African universities from being mainly teaching institutions to both instructional and knowledge-producing institutions should be an area for urgent co-operation.
- The dearth of research funding from government and other state institutions in the South should be addressed, and ought to be led by Southerners themselves. Northern academics can help with strategic advice but they cannot go lobbying in our corridors of power.
- North–South co-operation must be acknowledged as being of benefit to both parties. While the South can benefit from the resources of the North, the latter can benefit from experiencing problems of global development, as well as from the insights and resilience that can be derived from different worldviews.

As shown, the universities of Makerere and Mbarara and the Uganda Christian University have begun conducting reasonable amounts of new research in a small set of disciplines; however, their ability to continue to do so is threatened by unstable funding regimes and a lack of autonomy in key areas of financial management. In addition, the mismanagement of research activities, a lack of qualified academic staff and the absence of a well-structured programme for training the next generation of academics, pose serious threats.

Appendix 1: Accredited universities in Uganda in 2012/2013

Name	Website	District	Founded in
Public universities			
Makerere University	www.mak.ac.ug	Kampala	1922
Mbarara University of Science and Technology	www.must.ac.ug	Mbarara	1989
Gulu University	www.gu.ac.ug	Gulu	2002
Kyambogo University	www.kyu.ac.ug	Kampala	2002
Busitema University	http://busitema.ac.ug	Busia	2007
Muni University		Arua	2013
Private universities			
Islamic University in Uganda	www.iuiu.ac.ug	Mbale	1988
Ndejje University	www.ndejjeuniversity.ac.ug	Luwero	1992
Uganda Martyrs University	http://www.umu.ac.ug	Mpigi	1993
Bugema University	www.bugemauniv.ac.ug	Luwero	1994
Uganda Christian University	www.ucu.ac.ug	Mukono	1997
Busoga University	www.busogauniversity.ac.ug	Iganga	1999
Nkumba University	www.nkumbauniversity.ac.ug	Wakiso	1999
Kampala University	www.ku.ac.ug	Kampala	2000
Kampala International University	www.kiu.ac.ug	Kampala	2001

Name	Website	District	Founded in
Aga Khan University	www.aku.edu	Kampala	2001
Kumi University		Kumi	2004
Kabale University	www.kabaleuniversity.ac.ug	Kabale	2005
Mountains of the Moon University	www.mmu.ac.ug	Kabarole	2005
African Bible University	http://africanbiblecolleges.org/uganda	Wakiso	2005
Uganda Pentecostal University	http://upu.ac.ug	Kabarole	2005
Bishop Stuart University	www.bsu.ac.ug	Mbarara	2006
St. Lawrence University	www.stlawrenceuniversity.ac.ug	Kampala	2007
Muteesa I Royal University	http://www.mru.ac.ug	Kampala	2007
All Saints University, Lango	www.asul.ac.ug	Lira	2008
International Health Sciences University	www.ihsu.ac.ug	Kampala	2008
Cavendish University of East Africa	www.cavendish.ac.ug	Kampala	2008
International University of East Africa	www.iuea.ac.ug	Kampala	2010
African Rural University	http://arua.ac.ug	Kibaale	2011
Islamic Call University College		Kampala	2011
Livingstone International University	http://livingstone.ac.ug	Mbale	2011
Victoria University	http://vu.ac.ug	Kampala	2011
St Augustine International University	www.saiu.ac.ug	Kampala	2011
Virtual University of Uganda	www.virtualuni.ac.ug	Kampala	2011
Uganda Technology And Management University	http://utamu.ac.ug	Kampala	2013
Africa Renewal University	http://africarenewaluniversity.org	Wakiso	2013
Nsaka University	http://nsakauniversity.ac.ug	Jinja	2013

Appendix 2: Other degree-awarding institutions in Uganda

Name	Website/email	District	Founded in
Public			
Uganda Management Institute	www.umi.ac.ug	Kampala	1969
Private			
Team Institute of Business Management	www.teamibm.ac.ug	Kampala	2010
ESLSCA International Business School	http://uganda.eslscanet	Kampala	2013
Ernest Cook Ultrasound Research and Education Institute (ECUREI)	ecurei@yahoo.com	Kampala	2013
International School of Business and Technology (ISBAT)	info@isbat.ac.ug	Kampala	2013

Note: This category of institutions was created by the Universities and Other Tertiary Institutions (Amendment) Act of 2006. Since the Act was passed, one public and four private institutions have been licensed. Among these, the Ernest Cook Ultrasound Research and Education Institute, located at Mengo Hospital in Kampala, specialises in medical research, while the other three offer business management programmes. These institutions account for approximately 2 per cent of students enrolled at higher education institutions.

Source: UNCHE

Notes

- 1 This information was supplied to me by the Statistics Department at Uganda's Ministry of Education and Sports.
- 2 This figure is from the Uganda National Council for Higher Education in Kampala. Note also that Ugandan shilling–US dollar equivalents provided in this chapter are approximate and reflect the value of the Ugandan shilling in 2014 when the allocations were made.
- 3 These reports were made available to me by the Statistics Department of the Ministry of Education and Sports.
- 4 This occurred during my term as executive director of UNCHE. I felt it was part of my duties to review the issuing of terminal degrees.
- 5 CAMTech was established after a memorandum of understanding was signed in 2012 between MUST and Massachusetts General Hospital.

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