

Research Application Summary

Establishing innovative Higher Education programmes in support of agricultural rural transformation in Africa: The case of FORUM and RUFORUM

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Abstract

The Regional Universities Forum for Capacity Building in Agriculture supports relevance and excellence in agricultural Higher Education.

RUFORUM, the Regional Universities Forum for Capacity Building in Agriculture, is a collaborative network of African universities which evolved from the Rockefeller Foundation supported Forum for Agricultural Resource Husbandry initiated by Prof. Malcolm Blackie and Dr. Joyce Moock. Between 1991 and 2003 the FORUM provided 314 grants which supported training of 250 MSc graduates who delivered research results relevant to rural communities. There was an open but tough review process for selection of proposals to be funded and progress which was actively monitored and mentored by Dr. Bharati Patel. In addition Rockefeller Foundation provided support for institutional change and faculty development and encouraged regional networking.

RUFORUM was established in 2004 by the 10 participating universities with the Board made up of the Vice-Chancellors of these universities, a Secretariat, a Deans Committee and a Technical Committee. Subsequently an International Advisory Panel was also created. The network now has 29 members drawn from throughout the Eastern, Central and Southern Africa (ECSA) region and since 2008 it has registered over 500 students for MSc or PhDs with 41% women students and graduation rate and a recognised contribution to both national and regional research agendas.

RUFORUM has at its core the competitive research grants programme which includes: Graduate Research Grants (GRG), each project supporting training of at least 2 MSc students; Community Action Research Projects (CARP) each with 1 PhD and 3 MSc students; and Field Attachment grants for graduates awaiting final results.

RUFORUM has supported the establishment of Regional Post-graduate Programmes that address gaps at both the MSc and PhD levels. It has also facilitated investments in institutional and faculty development, networking at the national, regional and international levels and has successfully raised the profile of higher agricultural education in Africa

Key words: Africa, Higher Education in Agriculture, RUFORUM

Résumé

RUFORUM, le Forum Régional de Renforcement des Capacités dans l'agriculture, est un réseau de collaboration entre les universités africaines qui se sont développées à partir de la Fondation Rockefeller, pris en charge par le Forum des Ressources Agricoles de l'Élevage, initié par le professeur Malcolm Blackie et le Dr. Joyce Moock. Entre 1991 et 2003, le Forum a offert 314 bourses et 250 diplômés en M.Sc qui ont produit des résultats de recherche pertinents pour les communautés rurales. Il ya eu un processus d'examen ouvert mais difficile pour la sélection des projets de recherche qui devraient être financés, progrès qui a été activement surveillé et encadrés par le Dr. Bharati Patel. En outre, Rockefeller a fourni un appui pour le changement institutionnel, le développement des facultés et a encouragé le réseau régional

RUFORUM a été créé en 2004 par 12 universités participantes avec un Conseil composé des Vice-chanceliers de ces universités, un secrétariat, un Comité des Doyens et un Comité Technique. Par la suite, un Groupe Consultatif International a également été organisé. Le réseau compte désormais 29 membres issus des régions de l'Afrique de l'Est, du Centre et Australe (ECSA), et il a enregistré plus de 734 étudiants pour le M.Sc ou le Doctorat, avec 41% des étudiants femmes, et le taux d'obtention du diplôme et une contribution reconnue à la fois des programmes de recherche nationaux et régionaux.

RUFORUM est au cœur du programme de recherche concurrentielle de subventions qui comprend: Des subventions de recherche des cycles supérieurs, (GRG), chaque projet financé forme au moins 2 étudiants en M.Sc ; Les Projets d'Actions Communautaires de Recherche (CARP), chacun avec 1 doctorant et 2 étudiants en M.Sc. ; et les Subventions liées au travail sur le terrain pour les diplômés en attente des résultats définitifs.

Background

RUFORUM a appuyé la création des programmes régionaux post-universitaires qui comblent les lacunes, tant aux niveaux de M.Sc et de Ph.D. Il a également facilité les investissements dans les réseaux institutionnels et les facultés de développement, favoriser les réseaux aux niveaux national, régional et international, et a réussi à élever le profile de l'enseignement supérieur agricole en Afrique.

Mots clés : Afrique, l'enseignement supérieur en agriculture, RUFORUM

The Regional Universities Forum for Capacity Building in Agriculture is an African owned initiative to support relevance and excellence in agricultural higher education

The origins. RUFORUM, the Regional Universities Forum for Capacity Building in Agriculture is a collaborative network of African universities which evolved from a Rockefeller Foundation supported programme established in the mid 1990s. The Rockefeller Foundation gave the programme the somewhat inelegant title of the Forum for Agricultural Resource Husbandry. It was a programme for which initially, Malcolm Blackie, one of the authors of the paper had responsibility. The first part of the paper outlines the original rationale behind the programme and its early years. It is very much a personal reflection and, for that reason, is written in the first person (Malcolm Blackie).

Universities have been good to me – I have studied in Scotland, England, and the United States, and have worked at universities in the South Pacific and in Africa. It is rare today if I travel in Africa and do not meet one of my past students. The co-author of this paper is one of my most successful (and rebellious) graduate students. For many years, I was unable to work in Africa; the words 'Born in Rhodesia' meant automatic exclusion from almost all African countries. But, in 1980, I was able to return to a newly independent Zimbabwe to set up a new faculty of agriculture.

I found a university almost entirely divorced from the agricultural communities of that country. A well established, funded, and staffed network of research stations servicing the large commercial farms was supported by both government and the major farmer organisations. Most graduate training in agriculture was done in South Africa where strong research and teaching

schools existed focused on commercial agriculture. Our annual intake of students was tiny (six in the year I arrived) and the quality of entrants was low. There was almost no tradition of research in the faculty and very little in the country to address the needs of small farmers.

I was fortunate to gain one of the best mentors a young professor in my position could have had. Professor Carl Eicher, one of Africa's pre-eminent agricultural development authorities, was asked by the US government to advise on the development of agricultural programmes in the country. Carl worked tirelessly with me to gain the facilities for teaching and research that we would need to become a serious agricultural university. Within three years, our intake of students had risen to 100, and the quality of entering students was improving continually. So, at the undergraduate level, the faculty was progressing well.

But teaching programmes need to be supported and enhanced by the research in which senior academics are involved. Graduate students bring new ideas, and revised theories into the comfortable world of academic life. Getting support for graduate students in my department and in the faculty was not easy. I could get scholarships for talented individuals to study abroad – the university had its own staff development programme I could tap into as well. These opportunities were necessary, but not sufficient, to create a quality agriculture faculty. The government research station managers were reluctant to allow the university onto their facilities – I was advised that the university should stick to 'academic' research which did not have a place on research stations. Few of the donor agencies were willing to help – the amounts I needed were too small for them to bother with. If I could come up with a programme to train a hundred students in Europe or the US, then there might be a chance. Funding a few African students to work in their own country and with their own farmers was not a priority. There were exceptions – The Ford Foundation and IDRC of Canada were particularly helpful and by 1986 I had a small but talented group of young Zimbabwe graduate students working with me at the university. We also, through Carl Eicher's university development programme, had several more who had done their coursework in the US and were doing their dissertations under joint US/Zimbabwe supervision in Zimbabwe. And a small group of American students were also doing dissertation work in Zimbabwe. So there was a decent graduate school forming.

Around this time I joined what was then the Agricultural Sciences Division of The Rockefeller Foundation to help establish a new programme of work in southern Africa. An important emphasis of the Foundation's work internationally was a fellowship programme providing opportunities for advanced study to developing country graduates. It was at a staff meeting to review our programmes that one of the two key individuals (interestingly, both female) in the FORUM programme made her intervention. Joyce Moock, then a vice-president of the Foundation, proposed the hypothesis that the Masters level graduate was one of the key movers in agricultural development. We needed urgently to review how we might expand and improve this cadre of individuals. I undertook a review of the faculties of agriculture in the countries where the Foundation worked – and found that almost all departments and faculties lacked facilities to attract good graduate students. There were some decent Masters programmes but the opportunities for field work were limited, and the research topics often divorced from farmer priorities. The constraints were exactly those that I had faced at the University of Zimbabwe. Funds for graduate students were difficult to find, and professors were doing their best with the limited resources they had. I had been lucky in Zimbabwe and was there during the 'honeymoon' of independence. As the caravan of development agencies moved on to new priorities, the agriculture faculties in the older independent African states lost favour. The training of African staff had been done. And faculties were being swamped by undergraduates as governments promised widespread access to university education without expanding facilities.

Turning this round needed an investment well beyond the resources of the Foundation. But helping develop good quality Masters programmes at the better endowed universities of southern and eastern Africa was doable – and served to address directly the challenge Joyce Moock had laid down. The programme that I, with the help and advice of colleagues both inside and out with the Foundation, was simple in concept. We would fill the funding gap for graduate students by a small grants programme open to faculty staff initially at a select group of universities that showed the potential to respond to such a programme. We built in some special criteria. First, any proposal needed to have a credible outside partner who was actively engaged as a participant in the research. This partner could be a farmer organisation, a supply firm, an NGO. The purpose

was to engage university faculty with developing research problems that were priorities for agencies outside the university. Second, the proposal had to have full funding for at least one graduate student and there was a strict budget limit on the total grant. Third, each proposal would be reviewed first by specialists in the field and then finally by a small advisory panel. The advisory panel did not make individual awards – that was done by Foundation staff but it was explicit that ignoring guidance from the advisory panel would need sound justification.

This programme was unique. Priorities were set locally, not by the Foundation. There was an open but tough review process. Funds were disbursed directly to the universities and grantees were expected to report back regularly on progress. Poor reporting compromised future grants. The first grants were difficult to make as university professors did not understand this different manner of operation. All the early grants were focused on projects which the authors felt fitted Foundation priorities and thus the necessary local partnerships were poor. But once the rules were understood, the programme took off. So much so, that within a year, it was necessary to hire a staff member with sole responsibility for the programme. Dr Bharati Patel, previously Chief Research Officer in the Zambia Ministry of Agriculture was appointed.

She added a further degree of rigour to the programme. Her particular focus was on the graduate students. She took immense care to ensure that graduate students were properly supervised, that they were allowed to speak their minds and air problems openly at Forum meetings, and that they gained experience in the commonly weak areas of research writing, methods, and analysis. Her attention to detail and insistence on the highest standards from all participants moved the programme to a new level.

Forum Results

Between 1991 and 2003, FORUM provided some US\$14 million in the form of 314 grants to the different universities:

- Research allocations, amounting to \$10m (\$2.5m for graduate scholarships and the rest research, infrastructural support and staff and student development);
- Non-research or other initiatives, amounting to \$4m for supporting other activities, the benefits of which were generally not confined to any specific country or university. Such activities included; biennial FORUM Regional meetings,

country meetings and student retreats ((\$1,060,000); curriculum development (\$637,000); information access (\$398,000); attendance of professional meetings and publications (\$253,000).

As of 2003, there were 220 journal publications from FORUM research, an indication of the quality achieved and close to 250 M.Sc. students had graduated. Of these 28 were faculty staff, 62 were working with national or international research institutes, and another 42 were in further studies. There were some outstanding research products (see, for example, Box 1), and participating universities were venturing into new fields such as biotechnology and bio-safety. The universities were retaining staff and bringing in resources to help further build their programmes, as well as building regional and international alliances.

Box 1: MBILI: Innovative Intercropping in East Africa

MBILI is kiswahili for the number two and describes a technique of cereal-legume intercropping developed by FORUM researchers that is becoming rapidly adopted by small-scale farmers in Western Kenya. This approach staggers the maize and legume rows into a 2x2 arrangement that allows greater competitive advantage to the legume understorey without reducing cereal populations or yield. This intercropping approach allowed for maize-legume intercropping rotations that not only disrupted pest and disease cycles, but also resulted in more symbiotic nitrogen fixation, greater fertilizer use efficiency and better access to higher-value legume markets. The first MBILI trials were installed in 1999 on 7 farms by a recent FORUM graduate working with an NGO in Western Kenya. She arranged for faculty members from Moi University to visit these sites, leading to a series of FORUM projects that examined the physiological mechanisms responsible for MBILI's success. Shortly afterwards, scientists at Makerere University developed FORUM student projects that examined the potential for MBILI in sorghum-based systems intercropped with groundnut and cowpea. Over the past five years, MBILI intercropping was examined within six student projects resulting in several scientific and extension publications. Field trials over two years (2002-2004) indicated a 32% greater net return from MBILI and another independent survey of farmers in 2005 found that 16% of smallholders are practicing that intercropping approach. Because of its relative simplicity and predictable success, MBILI became an important technology for dissemination to farmers through NGOs and other development specialists, opening the door for additional collaborative projects between FORUM grantees and the rural development community.

Transition

The excellent work carried out under FORUM showed participating universities the importance of, and benefits from, working much more closely with small-scale farmers and of involving other agencies in this development. It also highlighted the potential to provide faculty with more meaningful and useful opportunities to carry out research and to publish. The small financial incentive encouraged them to reduce dependence on consultancies – allowing them the time to work more closely with their students. In a number of instances the research projects were inter-disciplinary and contributed to bringing faculty members across departments together. The most important of all the benefits from FORUM was to bring students and faculty to the field. Before FORUM only a few students ever spent time with farmers and most post-graduate research was limited to the laboratories, secondary literature and, where they existed, university farms. FORUM enabled them to work closely with farmers, addressing real needs, facing the necessity to be innovative, to communicate at the farm, policy and academic levels and become enthusiastic about development and gain a greater sense of social responsibility.

The Deans of the participating Faculties clearly understood the importance of this approach and it now became necessary for both the Secretariat and these Deans to work with the Vice-Chancellors and develop awareness of how essential it was to continue with this work. The Vice-Chancellors agreed to establish an independent RUFORUM in 2004. The then 10 member Universities of FORUM recognised that although they were competitors for the available resources from aid and development agencies, there was an opportunity to harness each other's comparative advantage to strengthen their own institutions and increase competitiveness. The strong impact the programme had shown in the quality and relevance of the graduates and research, the increased respect for the universities, the greater retention and attraction of faculty and the gains from networking persuaded the Vice-Chancellors to establish their own organisation to continue the FORUM approach to ensure greater relevance and improve the quality of their agricultural faculties.¹

¹ It changed from being a donor program to an independent organisation owned by 12 member universities (Kenya- Egerton University, Jomo Kenyatta University of Agriculture and Technology, Kenyatta University, Moi University, University of Nairobi; Malawi- University of Malawi; Mozambique- Eduardo Mondlane University; Tanzania-Sokoine University of Agriculture; Uganda- Makerere University; Zambia-University of Zambia; and Zimbabwe- Africa University, University of Zimbabwe). To facilitate coordination and networking, a Secretariat was established, in Kampala, Uganda

Over time RUFORUM became stronger and the Vice-Chancellors, who form the Board of RUFORUM, its greatest supporters. They called for the research agenda to spread beyond the original crops and disciplines emphasized during FORUM. They also called for RUFORUM to assist in strengthening the soft skills of both faculty and students, to provide support to retooling and upgrading skills, to help the universities to establish strong doctoral programmes to service the region, and they called on RUFORUM to strengthen the network, expand outward and also to assist in raising the profile of higher agricultural education in Africa.

The Outcome

The outcome of these efforts is a vibrant, widely recognised, network of 29 universities in the Eastern, Central and Southern Africa region (ECSA). RUFORUM has made a significant contribution to increasing the opportunities for post-graduate training, for ensuring that the training is more relevant and that their research is useful (see also Adipala and Osiru, 2012, this volume). It has contributed to the re-emergence of universities in national agricultural research systems, national and regional policy-making and development agencies and as active partners with producers and servicing agencies along the value chain. RUFORUM has also contributed to raising the profile of African higher agricultural education nationally, regionally and internationally.

During this meeting you will see evidence of the research outputs and you will hear from some of the faculty, students and graduates. In addition some of the personal testimonials and other evidence of the effect RUFORUM programmes has had on lives is provided at <http://www.ruforum.org/category/documents-taxonomy/ruforum-storylines>

Networking

You will see the effects of RUFORUM networking at this Biennium meeting. Not only does it bring together students from across the region, it also brings all the Vice-Chancellors of the 29 member Universities together with all the Deans of the Faculties of Agriculture and many from Faculties of Veterinary, Environmental, Social Economic, Biological and Business sciences, Rural Development, Geography and others. In addition to the Deans we have all the Principal Investigators and other faculty members, together with their students. Other universities from throughout the world and various development and research agencies and networks, farmers, and NGOs, aid agencies and policy-makers join the biennial congregation of

RUFORUM. The RUFORUM model also provides opportunities for students to attend other regional workshops to present their results.

But the networking is not limited to the Biennium Meetings and regional meetings, as RUFORUM helps to facilitate exchanges through its website and social media, especially of students and graduates. This still needs further investment but preliminary results are encouraging. We have online platforms on facebook and LinkedIn where we interact with the Students facilitated by an Online Virtue Intern (<http://www.ruforum.org/content/welcome-alumni>)

A very important component of RUFORUM is the support of the regional exchange of faculty and students and this helps to consolidate links and shared learning. In addition the RUFORUM model helps to build networks within country between universities, between faculties and departments and between students from different disciplines. Furthermore it requires grantees to work closely in partnership with affected stakeholders including producers, service, research and government agencies in the public, private and civil society sectors. This has raised the profile of universities in their countries and integrates them more closely into policy-making through their Forums. The Tertiary Education Agricultural Mechanism for Africa (TEAM Africa) is an example of where RUFORUM will be assisting member universities, and others, to engage more closely in the CAADP process.

Internationally RUFORUM has done much to raise the profile of higher agricultural education in ECSA. It attends many international meeting to share lessons and provide exposure to the opportunities for engagement with both RUFORUM and the individual member universities. It has built up a network of individuals and agencies which can be contacted for advice and assistance by all members.

Faculty

An important contribution made first by FORUM and continued by RUFORUM is the effort to retain and attract high quality staff. Faculty members have been given opportunities to be able to carry out meaningful research in the field, and the (relatively small) financial incentives for special mentorship has allowed faculty to allocate more time to demand driven research and student supervision, than focusing on consultancy driven research. The retooling, the networking and field opportunities

have all contributed considerably to increased skills and quality staff attraction and retention. Some of the now more well-connected lecturers at the older member universities are now less reliant on RUFORUM to support this research and

Box 2: What I Gained From Being a Graduate Student
Tavagwisa Muziri: Msc Crop Production, Africa University, Zimbabwe

Stemming from the background working as a farm manager on a commercial farm, I had never thought that farming could be complete without the prescribed inorganic fertilizers and other purchased inputs. The first year of graduate school miraculously changed my thinking and perception of farming and awakened hope in me for the poor farmers, hope that it is possible to rekindle the flame of sustainable farming without needing to depend entirely on inorganic fertilisers. The previous training and experience I had received made me see farming as only successful with purchased inputs. I therefore had never envisaged myself being useful to the resource poor farmer of Chivi with their granitic, sandy soils until graduate school broadened my horizon.

It gave me the impetus to become an agent of development in my area. I was enjoying Christmas holiday in the rural areas with my village head discussing as we always do, the state of our fields. Realising that I had grown in my understanding of soil fertility issues, the excited *sabhuku* asked me to address villagers on the use of available sources of organic manures in improving their soils. This marked the beginning of my career as an extension agent to my people and later on to various other farmers I was to meet, Thanks to my graduate studies, the supervision and the support through RUFORUM and the wealth of research knowledge and confidence it imparts on its products.

Back at college a project was waiting for me on the use of municipal organic waste as a source of manure for peri-urban farmers. The project was eventually accepted by everyone I shared the idea with; the city council authorities I discussed with, vegetable vendors at the vegetable market where I collected my samples as well as those with the smallholder farmers in Nyamazura where I did my project. The people of Nyamazura took pride in the project and made it theirs. They knew my plots and their treatments better than me. They inspected them on their way to the grinding mill and as they came from water points. They even could assess the growth of the crops in my absence making their own interpretation as they did.

I enjoyed working with all these people. I gained skills of interacting with local community, disseminating my knowledge to them at the same time learning from their experiences. I developed affection for the Nyamazura community and felt an invigorated curiosity to also contribute to my community back home. I had become more enlightened and empowered. The advice I could now give to them became much closer to their situations

and less abstracted from their reality unlike what I could offer in the past. Apart from the enhanced usefulness to the community, being a research student improved my communication and analytical skills. It exposed me to different people and ways of life. The trip to Malawi for the RUFORUM Biennial meeting also widened my horizon and understanding of agriculture. It brought opportunities for networking with other scientists and exposure (the desire of every scientist).

Students

mentorship as opportunities for them have expanded exponentially. However these are still very important for many and particularly the faculty of newer member universities.

RUFORUM has contributed to the increase in number of masters students and mentored their progress, improved courses and curricula, and facilitated better supervision and most importantly experiential learning, participatory action research and to approaches that allow for the developing of soft skills – plus the networking opportunities which will be increasingly important for graduates.

Some 734 students are registered or have graduated from RUFORUM supported and facilitated programmes since 2004. This includes over 200 students who are registered or have graduated from the Regional M.Sc programmes representing 13 member countries and 95 students registered for their doctorates at the Regional PhD programmes representing 9 member countries with 16 having already graduated. Thirty (30) students from five countries have been accepted to the new joint Agricultural and Innovation Systems (ARIS) Regional PhD programme delivered by three member universities (Makerere University, Egerton University and Sokoine University of Agriculture).

At this Biennium you will hear from students and graduates how RUFORUM has impacted on their lives. Many of the faculty members and others in leadership positions throughout the region are RUFORUM alumni. RUFORUM has started the process of tracking its alumni

<http://www.ruforum.org/category/documents-taxonomy/ruforum-storylines>

see also Mayada's story on [Training for Leadership and Change](#)

Research

RUFORUM has developed a particular niche for itself in research support as it encourages more participatory, action-oriented research. RUFORUM is also increasingly requiring

grantees to document their efforts to engage with communities and to disseminate their results. The programme also encourages them to discuss their results with affected stakeholders before finalising their dissertations. Although this forms the core of all RUFORUM research support, it has been particularly highlighted in the CARPs and in the upcoming IFAD supported rural credit research projects.

The posters and various presentations reflect some of the current research being carried out by students mentored through RUFORUM. You can also find some of the research at <http://ruforum.org/a/resourcs/> and <http://www.ruforum.org/category/documents-taxonomy/research-outputs>. The RUFORUM Secretariat is in the process of organising the research into a central place and obtaining links to all the dissertations and some of the dissemination materials produced by students sponsored through, or mentored by, RUFORUM.

Regional Programmes

<http://www.ruforum.org/content/about-post-graduate-programs>

In recognition of identified gaps in both research methods and applied information technology, regional Masters degrees were established. These degrees are inter-disciplinary and adopt new pedagogical methods and very innovative approaches and curricula². The results have been remarkable and there is strong demand for access to this training. RUFORUM will need resources to be able scale out these successful approaches.

In response to the growing need for doctoral studies available in Africa with some coursework component, the Board mandated RUFORUM to support the establishment of regional PhD programmes³. RUFORUM was very closely involved

² With the approval of the Board, it established the regional AICM programme to assist in improving the using of modern communications and information technology at universities for both research and teaching. The regional Masters in research methods was established as a completely new way of facilitating learning with an emphasis on self-learning, shared student learning and practical experience. It also drew students from a wide range of backgrounds. In line with MBA degrees, students are not required to produce a dissertation. Instead they are required to work closely with a number of research projects assisting them with their research design and are then required to produce papers recording what was proposed and why. Thus contributing directly to research

³ PhD. Dryland Resource Management hosted by University of Nairobi, PhD. Plant Breeding and Biotechnology hosted by Makerere University, PhD. Aquaculture and Fisheries hosted by University of Malawi, PhD. Soil and Water Management hosted by Sokoine University of Agriculture, Tanzania, PhD. Agricultural Resource Economics hosted by University of Malawi, Malawi and Strengthening Agricultural and Rural Innovation Systems (ARIS).

with the development of the programmes of the Drylands, Crop Breeding, Fisheries and ARIS PhD programmes and helped to facilitate a different approach which engages closely with communities and provides an experiential learning environment with well supervised research. However, RUFORUM has very little institutional financial support for this facilitation and has not been able to work as closely with establishing the other regional programmes. But RUFORUM does provide all the Regional Programmes opportunities for faculty skills upgrading and for the facilitation of the exchange of faculty and the sponsorship of the attendance of regional students on these programmes. More recently some of these opportunities are being extended to West Africa to expose them to the RUFORUM approach. RUFORUM is also focusing on encouraging its member universities to host joint regional programmes to enable them to take advantage of the particular comparative advantage of individual universities. The ARIS PhD programme is facilitated by three member universities and has accepted 30 students from five countries to begin in October at Makerere <http://www.acp-edulink.eu/content/aris-%E2%80%94-strengthening-agricultural-and-rural-innovation-systems-regional-phd-programme>

In the future, to be even more attractive to both in-service students and women, it is important for these Regional Programmes to adopt a more modular approach, with some courses run at intensive short sessions with some of the courses on-line. This will make the programmes much more attractive to both students and employers. Universities and faculty members will need guidance and retooling to adopt these new approaches. RUFORUM has facilitated the development of e-courses under the PhD in Aquaculture and Fisheries, the M.Sc in Agricultural Information Communication management and are currently working on M.Sc Research Methods. The contents are available online at <http://www.ruforum.org/category/documents-taxonomy/open-education-resources> and <http://www.ruforum.activemoodle.com/>

Supporting these Programmes and Students

RUFORUM has worked in partnership with a number of European, British and American universities, and international networks, aid agencies and charitable foundations to engage in specific skills training for faculty and students. The emphasis has been on soft skills, research skills and IT but a wide range of skills development has been made available.

Raising the Profile of HAE

RUFORUM has supported efforts to revise curricula and pedagogy so that they are more relevant both to local needs and the changing world and the new opportunities offered by technology.

RUFORUM has also worked closely with regional quality assurance initiatives and has, through its programmes, emphasized the importance of quality and through mentorship has tried to ensure continuous improvements in quality and relevance. Linked closely to this are efforts by RUFORUM to considerably improve its own monitoring and evaluation system and to start to take stock of its impact. It is also engaged with international partners in assisting universities to strengthen their own M&E systems.

The RUFORUM website hosts a number of publications produced by RUFORUM to specifically address gaps, such as guidance on post-graduate research and proposal writing <http://www.ruforum.org/sites/default/files/GEAR/menu/index.html>. Other particularly useful publications and open access software are also made available and various links given. In addition the RUFORUM communications facilitator keeps RUFORUM members closely in touch with opportunities and publications through a list-serve and the monthly Newsletter.

By requiring all the research grantees to publish their findings both in academic journals and in locally useful policy briefs, posters and workshop presentations, RUFORUM is directly contributing to both the quality and relevance of those participating in its programmes.

In the first phase of operation, RUFORUM did not directly establish projects to raise the profile of Higher Agricultural Education (HAE) but the results of its networking did contribute to the increasing awareness of the importance of providing high quality, locally relevant post-graduate opportunities within Africa. The potential for universities to work together with partners to address the research and policy gaps in their countries also started to be realised and RUFORUM has worked with other African HAE networks to consolidate the gains. RUFORUM capitalised on this and initiated and hosted an inter-ministerial meeting to garner greater support for HAE by both national governments and international agencies (<http://www.ruforum.org/content/proceedings-ministerial-conference-higher-education-agriculture-africa-cha>). One

outcome from this is TEAM- Africa, an initiative with FARA and ANAFE together with international partners, to spread awareness of the need for transformation throughout Africa, encourage support to transformation and to link tertiary agricultural institutions more closely to the Comprehensive African Agricultural Development Programme (CAADP).

Another very important contribution made by RUFORUM to its members is that the Secretariat spends much time and human resource energy attending international meetings. At these meetings, RUFORUM has been successful in strongly representing both what ECSA needs and the opportunities it offers to partners. In addition it has been able to facilitate direct links between its member universities and northern universities, research agencies, networks and aid agencies. At this meeting RUFORUM is deepening its engagement with universities in Brazil, China, Costa Rica and India.

Catalysing Change

Perhaps the most important contribution RUFORUM has made is that it has raised awareness of the need for change: the need to make both research and teaching more relevant to local needs and to improving the livelihoods of the poor, the need for students and faculty to engage much more closely with producers and those servicing them, and for universities to become active in the development agenda of their countries and on the continent. They have also profiled the issues that need support to ensure these changes: better incentives and opportunities for faculty, opportunities for students to carry out their research in the field, curriculum reform, the ability to innovate and communicate, improved soft, research methods and IT skills, more focus on quality assurance and impact assessment and a continued investment in networking.

Where to Now?

RUFORUM has been very active in promoting an agenda that will assist universities to transform themselves so that they are able to play a key role in achieving both the CAADP agenda of 6% agricultural growth and of the MDGs for sustainably reducing poverty. It has been able to reach out widely with its message of the importance of transforming agricultural higher education but it has not yet made direct and significant changes in all of its member universities. For those members not yet closely engaged in RUFORUM programmes, the main benefits come from the networking in the region, the links to support agencies, sharing of relevant publications and alerts and most importantly the greater profile given to HAE. They have not

yet had direct experience with RUFORUM programmes but there is increased awareness of the importance of more participatory, demand-driven research and of developing soft skills and experiential learning. This is being taken up and spreading to other faculties, especially in those universities that have had the opportunities presented by active participation in RUFORUM programmes.

RUFORUM needs to grow to be in a position to support its newer members to participate much more directly. In some cases this means extending opportunities to staff to access higher education opportunities in the region, while retaining their services in the home universities by giving them the opportunity to carry out their research at home. In others it means improving skills to ensure much broader success in the competition for research grants. For all the members RUFORUM needs to continue to raise the profile and catalyse investments in improving the quality and relevance of agricultural higher education in its teaching, research and outreach.

RUFORUM continues to prioritise research that is participatory, providing hands on experience and research outputs that are more likely to be taken up. RUFORUM has been moving towards addressing issues along the entire value chain although the focus has been on soils, crop science and production and to some extent animal production. However, within these production-related projects, the researchers have been specifically encouraged to nest their research into a more holistic and inter-disciplinary framework. How should RUFORUM take this forward?

RUFORUM has limited human resources and finances. It has been an advocate for transformation and has achieved much but where should they go now. How can RUFORUM significantly scale up their Competitive Grant schemes? How can they ensure greater equity and meaningful participation by a much broader range of members? How do they best continue with their support to the regional exchange of faculty and students, the provision of training in soft skills, IT and monitoring and evaluation? Should RUFORUM continue in the role of representing African agricultural higher education at all the many conferences, seminars, workshops and meetings internationally and regionally?

Reference

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