

RUFORUM MONTHLY

The Monthly Brief of the Regional Universities Forum for Capacity Building in Agriculture

TRANSFORMING THE AFRICAN AGRICULTURE FROM ITS PRESENT STATUS TO ONE OF PLENTY - A GRADUATE STUDENT'S ADDRESS TO AFRICAN MINISTERS AND OTHER POLICY MAKERS NOVEMBER, 2010

From 17-19 November 2010, African Ministers of Education, Agriculture, Science & Technology and Finance and Development, met in Kampala, Uganda to deliberate on issues affecting Higher Education in Agriculture in Africa (CHEA). Mayada , a graduate student at Makerere University, addressed the opening ceremony of the Conference. Over 350 delegates including 16 Ministers, 60 Vice Chancellors and development partners attended the conference.



I am addressing you on behalf of the African Graduate Students and I am particularly proud to have been given this opportunity. I am Mayada Mamoun Beshir, a Sudanese. Before coming to Uganda I was working in the Agricultural Research Corporation in Sudan for two years. And currently I am a Master's degree student in the regional Plant Breeding and Seed Systems Program of the Faculty of Agriculture at Makerere University (which is one of 8 programs under RUFORUM) funded by SCARDA-ASARECA, AGRA and RUFORUM. In this program there are students from Central,

Eastern and Southern Africa working to earn their M.Sc. and Ph.D. degrees. We come from different cultures, with different languages (Arabic, English, French among others) and different backgrounds and experiences but with one vision and similar goals; **and that is to be able to do our rightful share in helping to transform the African agriculture from its present status to one of plenty.** We are happy that all of you share this vision with us and RUFORUM. This could be achieved, as our extremely well qualified Faculty have shown us, by mastering the tools of development oriented research ourselves and being able to produce high quality innovative research sensitive to the demands of African farmers. We look forward to generate innovative technologies able to accomplish sustainable livelihoods and foster national economic development in our respective countries. We are highly grateful for the support, encouragement and guidance bestowed on us by the Faculty here at Makerere and several other universities in the region and RUFORUM which helped us pass through all the difficulties and gave us the strength to accomplish what we set out to do. We are also grateful for

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- **RUFORUM Monthly** provides information on activities of the Regional Universities Forum for Capacity Building in Agriculture.
- This **Monthly Brief** is available on the last week of every month ■

ANNOUNCEMENTS

Re-tooling Training Workshop for Research Methods, 7-11 February, 2011
Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya.

The E-learning Content Writing Retreat was held from 7-16 January, 2011, Addis Ababa, Ethiopia, involving Bunda College of Agriculture, Egerton University, Haramaya University, Mekelle University, and Jomo Kenyatta University of Agriculture and Technology

More information on RUFORUM activities can be accessed on the RUFORUM BLOG at <http://ruforum.wordpress.com>

For more information about the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Contact: The **Newsletter Editor**, RUFORUM Secretariat, Plot 151 Garden Hill, Makerere University Main Campus, P.O. Box 7062, Kampala, Uganda. Fax: +256 414 534153; Tel: +256 414 535939; E-mail: secretariat@ruforum.org; or visit RUFORUM Website at www.ruforum.org.



TRANSFORMING THE AFRICAN AGRICULTURE—A GRADUATE PERSPECTIVE

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the friendly environment which enabled us to succeed; and we will surely enhance future communication and interaction among ourselves as students but also with the rest of the world. Let me highlight a few issues.

First, why did I (and my colleagues) choose to do agriculture? And we did choose – it wasn't that agriculture was the only course that would accept us. We chose agriculture because through changing agriculture we can improve lives of everyone in Africa. As concerned citizens of Africa we know that agricultural transformation is a central component of sub Saharan Africa's poverty alleviation strategy. This transformation involves expanding and strengthening access to agricultural inputs, improving research and extension services, introducing smallholder friendly technologies, improving access to local and international markets, reducing land shortage and degradation, increasing investment in irrigation, and developing farmer co-operatives and associations. The generation of technology is not sufficient in itself. The technologies have to reach – and be adopted by – large numbers of those who have been bypassed by previous efforts. They have to be appropriate for an environment in which human disease, especially HIV/AIDS, is a major cause of poverty. And they need to address the very real problems that women face in breaking out of the poverty.

Second, we know that to achieve all these things, we have to provide farmers with the best; second best or failure is not an option. This makes Africa and agriculture an exciting and challenging career. We will be working on real problems that affect directly the poorest and most vulnerable in our communities, and which, when we come up with answers (which we are committed to doing), will change lives forever. It is not everyone who gets this chance.

Third, we know that our sponsors will be richly rewarded for their investments. We have looked at what other countries have done and seen the real impact that improvements in agriculture have made to countries and to households. Brazil, which

was a food importer 30 years ago, now beats agricultural giants such as the USA, Argentina, and Australia, in exporting soya, beef, orange juice, and sugar. Poor nutrition in India is half what it was the last part of the 20th Century.

We look forward to pursue our careers in development oriented research having in mind that as graduate students getting their degrees from African Universities, we are able to offer different insights and perspectives to help national research institutions to more fully address the unique and pressing challenges of both small and large scale farmers in Africa. We believe that the main activities should be focused on hunger alleviation, combating rural poverty, promoting economic growth and protecting the environment. And I believe we can do this and so much more.

And fourth, on behalf of the African graduate students, I would like to highlight some shortcomings in our higher education in agriculture in Africa which the graduate students identified during the 2nd RUFORUM Biennial conference which was held in Uganda one month ago; and they requested that they be addressed:-

- There is a greater need for more representation of women in the field of agricultural science and technology in Africa.
- The budget allocations by African governments to African Universities for capacity building efforts are low. Most of us doing postgraduate studies depend on donor support yet this should be a priority investment area by our governments. **We as a continent will remain uncompetitive and marginalised unless we build the capacity to support our own development. And with capacity, our nations will become truly independent.** We know that funds are short but the value generated by long term investment in agricultural research is enormous. Brazil has had a return of \$16 for every \$1 invested in rice, bean, and soya research. **Why not us in Africa? I plead with you African Ministers to invest in Higher Education in Agriculture.**

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- While we applaud the admission of large numbers of students, the universities are strained and with very limited resources, both human and infrastructure. Yes, we should admit more students but let us have the necessary infrastructure and lecturers. **Honourable Ministers, to have effective universities you must have well trained lecturers and this is only through postgraduate training, and currently this is mostly done by outsiders. Thus we must increase investment in Higher education so that we build our own, sustainable capacity to change our countries.**
- Presence of a language barrier especially among the students from countries where English is not the official language. We call upon African Universities to work towards becoming international centres of learning rather than remaining inward looking.
- There has to be more effective monitoring and evaluation of the training programmes by the universities, governments and our potential employers so that training is well aligned to market demands. In this regard, we are aware that we may not get all the skills required of us in a university but assure our prospective employers of our willingness to re-learn and acquire any additional skills required to improve our performance. Not everything can be obtained from University training.

Honorable Ministers and Esteemed Participants,

We believe that Agriculture is the most effective driver of growth in Africa. Because of this, an agriculture led strategy is essential for reducing rural poverty, enhancing food security and stimulating broad – based economic growth. Hence, these discussions that we are about to have on education and agriculture are critically important to us as young Africans. We are not only talking about abstract problems – our mothers, fathers, sisters and brothers are affected by these issues everyday – this is our life, our future and what we discuss during this conference is about our hope for future.

SYLVIA CHINDIME WEDS KALUMBA MKANDAWIRE



On Saturday, 25th September 2010, Sylvia Chindime, an employee of RUFORUM under the Department of Training and Quality Assurance achieved one of her important milestones. She made her marriage vows at Kaggwa Oyera parish, Area 49 in Lilongwe, Malawi. *“I take you Mr Kalumba Mkandawire, to be my husband, to have and to hold.....”*. This was followed by a loud Ulu-lulation of jubilation and cheering from the congregation. The bride expressed her tears of joy for having achieved what she had dreamed of for so long. The two love birds are college sweethearts.

Malawi has a unique wedding tradition where the newly weds and entourage dance to the reception hall. In appreciation the guest are known to hand the dancing “Party” with money. Currently Mr Kalumba Mkandawire is working with Polytechnic College, University of Malawi, as the Procurement officer. The newly wedded couple, Mr and Mrs Kalumba Mkandawire, expressed their gratitude for the support rendered to them by various well wishers including RUFORUM staff. In a special way the couple thanked their parents, relatives and friends for their amazing passion in organizing the event to the little details, perfections, putting up with last minute jitters and pulling the wedding event all together.

The Executive Secretary of RUFORUM together with all the STAFF members of RUFORUM wish Mr and Mrs Mkandawire God’s Blessings throughout their marriage life.

STRENGTHENING THE RELEVANCE OF RESEARCH IN UGANDAN UNIVERSITIES

National development is linked to research and most research is conducted in Universities. As most economies are becoming knowledge based, so has the role of research and Universities where research is conducted. The Ugandan Higher Education sector is expected, and will be required to create the necessary human resources to make the country's economy knowledge based one within ten years. "The world economy is changing as knowledge surpasses physical capital as a source of present wealth. According to the World Bank (2000a), as knowledge becomes more important so does higher education". National economies are increasingly becoming knowledge based. Rapid advances in science, communications and information technologies are giving countries opportunities to leap forward at speeds they never dreamed of. A knowledge based economy is one "where knowledge is created, acquired, transmitted and used effectively by enterprises, organizations, individuals, civil society and all the community" (World Bank, 2000d). Knowledge presents a framework for assisting in addressing every productive endeavor. Knowledge and wealth have become concentrated in one. The human resources needed to drive the knowledge economy are created in universities, which have been referred to as knowledge factories (The Economist, 4 October 1997: S3). The University is the "creator of knowledge, a trainer of young minds and a transmitter of culture" as well as a major agent of economic development. Establishing knowledge economies needs not only ICT (Information and Communication Technologies) infrastructure but also an educated population. Policy makers must design a higher education system that takes changes in global economies into account. Universities must be the leaders of such a change.



Above: Professor .B.K.Kasozi the Executive Secretary, Uganda National Council for Higher Education

In this paper I focus on identifying the various types

of activities known as research and which is the mother of knowledge.

The role of a university in knowledge production

The major role of a university is to create and produce knowledge. This includes putting in place mechanisms for electing dominant elites; creating or sustaining dominant ideologies and training of professionals and skilled human resources. A university that does not produce its own knowledge and merely transmits what is already known is not different from a high school. Indeed it is knowledge production that distinguishes a university from a high school. Due to the digital revolution, knowledge creation and dissemination have become so fast that our universities cannot sit back and depend on their past glories and achievements. If Ugandan universities sit back and do nothing, they will become glorified high schools.

But what is research? It is rooted in the term "search" and defined as "examine thoroughly". The OECD's (Organization for Economic Cooperation and Development 2002 Manual): "Proposed standard practice for surveys of measurement of Research and Experimental Development", known as the Frascati Manual, defines research as follows:

"Research within higher education comprises creative work undertaken as a systematic basis in order to increase the stock of knowledge, including knowledge of human kind, culture and society, and use of this stock of knowledge to devise new applications". (OECD, 2002:29)

The Frascati Manual further distinguishes between the following "types" or "modes" of research: basic research, strategic research, applied research and experimental research.

Basic research; is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view. The results of basic research are not gen-

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erally sold but are usually published in scientific journals or circulated to interested colleagues (OECD, 2002:77).

Strategic research, also known as oriented basic research, is research carried out with the expectation that it will produce a broad base of knowledge likely to form the background to the solution or recognized or expected current or future problems or offers possibilities for solving them (OECD, 2002:78)

Applied research, is also original investigation conducted in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective. The results of the applied research are intended primarily to be valid for a single or limited number of products, operations, methods or systems. The knowledge or information derived from applied research is often patented but may also be kept secret (OECD, 2002:78)

Experimental development, is systematic work, drawing on existing knowledge gained from research and practical experience that is directed to producing new materials, products and devices installing new processes, systems and services, and substantially improving those already produced or installed.

Technological innovations comprise new products, processes and social interventions and significant technological changes in these. An innovation has been implemented if it has been introduced on the market (product innovation) or used within a production process (process innovation) or used as part of an intervention for social development (social development) Innovations therefore involve a series of scientific and technological factors. A technological product innovation is the implementation/commercialization of a product with the performance characteristics such as to deliver objectively new or improved services to the consumer. A technological process innovation process is the implementation/adoption of new or significantly improved production or delivery methods. It may involve changes in equipment, human resources, working methods or a combination of these (OECD, 197:24)"

Various forms of research activities in good universities

A university worth the name should have quality research as part of its major activities. Research must be integrated in the mission, goals and strategic plan of a university. The activities should include but are not limited to:

Postgraduate research, is research conducted for either masters or doctoral degree or postdoctoral certification. A master's degree by research is defined as any master's degree where an independent research thesis constitutes at least 50 percent of the credit for the degree. The same is true for a doctoral degree by research. But to have real postgraduate research, there is need for

Postgraduate supervision, in this case to supervise literally means to "oversee", in case of academic supervision, it means to verse the successful completion of the post graduate thesis.

- a) There is some consensus in the literature that the supervisory role implies a number of different responsibilities, giving the supervisor a variety of role such as: to advise the student in the management of the post graduate project (advisor)
- b) to guide the student through the research process (guide)
- c) to ensure that the required academic quality is achieved so that the student's work will be of a fit standard to be awarded the degree (quality controller)
- d) to provide the required emotional and psychological support when needed (counselor and mentor);
- e) to ensure that all administrative and logistical requirements to obtain the qualification are met (administrator), and
- f) The process of supervising research students is, in itself, a symbiotically learning process and both the staff and student often gain from the experience. Bright student researchers come up with many

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new ideas that supervising staff use in their own research. Indeed some staffs are known to come up with theories originating from students.

(ii) Disinterested Research

This is research to find out an underlying truth without expecting any monetary or other personal return. It is disinterested search for truth.

Consultancies

Many staff do paid “research” that often goes to the Institution or the individual. In the process, the staff could learn many new ideas that could be published for the benefit of society. Universities should not be opposed to consultancies provided the staff does his/her obligatory work.

Research for publication

This is the research conducted to understand an issue with the aim of publishing an article or a book. Publishers often commission academics to research and produce books on specified issues.

Management of research

While it is acknowledged that research should be protected as a creative and individualized pursuit within an institution, it is also important for an institution to ensure that the environment is conducive to this pursuit, i.e., there must be a true “research culture.” Research must be well managed as a major activity of the university. It cannot be left to chance. Management of research includes all those activities and processes geared to creating an enabling environment for research to flourish, in an institution whose culture fosters imaginative, creative, innovative, high quality research. These activities and processes include research policy making, research planning, allocation of research resources (staff, funding and equipment), research support and development initiatives and the monitoring and evaluation of research quality.

An important question concerns the ‘support’ to research. This can comprise:

Research funding

The term ‘research funding’ covers all sources of funding for all types of research conducted by and within a university. It includes all forms of publicly funded research (agencies and government), donor-funded research (international and local donors), and publicly and privately contracted consultancies for research conducted by the staff of a university. But let one thing be clear. Research is not necessarily expensive. It can be done in a library at no cost. Other research may be expensive and will need massive funding. All this will need planning and let research not have as its sole objective financial gain

Research support and development

Research support and development comprises specific activities or initiatives geared towards improving and enhancing research capacity, resources and outputs. This includes training postgraduate students and supervisors as well as supporting young and inexperienced researchers. In addition, research support and development initiatives should be particularly sensitive to overcoming the barriers of access based on misconceived social attitudes such as gender, race, ethnicity or creed.

Research policies and plans

Research policies and plans should be in place and clarify in writing, the principles, rules, regulations and procedures that govern all aspects of research activities within the institution, and define the relevant relations with stakeholders and partners. The policies should spell out a vision for research in the institution including the identification of strategic areas and research priorities, and describe the mechanisms that will make it possible for this vision to be realized.

Research information system

A research information system is a computerized information system (electronic database) that stores up to date and accurate information about the research and innovation activities, resources (research personnel, funding, equipment) and outputs of a university. Such a system should provide for easy retrieval of information and the production of appropriate research

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management reports that can support the planning, monitoring and implementation of a university's research goals.

Research outputs

The term "research outputs" is generally understood to mean the "knowledge outputs" that result from research activities and which typically include new theories, models, empirical findings and data. These outputs are usually "codified" in the form of journal articles, books, conference presentations, web listings and other forms of scientific or academic communications.

Research ethics

This should not be minimized or underestimated. It means the principles and practices that guide ethical conduct of research. These should embody respect for the rights of others who are directly or indirectly affected by the research. The rights of others include rights of privacy and confidentiality, protection from harm, giving informed consent, and access to information, pre and post research and due acknowledgement. Ethical conduct in research also includes the avoidance of inflicting animal suffering of any kind and protection of the environment.

Impact of student numbers on research

The more students are taught the less research and publications are visible. It is clear that faculties where the lecturer/student ratio is high are not a source of new knowledge. Lecturers in these faculties are busy teaching and have no time for research.

Mamdani points out that, "When the Government of Uganda released Shs. 300 million to the University for Research in 1994/95, 88 research projects were approved by the Committee on Postgraduate Studies and Research. No less than 32 of these were housed in the Faculty of Science (15) and the Faculty of Agriculture and Forestry (17). Government funding for research at the university declined drastically in just five years, from 300 million in 1994/95 to 134 million in 1999/2000. A total of 71 research projects

approved in April 1995 were not funded until June 1999. Of these, ten were in Sciences: Agriculture (8) and Science (2), and seven in Humanities/Arts: Education (4), Arts (1), continuing Education (1) and MISR (1)."

Publications

A number of academics at Makerere and Mbarara have published books and journals. Mbarara publishes a comprehensive list of researched and published works. I@Mak, or Innovations and Makerere have done a number of publications. All public universities do not seem to know how to communicate to the public and colleagues about their success in knowledge production. In most established universities, in libraries, at the entrance of main buildings or important centers are exhibited the names of researchers and their work outputs. This tells the university community and public that there are people in the institution producing knowledge. This encourages staff to write and publish and enhances the image of the university.

Conclusions and recommendations

We have to admit that public universities are still conducting research and publishing findings. But the units or faculties that are doing so are those where the mismatch between the number of students and staff is minimal. Where student numbers exceed staff and education facilities, little research goes on.

Most of the research is focused on graduate students, for consultancy, for various time-specific projects etc. But it has to be admitted that major researches for vigorous but disinterested search for the truth or to resolve major social and scientific issues are few.

It will be important that the roles and objectives of all research sections in any university be clearly demarcated so as to avoid any blurring of their roles. Basic research should be given a place of importance where solutions to real problems in society are addressed.

At the same time, government contribution to basic research since the early 1990 has been so low that it is negligible. Yet research is necessary for development.



THE UNIVERSITY OF ZAMBIA

DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

MASTER OF SCIENCE IN PLANT BREEDING AND SEED SYSTEM SCHOLARSHIPS

The Department of Crop Sciences has received a grant from Melinda and Bill Gates Foundation through Alliance for a Green Revolution in Africa (AGRA) to support a limited number of fellowships for a Masters Degree programme in Plant Breeding and Seed Systems tenable at the University of Zambia.

Eligibility

SADC citizens in the following countries- Zambia, Mozambique and Malawi.

Requirements for Admission

1. Possess a degree of Bachelor of Agricultural Sciences with credit or better from the University of Zambia or another recognized University: or
2. Have qualifications deemed equivalent to the degree of Bachelor of Agricultural Sciences with credit or better;
3. Have had three (3) years of experience after receiving the degree of Bachelor of Agricultural Sciences; or otherwise
4. Satisfy the University Senate of their ability to pursue postgraduate studies in their fields.

Scholarships:

The scholarship will cover tuition, stipend, medical insurance and cost of field research.

Mode of Application

Application forms can be obtained from the Directorate of Research and Graduate Studies (DRGS) UNZA or download from www.unza.zm. The application includes, a brief Curriculum Vitae of **NOT** more than 2 pages and the names, e-mail addresses and telephone numbers of 3 referees, a letter of motivation of one page and a nomination letter from the current employer. Female candidates are highly encouraged to apply. The **application fee** is K120, 000 for Zambians and US \$ 60 for non- Zambians, payable to DRGS. **Closing date for applications is 31st March 2011.**

Please send your application documents to:

The Director, Directorate of Research and Graduate Studies, University of Zambia, P.O. Box 32379 LUSAKA.

For further information Contact DRGS on phone +260 211 290258, email drgs@unza.zm or Crop Science Dept, School of Agricultural Sciences on +211 295655 email mmwala@unza.zm; dean-agric@unza.zm