

North south cooperation by academics and academic institutions: The case of Uganda

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1. Introduction

As latecomers in the establishment of knowledge creation centres (universities, polytechnics and research centres), African higher education institutions need to collaborate with universities in regions and states that have had these institutions for centuries. But this cooperation must be well defined and all areas of cooperation known to each party. Past macro cooperation was often given in donor/aid recipient frameworks and often increased the dependency of southern partners to the north. Therefore, the levels, types and methods of co-operation must be thoroughly defined to avoid the mistakes of the past. The ideal mode of cooperation, which may not be achieved immediately, should be based on the following ten mark stones. First, both partners must do the designing of any joint research or teaching project cooperatively. The southern partner must make sure that the project will create knowledge that is useful to his/her constituency in the south. Africa needs, like the north did in its process of development, home focused and home-grown knowledge and thinkers who can use local conceptual models to resolve local problems. Secondly, both partners must have the capacity to, and should, contribute equal intellectual inputs in the designing of a project. People of unequal intellectual levels are unlikely to work well together. Thirdly, the partners must share the execution of the project. Each party should be assigned areas of work and the targets to be achieved at given time frames. Fourthly, the cooperating parties must share the credit or wrath of the results of their research products including publications and patent ownership. That is, each party must own the project. In the past, southern partners have complained that their northern counterparts have published or registered patents of jointly researched products without acknowledging them. Any new relationship should avoid such past mistakes. Fifthly, whenever it is possible, both parties should contribute funding to the project. In the past, collaboration has been viewed as aid and came in donor tailored packages because the north has been contributing almost all the money for projects and the south has been the recipient. This factor has discolored cooperation to appear, and be viewed, as aid and not cooperation. Unfortunately, this unequal funding relationship is likely to continue until the incomes of southern academic institutions improve. Improving the funding of research components of southern universities by governments and institutions would address part of this problem. The southern parties must strive to contribute something to a designed project if they are to claim ownership of research products. While developed countries can help, the onus is on owners of southern institutions to fund their activities. The south must create their own academics and develop local research capacities in their university and other research institutions. Donors cannot, forever, bear the burden of funding research in African universities. Currently, in a number of countries in the south, universities are crippled from undertaking research by lack of funding. Yet there is need to improve the knowledge production function of African universities (Cloete et all. 2015). Sixthly, both partners must develop a common view of what university institutions are, and the

environment in which academics can do research and produce knowledge. One of the major factors determining the environment of research is institution and academic freedom. The relations should be built on the understanding that universities perform best when they are institutionally free and academics have freedom to do research and publish findings without harassment. The envisaged co-operation and relationship must protect the institutional autonomies of universities and academic freedom of staff. Seventhly, cooperation of northern and southern academics must help in educating all stakeholders that a university is not only a teaching institution but also, and probably most importantly, a site for research and knowledge production. That is, cooperation of academics must be based on the assumption that universities are centres of knowledge creation first and secondly, that good teaching is a product of quality research. Currently in the south, academics and state actors view the university as mainly a trainer of skilled manpower for the market, a view inherited from the colonial university of the 1948-1960 and the "development" one of the 1960 to 2000s. As a result, most African governments do not fund or emphasize the research or the knowledge creation function of universities. Eighthly, future cooperation should avoid uniform templates that were drawn for Africa by macro multilateral organizations including the World Bank, IMF, OECD, UNESCO, that perceived all nations and institutions to be uniform. Each university institution is different and any project should be specific and should take into account the history, traditions and operative possibilities and limitations of a given university. It is vital that cooperation guidelines, which these multi-lateral organizations tend to set, should not be drawn in the context of aid-donor relationship conditions. Ninthly, collaboration should be restricted to areas of the cooperation agreement to avoid hidden agendas that often mar international relationships. Lastly, the projects for cooperation should be micro based on country (bilateral) to country, institution-to-institution and individual-to-individual relationship. While more resources on cooperation were spent in the past at the macro levels by international or multilateral bodies, it is high time more emphasis was laid at the micro levels of individual faculty, institutions, country specific agencies and bilateral agencies.

Defined cooperation can help African academics to devise ways of lobbying governments not only to increase funding, but also to free universities from government administrative red-tape. This paper will review current research in Ugandan universities with a focus on Makerere University. It will argue that although Makerere has achieved some impressive research outputs through cooperation with a number organizations from the north, it is threatened by lack of local funding, an unfriendly legal frameworks, inadequate research management systems, and over emphasis on teaching at the expense of research. Research in a few other smaller universities will also be reviewed. I will argue that micro collaboration at levels of academic staff, institutions and states (at the bilateral levels) should increasingly supplement and, at a later date, overtake multilateral cooperation through large institutions such as the World Bank, IMF, UNESCO, OEDC, ISESCO etc.

2. Knowledge key to development

In this information age, knowledge has replaced "physical capital" as the

basis of development (World Bank, 2000, 2003, 2006, 2008). Human societies need knowledge for managing and resolving all their activities. Higher education institutions, particularly universities, are major sites of knowledge production. Because of the roles they play, universities are the centres of any country's innovation system (which includes public and private research centres, industry and commerce). But universities do not only produce knowledge, they also pass this knowledge to the next generation through teaching, recruiting social elites through training and diffuse dominant ideologies in society (Castell, 2001 quoted in Cloete et all, 2015).

Unfortunately, African universities have not effectively performed their knowledge creation functions for a number of reasons. First, most African universities were established to train a few obedient elites as civil servants for the colonial system's administration. Higher education was therefore elitist. Even today, the Higher Education Gross Enrolment Ratio in most African countries is about 10%. The role of the African university did not change when Africa achieved political independence. Between 1960 and 1980, the African university was a "development institution" for producing the manpower African states needed for administering the state (Yesufu 1973, see also the Accra Declaration). The research function of the university was not emphasized and teaching did not get all the equipment, books and other facilities it needed. But worse was to come. From the 1970s to the 2000s, the African state weakened to a point of collapse (Harrison, 2004). Years of mismanagement by military and authoritarian regimes in the period 1960-1990 adversely impacted on universities. The African university lost any of its autonomy it had under colonialism. Government nationalization of higher education institutions made the African university a government institution governed as one of the state's departments. When the multilateral bodies, the World Bank and IMF imposed conditionalities on collapsing African states, their ideological packages of neoliberalism further undermined the African university. African countries were encouraged to spend less on higher education giving the reason that rates of return on higher education were lower than basic education and higher education benefited private and not public interest (Psacharopoulous G, 1980, 1986). The World Bank reduced spending on higher education. In the period 1985 – 1989, the Bank spent only 17% of its worldwide education expenditure on higher education. In the period 1995-1999, this was reduced to 7%. Higher education was considered a luxury and enormous financial cuts in a number of African countries weakened the African university. It is reported that public expenditure per student fell from US \$ 6800 in 1980 to \$1200 in 2002 and averaged \$981 in thirty three African universities (World Bank: 2008: Accelerating Catch-Up – xxvii). After being criticized for this neglect, the multilateral institutions took the view that African universities should train only graduates needed by the market (Mamdani 1993). This lack of funding dealt a blow to knowledge production and by 2014, the continent's contribution to world publications was less than 2% (Cloete, 2015 page 17 quoting Zeleza, 2014). In Uganda in the period 1985 – 2005, the Ministry of Education allocated an average of 9-11% to higher education and over 60% to basic education. Even today, the Uganda government sees universities as only teaching institutions and research has not received bold line funding for the last three decades. This Financial Year, 2014-15, research in universities has been allocated only 420 million shillings (\$140 million)!

It is therefore clear that multilateral interventions into Africa came, and a number still come, with ideological packages that do not always fit the needs of Africa. These policies have not emphasized the knowledge production function of universities nor have they encouraged the production of the next generation of academics in Africa. The relationship of these multilateral bodies has therefore not been useful in enhancing knowledge creation in African universities. Can collaboration at the micro level at the institution and individual faculty levels between north and south enhance research capacity in the south as well as give the northern collaborators space to learn global problems? This conference should review this option

3. Creating home grown knowledge

Collaboration between the north and south at the micro level of faculty, university institutions and country (bilateral) agency levels should advance strategies for creating home grown knowledge. Multilateral agencies tend to draw uniform blue prints of "donation" packages for implementation by weaker southern partners. These blue prints are often loaded with ideological packages. Most African scholars agree as to the need of having African centered knowledge produced by scholars with a knowledge and experience of the African condition. Importation of external conceptual models that are said to be applicable to all nations is one of the major causes of the slow development of Africa (Okole, 2003). African farmers, for example, can only embrace agricultural technologies that are not contrary to their beliefs and way of life, can afford and consider safe for sustainable food production. But most of the curriculum in our agricultural faculties and colleges are based on western agricultural practice (often mechanized, large scale and commercial farming). Most of the knowledge that is cited in the science citation index is produced in developed countries. Africa is peripheral in knowledge production (Altbach, 2002,2003). Although African produced academic articles rose from 12500 in 1996 to 5200 in 2006, they were only about 2.3 % of global share (Musiige and Maassen, 2015). This is an area where improvement is needed and collaboration feasible.

4. Increasing funding to research

African scholars, through cooperation with their experience northern counterparts, must learn how to lobby governments to fund research as a major function of universities. Currently, most African leaders see universities as teaching institutions. They do not fund knowledge production. Yet funding is the major cause of the lack of research outputs for most of Sub-Saharan Africa. Though most developing nations spent 3-4% of GDP in the period 2008-2012 on research and development, Africa spent less than 1% of GDP on "mainstream science" based production (Teferra, 2003, Sanyal and Varghese, 2006, UNESCO, 2010). Uganda performs badly when it comes to funding research. In 2007, the country spent 0.41% as a percentage of GDP on R&D and was 12.8% dependent on external funding for this component of expenditure (Cloete, 2015:151). Mamdani reports that in 1993 "both the university and the government suspended research funding" (Mamdani, 2007:131). Although shillings 300 million was released in 1994/5, the general official policy was to eliminate research funding. It is reported that in

December 1996, the “government scrapped scholarships for graduate studies” and lined any further training with public manpower requirements. This meant that all other types of research including basic research, applied research, strategic research and the training of a national reserve of highly trained manpower were scrapped. Funding statistics in the Ministry of Education indicate that in the period 2000 – 2006/7, research funding was left to external donors. Funding of the research component will strengthen southern institutions and academics when negotiating collaborative agreements with their northern counterparts.

5. Increasing institutional autonomy

The increasing of micro-cooperation involving bilateral agencies, university institutions and individual relations should be built on the understanding that universities perform best when they are institutionally free. While universities in north have freedom to search the truth, African universities are exposed to various external and internal forces that undermine their institutional autonomies. Many are still regarded by governments as “national” institutions and their universal aspects are not respected. This lack of freedom weakens the southern academic’s negotiating advantage with his northern counterpart.

In Uganda, the university has passed through stages of being a colonial institution for training African colonial functionaries (1948-1963), a regional and independent university (1963-1970), a national institution governed from the Ministry of Education (1970-2001) and a semi-autonomous university whose key management areas are still controlled by the state (2001 to the present). Though the current government would like to feel good that the 2001 Act gave universities more freedom, it has many areas that throttle the freedom of universities. For example, section 6A of the Amendment Act states that *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.* Section 62(3) forbids public universities to spend any money not approved by Parliament. Thus, although under section 41c the University Council has powers to “fix scales of fees and boarding charges”, Makerere Council’s attempts to increase fees in 2004/5 and again 2014 were halted by the government. Section 59(5) of the Act does not give a public university the right to invest any of its funds without approval of the Minister. The government treasury can ask public universities to remit to the government monies collected at source using section 44(4) of the Public Finance and Accountability Regulations. This means that universities, particularly public universities, have no power to bank and therefore accumulate surpluses. Kenya and Tanzania, through their recent acts of Parliament, have increased the freedom of their universities to collect and manage funds. But Uganda has not. Any cooperation between the north and south must take into account this legal difference between the institutions they represent.

6. The types of research conducted in Ugandan universities

Under this cash stripped and legal disenabling environment, Ugandan universities, particularly Makerere and Mbarara University of Science and Technology have done some research. The following research activities are taking place in Uganda’s 31 universities (Appendix 1). Most universities

except Makerere, Mbarara and to some extent the Uganda Christian University, are teaching institutions. They do not produce knowledge. What is clear to me is that Ugandan university leaders see their institutions as teaching places and research is a distant irritating requirement. There is therefore a need for a north-south cooperation at institutional levels to advance the idea that knowledge production is a major function of universities. In the period that I was at the National Council for Higher Education and managing the meager funds allocated to research, the following research activities were taking place in universities.

Disinterested research

Disinterested research is conducted for the sake of searching for the truth. A number of academics with curious minds conduct researches to resolve certain problems within their disciplines. But there are not many such researchers in Uganda's university system. Due to the structure of funding where the state and institutions are not financing research, it is hard for Ugandan university academics to undertake disinterested research.

Applied research

A number of universities conduct applied research that is aimed at resolving known social or scientific problems in their localities. Makerere University and Mbarara University of Science are involved in a number of research projects to resolve medical and health problems. The College of Agriculture at Makerere has pioneered in efforts to modernize agriculture, prevent animal and plant diseases and improve the environment. The Mountains of the Moon University conducts a number of research projects in horticulture and ecology.

Training based research

This is research conducted to provide given qualifications such as masters, doctorates and other terminal degrees. In rare cases, postgraduate training in an institution that does not do disinterested or applied research can produce new knowledge. But where such training is part of a research agenda, postgraduate training does not often contribute to knowledge creation. But many universities in Uganda are training postgraduate students whom they require to produce some "researched" reports. Public and chartered universities in Uganda are permitted to run postgraduate programmes.

Consultancies

Many academics in Uganda's university system are involved in local and international consultancies. Some of these consultancies produce new knowledge but the majority do not. Most of the consultancies have set questions and expected answers that the consultant must provide for a fee. Any new knowledge that might come out of a consultancy belongs to the master who pays the piper. However, consultancies get academics involved in using their minds to resolve critical issues, they bring in needed money both to the individual and to organized university institutions and links Ugandan researchers to international colleagues.

Donor driven research

A number of foreign donor agencies have supported research in Uganda focused on resolving social and scientific issues in the country. In the

process, a lot of new knowledge has been produced and academics trained. Many of the beneficiaries are science-based faculties such as Agriculture, Forestry, Medicine, Basic Science and Technology at public universities particularly Makerere. These agencies have tended to fund applied science disciplines. External donors are, understandably, interested in funding areas that they think will resolve certain issues. The training of the next generation of academics or basic research is not of immediate concern for some of the agencies.

Publication driven research

The desire for promotion and academic advancements has created a focused type of research where academics fix their minds to areas that can yield publication materials to satisfy employment requirements. A number of universities including Makerere, Mbarara, Islamic University In Uganda, Uganda Christian University, Uganda Martyrs University and others, require publications for promotions. In the process of researching for publishing, new knowledge is often produced.

7. Research and research capacities: Makerere University

Research capacities are dependent on qualified academic staff, facilities, a friendly legal framework that gives institutions the freedom to do research and a good graduate training system. As noted earlier, Makerere and other Asquith institutions in Africa were started as training institutions (Sicherman, 2005). Not only have they stuck to this tradition but also new universities have imitated this trend. The massification of enrolment and institutions has exacerbated the problem by creating demand for teaching. The lack of qualified staff further complicates the pursuing of research by many institutions. With over thirty universities, Uganda had only 973 PhD holders handling over 200,000 students in 2012/2013 as the following table shows.

Table 1. Distribution of higher education academic staff by qualification in the period 2004/5- 2012/13 in Uganda

	PhD	Years %	Mast.	Years%	Bach	Years %	PGD	Years %	Others	Total	
2004/5	549	10%	2221	42%	1715	33%		0%	764	15%	5249
2005/6	558	11%	2167	41%	1694	325	153	3%	686	13%	5258
2006/7	746	12%	2651	41%	1949	30%	224	3%	895	14%	6465
2010/11	858	11%	2967	38%	2621	34%	209	3%	1214	16%	7785
2011/12	914	11%	3657	42%	2923	34%	269	3%	939	11%	8594
2012/13	973	10%	3455	37%	2585	27%	264	3%	2187	24%	9464

Source: National Council for Higher Education

In 2012/13, about 69% (or 675) of PhD academic staff holders were at, or associated with, Makerere University as the following table 2 indicates. But this does not mean that Makerere had the research capacity its counterparts that were founded in the same period had. Out of Makerere's 1585 academic staff, 640 or approximately 40% had terminal degrees and twenty-three administrative and twelve support staff had PhD degrees.

For effective collaboration on equal terms, Makerere must improve its research capacity by employing more PhD holders, lobby for locally derived research funding to increase it to more than 10% of its budget, lobby for

changes in the Act to remove oppressive sections and focus more on research than it is doing now.

Table 2.Qualifications of Academic, administrative and support staff at Makerere as at Jan 2014

Academic Staff	Qualification					
	PhD	Masters	Bachelors	Total	(Part-Time)	G.Total
Agricultural & Environmental Sciences	118	4	61	183	14	197
Business & Management Sciences	36	10	69	115	12	127
Computing & Information Sciences	25	2	62	89	1	90
Education & External Studies	54	4	55	113	3	116
Engineering Design Art & Technology	55	5	86	146	6	152
Health Sciences	70	11	203	284	19	303
Humanities & 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
Admini &Support staff	35					
Total	675	73	800	1513	72	1585

Compiled by author from Makerere administrative offices

But other facilities such as book to student ratios, access to the web, reading or library space, classroom space, laboratory facilities, administrative space, were not conducive to research. However, at Makerere University, there is staff attrition due to the mandatory retirement age of 60, competition for talent from smaller universities, as well as from the public and private sectors. By December 2014, Makerere academic staff had dropped from 1585 to 1447.

Postgraduate Training

One area of collaboration that has benefitted both the north and the south is the training of doctoral students. Although the south needs more numbers in this area, northern students can gain a lot by study trips to the south and advice by southern academics. The training of the next generation of academics at the doctoral levels is part of higher education based research efforts and contributes to a vibrant research culture of a university. Doctoral students are involved in collecting, organizing and analyzing data not only for they're for qualifications but also as a part of their academic experience. The professor teaching doctoral students are not only an academic leader in the exercise of teaching, he is a participant in the overall academic activities, a learner and a role model and knowledge seeker. His/her postgraduate students are not mere data collectors but intellectual decision makers on crucial academic points. However, it is better to train doctoral students in their native environment if they are to participate in the resolution of local problems, ask the right questions when investigating issues and frame conclusions appropriately. Table 3 below shows the numbers of doctoral students Makerere University has graduated in the period 2008 to 2014. I do not have statistics for other universities.

Table 3. Makerere university: Doctoral graduations/complications, 2008-2014

	College/Discipline	2008	2009	2010	2011	2012	2013	2014
	College of Agriculture and Environmental Sciences (CAES)	1	6	3	12	8	7	12
	College of Business and Management Sciences (COBMAS)	1	0	0	5	3	8	8
	College of Computing and Information Sciences (COCIS)	0	1	2	3	4	4	0
	College of Education and External Studies (CEES)	1	3	1	5	10	12	6
	College of Engineering, Design, Art, and Technology (CEDAT)	1	3	4	4	1	6	4
	College of Health Sciences (CHS)	0	5	1	4	9	3	4
	College of Humanities and Social Sciences (CHUSS)	0	4	20	7	4	6	13
	School of Law	0	0	0	0	0	3	0
	Totals	4	22	31	40	39	49	47

Data collected from Senate Graduation Books by the author's assistant

But as pointed out earlier, public and chartered universities are permitted to offer graduate programmes. However, due to lack of facilities, a number of universities "churned out" improperly trained doctoral students. At one stage in 2012, the National Council for Higher Education used its powers to ask an institution to review more than forty PhD degrees it was going to award in one academic year!

In recent years Makerere University has made strides in research accounting for over 70% of Uganda's publication outputs (Cloete et all, 2015:116). With increased funding for research, Makerere's research outputs in form of publications and doctoral output increased tremendously in the period 2005 to 2012. Table 4 below gives the picture.

Table 4. Research output by major disciplines at Makerere University

Fields of study	Year 2010	Year 2011	Year 2012
Business and Management	3	4	10
Science and Technology	2374	2293	2164
Humanities	22	13	21
Education	22	33	27

Source: Directorate of Quality Assurance

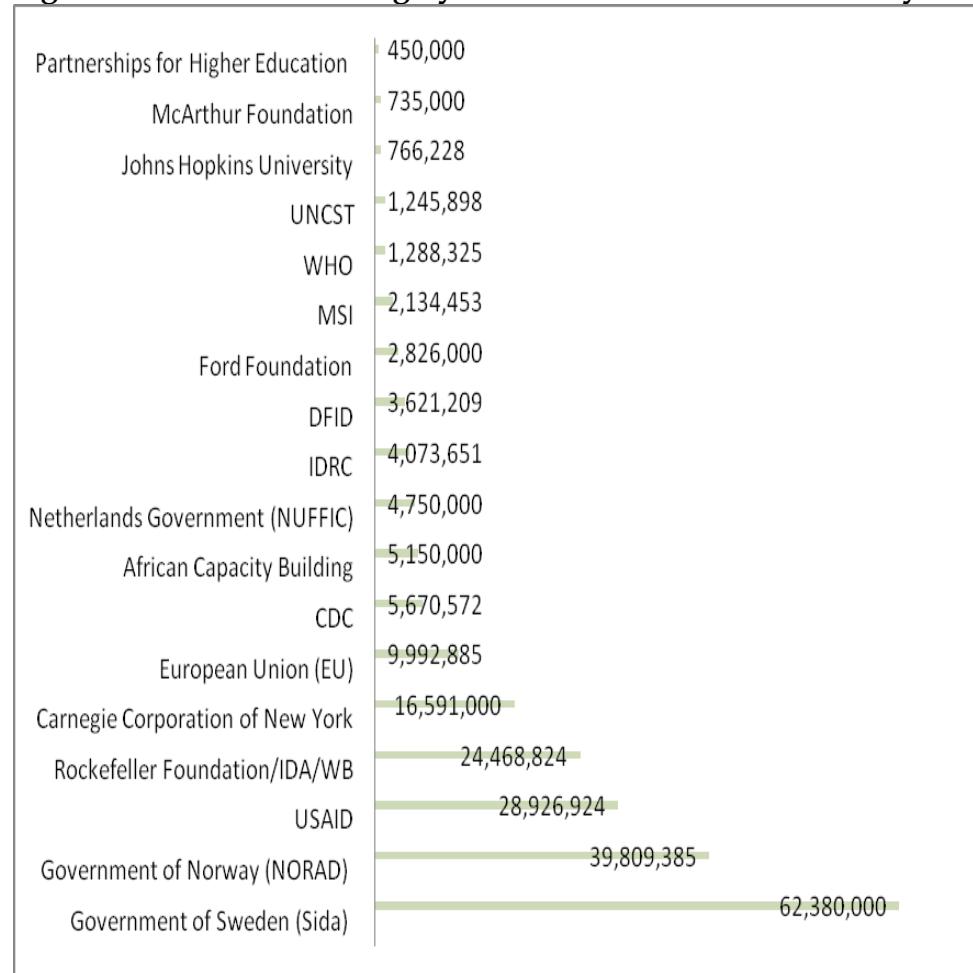
In a recent publication by CHET, edited by Cloete et all., *Knowledge Production and Contradictory Funds in African Higher Education*, Makerere University was ranked second to the University of Cape Town in research and publication outputs in the period 2007-2011 and first in cited fields of international cooperation (2006-2012) amongst Africa's "flagship" universities.

But this success has four major problems that Makerere and its collaborators must resolve if the institution is to maintain and keep improving its knowledge production function. First, the institution is dependent on external funding for its activities. In 2013, 80% of its \$85 million research funding came from foreign donors (Musiige and Maassen, 2015: 122). There is nothing wrong with getting foreign donor funding. Many university institutions in

both the north and south get foreign donor funding. It is, however, unsustainable to depend on foreign funding to levels exceeding 25% of total needs. Foreign funding has many uncontrollable variables such as changing priorities of donors, unpredictable diplomatic relations with donating nations, the often strict conditions of donor funding etc. Makerere needs a strategy now on sustaining what it has achieved in research out for subsequent years. To sustain this funding, Makerere must obtain locally generated research funds if it is to sustain current “donors”, for money, like waters, flows where there is plenty.

The following figure (1) shows some of the sources of research funding to Makerere in the period 2000-2012. Most of these sources are foreign.

Figure 1: Research Funding by Donors to Makerere University 2000-2012



Source: Directorate of Quality Assurance, Makerere University

Secondly, Makerere is still a teaching institution. There are more student numbers than the staff can handle. With 675 or 43% with PhD, some 57% of staff cannot supervise doctoral students or do serious research. They can only teach undergraduates. Table 5 below shows current staff student ratios, which highlights the threat posed by emphasis on teaching.

Table 5. Student/staff statistics at Makerere University as of December 31, 2014

Students				Staff	Ratio	NCHE
College	F	M	Total			Standar d
CAES (Agriculture)	927	1471	2398	151	16	10
CEDAT(Engineeri ng)	835	2458	3293	143	23	10
CEES (Education)	3139	3658	6797	118	58	15
CHS (Medical Scies.)	592	1145	1737	313	6	8
CHUSS (Arts &Hum)	5389	3437	8826	215	41	24
CoBAMS (Business)	2472	3054	5526	128	43	24
CoCIS (ICT)	1982	2529	4511	94	48	24
CoNAS (Sciences)	380	904	1284	153	8	10
CoVAB (Vets)	241	536	777	89	8	8
FORT-PORTAL CAMPUS	21	38	59			24
JINJA CAMPUS	207	244	451			
LAW	550	855	1405	43	32.67	
MUBS	3807	2403	6210			
Total			43274	1447		
Exclude MUBS			37064	1447		

Source: Directory of Quality Assurance, Makerere University

Most of the programmes, especially the humanities based ones are overcrowded and therefore under staffed. Only the Colleges of Health Science, Basic (or Natural Sciences) and Veterinary Medicine meet the National Council for Higher Education (NCHE) benchmarks for staff to student ratios. The rest fall below the NCHE required benchmarks. These include Agriculture (1:16 instead of 10), Engineering (1:23 instead of 10), Education (1:58 instead of 15), Arts and Humanities (1: 41 instead of 24), Business (1:43 instead of 24), ICT (1:48 instead of 24) and Law (1: 33 instead 24). It is not a coincidence that faculties /colleges which are less crowded produce more research output than the crowded ones. For example in 2012, science and technology based faculties produced more than 90% of Makerere's research output (2164 compared to 58 for Business, Arts and Humanities and Education combined as Table 4 above indicates). The same scenario was the case in 2010 and 2011.

Thirdly, the management of research at Makerere and other Ugandan universities, except Mbarara, is disorganized. After so much frustration on getting data from various academic units, my research assistant at Makerere University had this to say of the institution's management of research:

- i. There is no central office that records and documents research projects and publications of staff at unit/department levels, thus the team was advised to visit all the units/ colleges to collect this information in a dispersed way.
- ii. In the colleges, it was also found out that research projects and publications of some staff are not declared or recorded at the unit/college/school level.

- iii. The team found out that there is no coordination and reporting system at both the center and the lower units/colleges and schools that would feed into the University central system for clear documentation and filing at a one designated office so that the works of all university staff are documented or synergized. During the study, some heads of colleges i.e. Principals requested the heads of departments to collect the information about research projects and publications because some of the staff seem not be obliged to declare their research projects and publications facilitated or funded outside/off the university budget.

Lastly, the creation of the college system at Makerere University was rushed. The roles of the Colleges and that of the faculties over the universal cell of university academic activates, the academic department, is not properly defined. In most universities, the academic department is the hive of research and teaching activities, the recipient of research and innovation funds and the distributor of privileges and sanctions. But this role has been blurred by the imposition of the colleges' supersucture on faculties and departments. As a result, a struggle by deans and principals of Colleges to manage academic and financial affairs is on going. To sustain the momentum, Makerere's research and administrators need collaboration in the management of this important university function.

8. Research in other universities in Uganda

During the current survey of research capacity and activities in Uganda universities, I have visited and surveyed about fifteen institutions (Appendix 1). Most of them have the same problems as Makerere. But some of them, like Mbarara University of Science and Technology and the Uganda Christian University, are more organized in the management of their research functions than Makerere, though they are far much smaller in enrolment and infrastructure.. In this paper, I shall review only the above two institutions.

(a) Mbarara University of Science and Technology (MUST)

Research organisation and management

Mbarara University of Science and Technology is well organized in its research efforts. It has an effective Central Office that is specifically responsible for research and coordinates effectively with the units(i.e the departments) that report directly to faculties or institutes. The University has a Grants Management Manual, a Research Strategic Plan (CIRIMO) a Research Innovations, Management and Uptake Policy, and the Faculty of Medicine has a Strategic plan for the Office of Research Administration. MUST's research policy is being reworked and should be approved soon.

Funding of research

In the 2014/15 Financial Year, MUST got 75 million shillings from the Uganda government and 260 million from Non Taxable Revue for research, i.e. a total of 335 million shillings. This money was distributed as follows to the faculties: Faculty of Medicine, 85.5 m; Faculty of Science, 85.5m; Institute of Computer Science, 55m; Institute of Management Science, 55m; and Institute of Interdisciplinary Training and Research, 50m.

The University also got support from a number of agencies and foreign governments including the National Institute of Health, Centre for Global

Health, European Union, United Nations through World Vision, Bill and Melinda Gates Foundation, Grand Challenge Canada, VLIR-UOS (Belgian government), Google, Ministry of Health, US government, the Rockefeller foundation, Sweden, the Netherlands, UK and others.

What is impressive is that the university spent 335 million shillings of its annual 7,810 million or about 4% on research.

Research outputs

The University has no publishing house but hopes to start academic journals. ITFC, a semi-autonomous postgraduate research institute has researchers who have appeared in the ISI high ranked journals such Conservation Biology, Oryx, Forest Ecology and Management, Lancet and others.

Creating the next generation of academics

All the five units of the University train students for Bachelors, Masters and PhD degrees depending on facilities.

Research collaboration

MUST has a number of collaborating institutions both nationally and internationally including: Massachusetts General Hospital (MGH), University of Calgary, University of California San Francisco (UCSF), Harvard University, John Hopkins University, University of British Columbia (UBC), MUST - Bogoye , Case Western Reserve University, Indiana University, University of Minnesota, Ghent University, Oxford University, Kwa Zulu Natal University, Moi University, Makerere University, Kampala, Gulu University, Busitema University, and Kampala International University (Western Campus).

MUST has non degree award research being conducted through EPI Center, and various research teams of both faculty and students. There is an innovations center under the Consortium for Medical Technologies (CAMTech) whose mission is to accelerate medical technology innovation and build entrepreneurial capacity to improve health outcomes in low-and middle-income countries.

(b) Uganda Christian University, Mukono

Employers of its graduates favorably regard Uganda Christian University. The University has modestly begun to put a research infrastructure in place.

- i. The University allocates 1% of its budget to research and publications which was about 370 million shillings last year (2013-2014). It also receives some research donation from JCRC (?)
- ii. The University's research activities are organized under the School of Research and Postgraduate studies.
- iii. The University has a fully- fledged research policy, student research manual, digital repository (open access policy as well as a university bulletin in which academics and students publish their findings.
- iv. Only one of the staff's work has been listed in international publication

listings.

v. The following UCU projects were funded in the period 2012-2014

Table 6. Projects at Uganda Christian University

	Project Name	Started	Total Received
1	NORHED Project (Mass Communication – Dr. Monica Chibita)	2013	1,038,547,913.25
2	RECULP Project (Social Sciences – Dr. Mary Ssonko)	2014	42,661,265.00
3	Market Place Rice Project (Agriculture – Dr. M. Masanza)	2014	123,661,037.50
4	PAEPPERD II Project (Agriculture – Dr. Elizabeth Kizito)	2014	206,756,915.75
5	Governance Platform (Prof. Wamala Augustine)	2014	84,405,300.00
6	South Initiative Project (Dr. Katusiime Messach)	2014	23,355,360.00
7	Team Project (Dr. Katusiime Messach)	2014	50,843,700.00
8	Boda Boda Research Project (Ssebaggala Richard)	2013	176,476,096.00
9	GIZ Short course Project (Dr. Wozei Eleanor)	2014	26,036,484.00
10	WHO Community Dialogue Project (Dr. Ssonko)	2012	100,572,440.00
11	KAROLINSKA Institute (Dr. Kanyesigye)	2010	108,250,771.23
12	LQAS Collaboration Fund (Kyakulaga Francis)	2013	23,053,124.49
13	St. Barnabas Fund (Oseje Lawrence)	2012	47,434,092.36
Totals			2,052,054,499.58

Infrastructure

The research infrastructure at UCU includes the new HAM MUKASA library, good information and communication facilities and dedicated staff.

However, due to shortage of terminal degree holders in Uganda, UCU is hand capped in its efforts to train more staff.

9. Conclusions

Future research collaboration between southern and northern academics should increasing become more beneficial to both parties as southern universities acquire capacities. The case of Makerere Universities indicates that collaboration can help a southern institution create knowledge. But its ability to continue doing so will depend on its ability to improve its facilities and independence. Cooperation at the micro levels of faculty, institutions, country agencies and bilaterals between the north and south should pursued because such cooperation is likely to be less loaded with ideological packages that may not fit where they are exported. The need to transform the African university from being mainly a teaching to both an instruction and a knowledge producing institution should be one of the urgent areas selected for cooperation. The current dearth of funding to research by southern governments and institutions should be addressed and the efforts to do so must be led by southerners themselves. Northern academics can help with strategic advice but they cannot do the lobbying in foreign corridors of power. However, the north and south cooperation must benefit both parties. While the south can benefit from the experiences of the north, the latter will be exposed to global development problems. My current study of research in Ugandan universities is indicating that there is a need to urgently transform African universities into knowledge producing sites by funding and improving the capacity and culture of research. Secondly, there is a need to free the African university from state control of key areas of university

activities if the latter is to produce knowledge for development. In Uganda, Makerere University is producing reasonable amounts of knowledge. But its ability to continue doing so is threatened by unstable funding regime, lack of institutional autonomy in key areas of finance management, mismanagement of research activities, insufficient qualified academic staff and lack of a well structured post graduate programme for training the next generation of academics. The other thirty universities in the country are too young to have developed a research culture although some of them, like Mbarara University of Science and Technology and the Uganda Christian Universities, are trying their best.

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Appendix 1: Accredited universities in Uganda by 2012/13

Public Universities					
S No.	Name	Address	Website	District	Year
1	Makerere University	P.O. Box 7062, Kampala	www.mak.ac.ug	Kampala	1922
2	Mbarara University of Science and Technology	P.O. Box 1410, Mbarara	www.must.ac.ug	Mbarara	1989
3	Gulu University	P.O. Box 166, Gulu	www.gu.ac.ug	Gulu	2002
4	Kyambogo University	P.O. Box 1, Kyambogo	www.kyu.ac.ug	Kampala	2002
5	Busitema University	P.O. Box 236, Tororo	http://busitema.ac.ug	Busia	2007
6	Muni University	Arua		Arua	2013
Private Universities					
1	Islamic University in Uganda	P.O. Box 2555, Mbale	www.iuiu.ac.ug	Mbale	1988
2	Ndeje University	P.O. Box 7088, Kampala	www.ndejeuniversity.ac.ug	Luwero	1992
3	Uganda Martyrs University	P.O. Box 5498, Kampala	http://www.umu.ac.ug	Mpigi	1993
4	Bugema University	P.O. Box 6529, Kampala	www.bugemauniv.ac.ug	Luwero	1994
5	Busoga University	P.O. Box 154, Iganga	www.busogauniversity.ac.ug	Iganga	1999
6	Nkumba University	P.O. Box 237, Entebbe	www.nkumbauniversity.ac.ug	Wakiso	1999
7	Uganda Christian University	P.O. Box 4, Mukono	www.ucu.ac.ug	Mukono	1997
8	Kampala University	P.O. Box 25454, Kampala	www.ku.ac.ug	Kampala	2000
9	Kampala International University	P.O. Box 20000, Kampala	www.kiu.ac.ug	Kampala	2001
10	Aga Khan University	P.O. Box 8842, Kampala	www.aku.edu	Kampala	2001
11	Kumi University	P.O. Box 178, Kumi		Kumi	2004
12	Kabale University	P.O. Box 317, Kabale, Kikungiri	www.kabaleuniversity.ac.ug	Kabale	2005
13	Mountains of the Moon University	P.O. Box 837, Fort Portal	www.mmu.ac.ug	Kabarole	2005
14	African Bible University	P.O. Box 71242, Kampala	http://africanbiblecolleges.org/uganda	Wakiso	2005
15	Uganda Pentecostal University	P.O. Box 249, Fort Portal	http://upu.ac.ug	Kabarole	2005
16	Bishop Stuart University	P.O. Box 9, Mbarara	www.bsu.ac.ug	Mbarara	2006
17	St. Lawrence University	P.O. Box 24930, Kampala	www.stlawrenceuniversity.ac.ug	Kampala	2007
18	Muteesa I Royal University	P.O. Box 14002	http://www.mru.ac.ug	Kampala	2007
19	All Saints University, Lango	P.O. Box 6, Lira, Boroboro Hill	www.asul.ac.ug	Lira	2008
20	International Health Sciences University	Plot 46/86 Kisugu, P.O. Box 8177, Kampala	Kampala, www.ihsu.ac.ug	Kampala	2008
21	African Rural University	P.O. Box 16523, Kampala	http://arua.ac.ug	Kibaale	2011
22	Islamic Call University College	Plot 23/25 Old Kampala		Kampala	2011
23	Livingstone International University	P.O. Box 994 Mbale	http://livingstone.ac.ug	Mbale	2011
24	Cavendish University of East Africa	Ggaba Road P.O. Box 33145, Kampala	www.cavendish.ac.ug	Kampala	2008
25	International University of East Africa	P.O. Box 35502, Kampala	www.iuea.ac.ug	Kampala	2010
26	Victoria University	Jinja Road	http://vu.ac.ug	Kampala	2011
27	St. Augustine	P.O. box 26687,	www.saiu.ac.ug	Kampala	2011

	International University	Kampala			
28	Virtual University of Uganda	Road P.O. Box 70773	www.virtualuni.ac.ug	Kampala	2011
29	Uganda Technology And Management University	P.O. Box 73307, Kampala	http://utamu.ac.ug	Kampala	2013
30	Africa Renewal University	P.O. Box 35138, Kampala	www.africarenewaluniversity.org	Wakiso	2013
31	Nsaka University	P.O. Box 1801, Jinja		Jinja	2013

Other Degree Awarding Institutions (ODAI)

This category of institutions was created by the Universities and Other Tertiary Institutions (Amendment) Act, 2006. Since its creation, 4 private institutions (Table 3.3) have been licensed under this category of tertiary institutions. Among these institutions, Ernest Cook Ultrasound and Research & Education Institute (ECUREI) located in Mengo Hospital is specialized in medical programmes while the other 3 offer business management related programmes. These institutions account for 3311 (2%) of enrolment in higher education institutions.

Public					
S No.	Name	Address	Website	District	Year
1	Uganda Management Institute	Jinja Road P.O. Box 20131, Kampala	www.umi.ac.ug	Kampala	1969
Private					
1	Team Institute of Business Management	P.O. Box 8128	www.teamibm.ac.ug	Kampala	2010
2	ESLSCA International Business School Uganda, Plot 10 Impala Avenue	P.O. Box 37207, Kampala	http://uganda.eslска.net	Kampala	2013
3	Ernest Cook Ultrasound Research & Education Institute (ECUREI), Mengo Hospital-Sir Albert Cook Building	P.O. Box 7161, Kampala	ecurei@yahoo.com	Kampala	2013
4	International School of Business & Technology (ISBAT), Plot 24-26 Ganesh Plaza, Entebbe Road	P.O. Box 8383, Kampala	info@isbat.ac.ug	Kampala	2013

Source: National Council for Higher Education

