

Key messages on the process and submissions in response to the sixth Graduate Research Grants Call

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Executive Summary

The Graduate Research Grants (GRG) Call provides opportunity to member universities of the Regional Universities Network for Capacity Building in Agriculture (RUFORUM); a Network of 46 Member Universities in sub-Saharan Africa to develop and submit applications for research and training. The process is based on a competitive granting scheme with the GRG as one of the categories of the scheme. Under the GRG a grant is competitively awarded to a principal investigator (an individual senior lecturer at a member university) to support agricultural research action research and the training of at least two masters students. RUFORUM in the last decade has supported capacity building in agricultural sciences through a Competitive Grants Scheme (CGS). The Graduate Research Grant (GRG) scheme now in the 6th round of call is one of the four grant awards that are administered by RUFORUM. In this 6th call, the RUFORUM Information Management System (RIMS) was utilized during the submission and review of applications marking the commencement of a virtual granting process at the RUFORUM Secretariat. Submissions made through other channels (e.g., via email attachments) apart from the RIMS were not considered. A total of 108 proposals were received via RIMS, 93% of which complied with the application guidelines and 21% were led by female principal investigators; this however is lower than the RUFORUM 42% target for female representation. Thirty percent of the proposals focused on crop production, 25% on cross-cutting thematic area (agri-business management, rural development and socio-economics, food science and nutrition, climate change and natural resources management as well as agricultural extension, communications and information systems) and 20% addressed animal production. Disaggregated submissions by commodity focus showed that 26.4% and 10.4% of the proposals focused on cereals, fisheries and aquaculture and ruminants respectively. While there remains a high focus on crop production there is an observed increase in submissions on animal production and cross-cutting themes. The analysis also reveals limited attention to some critical areas, especially farm management and natural resources; land, soil and water and, agroforestry and it is imperative that the Secretariat and member Universities undertake strategic interventions in these areas. In addition, the Secretariat and member universities need to undertake strategic interventions to uplift the participation of women scientists in the competitive grants in the network. The analysis of this process and from the submissions in response to the 6th RUFORUM GRG Call will guide future interventions in terms of solicitations for research proposals intended to focus on agricultural research and training for postgraduate students in Africa.

Key words: Agricultural research and training, competitive grants, RUFORUM Network universities.

Résumé

L'appel à la subvention de recherche au niveau des études supérieures (GRG) offre la possibilité aux universités membres du Réseau des Universités Régionales pour le Renforcement des Capacités en Agriculture (RUFORUM), un réseau de 46 universités membres en Afrique subsaharienne, à développer et à présenter des demandes pour la recherche et la formation. Le procédé est basé sur un système compétitif de subvention avec le GRG comme l'une des catégories du schéma. Sous le GRG, une subvention est attribuée d'une manière concurrentielle à un chercheur principal (un professeur individuel à une université membre) pour soutenir la recherche-action de la recherche agricole et la formation d'au moins deux étudiants de maîtrise. Le RUFORUM a dans la dernière décennie, soutenu le renforcement des capacités en sciences agricoles à travers un plan de subvention compétitive (CGS). Le système de la subvention de la recherche au niveau des études supérieures (GRG) se trouve maintenant dans son 6^{ème} tour d'appel, et est l'un des quatre prix de subvention qui sont administrées par RUFORUM. Dans ce 6^{ème} appel, le système de gestion de l'information du RUFORUM (RIMS) a été utilisé au cours de la présentation et de l'examen des demandes, marquant ainsi le début d'un processus virtuelle d'octroi de subvention au Secrétariat de RUFORUM. Les dépôts qui ont été faits par d'autres voies (par exemple, à travers les pièces jointes des emails) en dehors de RIMS n'ont pas été considérés. Un total de 108 propositions a été reçu par l'intermédiaire de RIMS, dont 93% avaient respectés les directives de demande et 21% étaient dirigées par des enquêteurs principaux de sexe féminin. Ceci cependant est inférieur aux 42% de représentation féminine ciblés par le RUFORUM. Trente pour cent des propositions étaient axées sur la production agricole, 25% sur des domaines thématiques transversales (la gestion de l'agro-business, le développement rural et la socio-économie, la science alimentaire et la nutrition, le changement climatique et la gestion des ressources naturelles, ainsi que la vulgarisation agricole, les communications et les systèmes d'information, et 20% avaient traité de la production animale. Le regroupement des projets soumis par produit ont montré que 26,4% et 10,4% des propositions ont été axées respectivement sur les céréales, la pêche et l'aquaculture et les ruminants. Bien qu'il reste une focalisation élevée sur la production agricole, on observe une augmentation dans les présentations sur la production animale et des thèmes divers. L'analyse révèle également une attention limitée à certains domaines critiques, notamment la gestion agricole et les ressources naturelles; la terre, le sol et l'eau et, de l'agroforesterie, et il est impératif que le Secrétariat et les universités membres puissent entreprendre des interventions stratégiques dans ces domaines. En outre, le Secrétariat et les universités membres doivent entreprendre des interventions stratégiques visant à élever la participation des femmes scientifiques dans les subventions concurrentielles du réseau. L'analyse de ce processus et à partir des projets soumis en réponse au 6^{ème} appel du GRG du RUFORUM guidera les interventions futures en termes de sollicitations pour des propositions de recherche visant à se concentrer sur la recherche agricole et la formation des étudiants de troisième cycle en Afrique.

Mots clés: la recherche agricole et la formation, les aides compétitives, le Réseau des universités du RUFORUM

Introduction

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) has continued to strengthen

its role as a knowledge and capacity building agency in 46 universities in 22 African countries. In championing the rejuvenation of training and capacity building in higher education, RUFORUM

runs a Competitive Grants Scheme (CGS) that entails five different grant types: Graduate Research Grants (GRG), the Community Action Research Programme (CARP), Field Attachment Programme Awards (FAPA) and Institutional Strengthening Grants (ISG) and the Doctoral Research Grants (DRG).

The CGS is one of the strategies utilized by the RUFORUM Secretariat to advance research and training and capacity building of scientists at higher institutions of learning and is rooted in the evolution of RUFORUM as a Network of Universities (Bharati and Woome, 2000). The GRGs that are implemented through competitive award are given to senior faculty of a member university to support research and training of at least two graduate students at Master level. This grant type currently provides up to \$65,000 for a period of twenty four months. The grant requires collaboration, joint supervision and interdisciplinary research. Five GRG calls have been undertaken with 106 Projects awarded resulting in the training of 247 MSc students. Building on the achievements and lessons learnt from the 5 GRG calls, in July 2014, RUFORUM announced the 6th GRG competitive call for proposals that closed on the 12th of February, 2015. Project proposals were expected to be in line with the broad thematic area “*Innovation for sustainable crop systems and/or livestock systems within value chains that improve smallholder incomes*”. In that case, applications focussing on research that addresses key constraints within a commodity value chain were initiated. Applications were required as per the call guidelines to clearly show the link to increasing agricultural productivity, nutrition, bio-fortification,

postharvest handling and health of smallholder farming households.

The 6th GRG call was unique, because RUFORUM for the first time operationalized an automated electronic proposal submission process using the RUFORUM Information Management System (RIMS) that was put in place to improve RUFORUM business processes. In the RIMS, principal investigators were required to specify the focus area, proposal theme and sub-theme. By adopting the RIMS, RUFORUM expects to attain timely and smooth granting process. This working brief provides an analysis of the process and the proposals received in response to the 6th call with an objective of sharing the key emergent lessons from the submission process and proposal categories.

RIMS submission process and experience. The submission process started on a low note, with only 10 proposals submitted by the third day to the deadline. Ninety percent of the proposals were submitted in the last two days with 67% of these proposals submitted on the final day (Fig. 1). Even with the operationalisation of the RIMS several applicants still submitted their proposals via emails as attachments. The process was not without challenges as depicted through the frequently asked questions. They included: difficulty in online registration, inability to upload the necessary files, difficulty in finding the correct GRG template, difficulty in filling in the templates particularly total budget figures, loss of information due to failure to use the save button, poor internet connectivity from the applicants’ stations as well as power outages. To help the applicants, the RUFORUM Secretariat IT

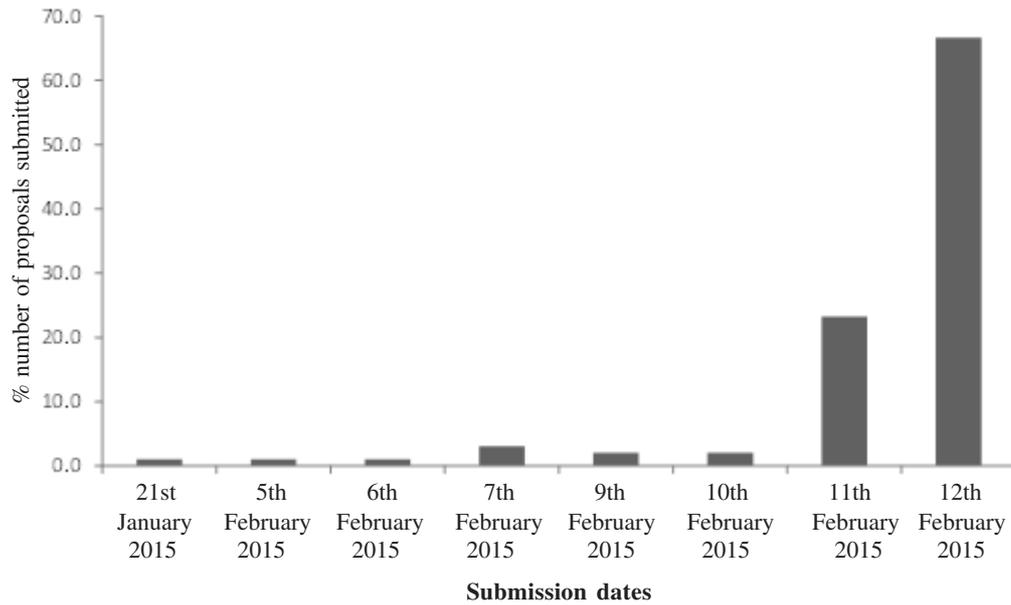


Figure 1. Proposals submitted by deadline date, 12 February 2015.

and Grants unit operated a standby team that provided feedback to the applicants' questions. Although a couple of research teams failed to successfully use the platform and get their submission in; the overall feedback from several applicants highlighted the usefulness of the online platform and appreciated timely support provided.

Characterization of submitted proposals. One hundred and eight (108) proposals were received via the online platform in response to the 6th GRG call and eight of which were non-complaint with the set guidelines. The non-complaint proposals included: 2 proposals from a privately owned university¹, 1 from a non-member university/institution, 1 whose principal investigator lacked a PhD, 1 was

submitted by a principal investigator with an on-going project, and 3 were submitted late. Submissions were received from 20 universities (Fig. 2) in 11 countries (Fig. 3) of the RUFORUM Network. Applicants from member universities in Uganda and Kenya submitted 33% and 31% of the proposals respectively making the largest number of submissions overall (Fig. 2). Twenty one percent of the proposals were submitted by female principal investigators.

Six thematic areas including crop production, cross-cutting issues, animal production, farm management and agriculture/natural resource economics, land, soil and water management and other production systems were represented in the proposals submitted (Fig. 4). A majority of the proposals submitted related to crop

¹ The current GRG support is tagged by donor conditionality not to go private universities and this was clearly indicated in the call documents.

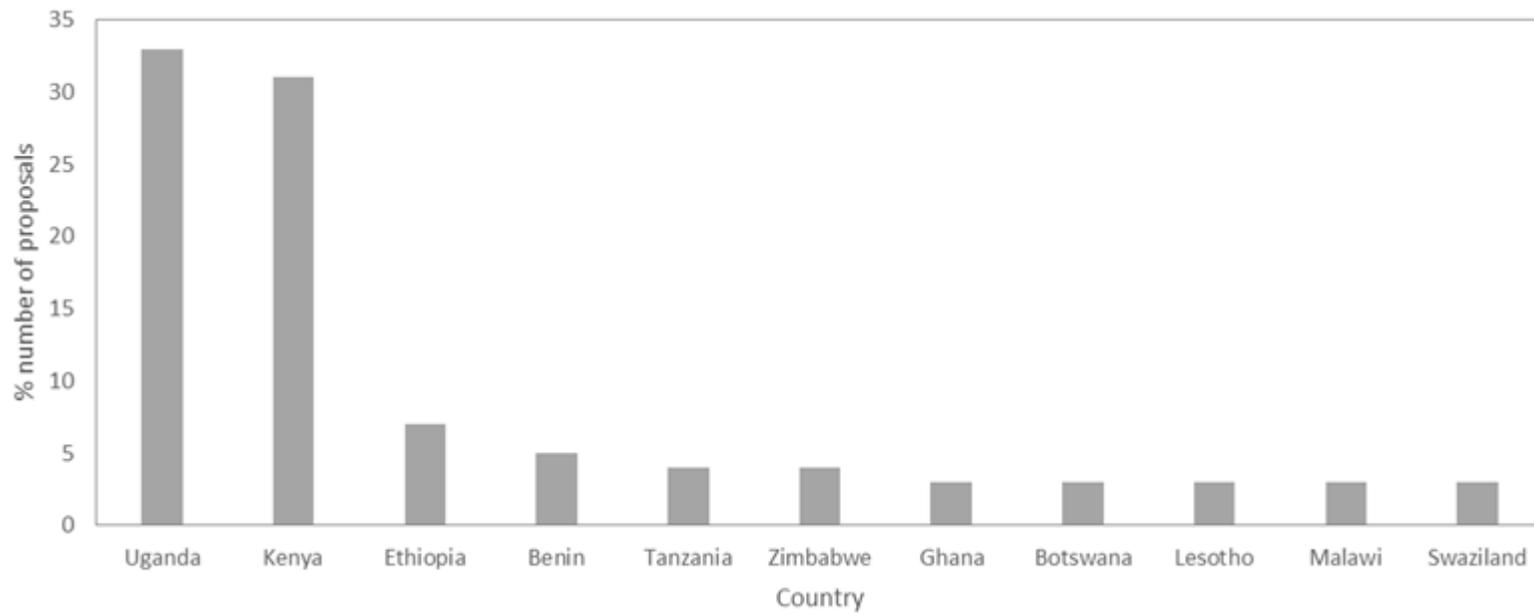


Figure 2. Number of proposals submitted by country.

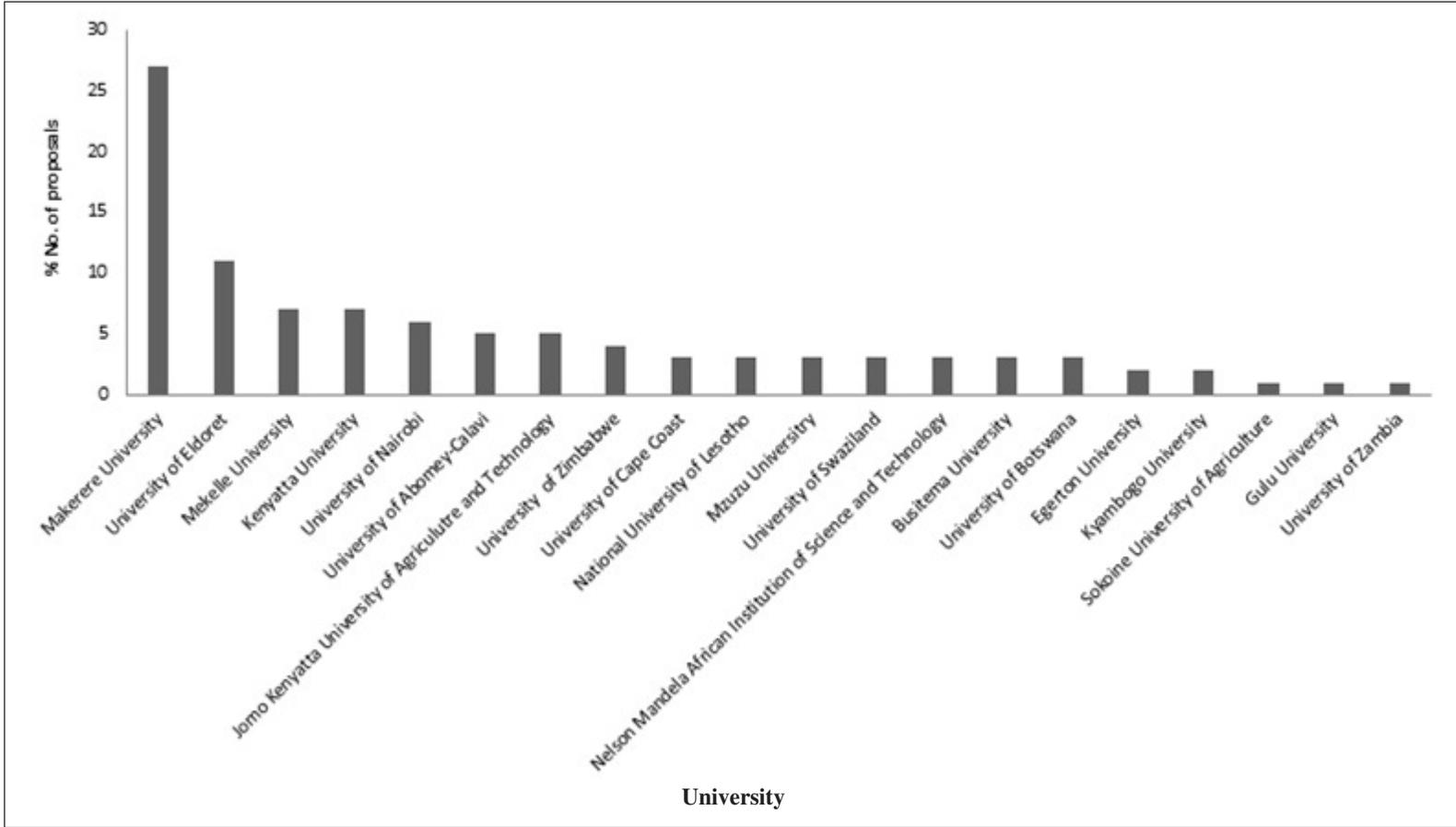


Figure 3. Number of proposals submitted by Member Universities.

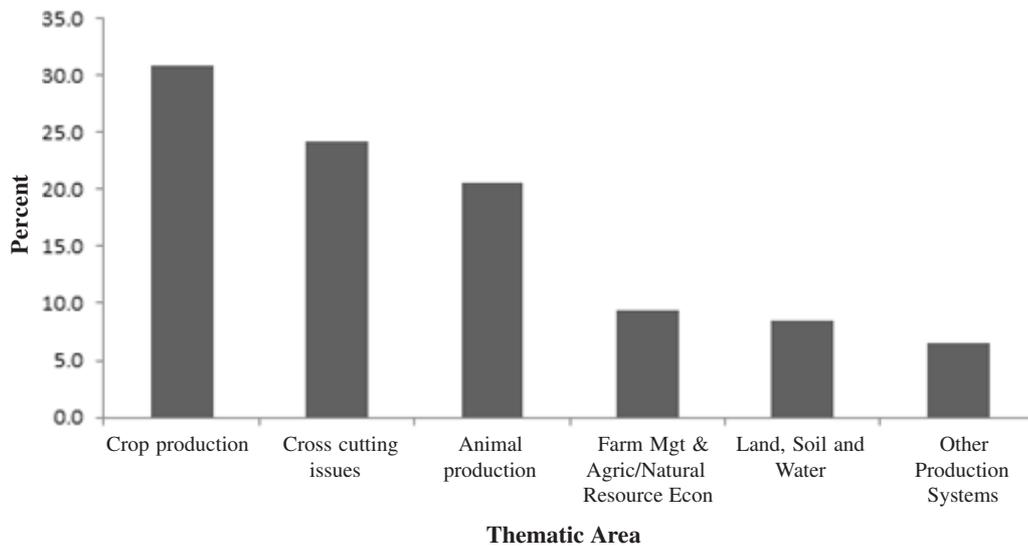


Figure 4. Number of proposals submitted by thematic area.

production (30.8%), cross-cutting issues (24.3%) and animal production, 20.6% (Fig. 2).

Further analysis of Table 1 revealed that 12.1% of the proposals addressed seed and seed systems (plant breeding, biotechnology, agro-biodiversity, distribution systems); 11.2% focused on agronomy and agricultural engineering (cropping and pasture systems, agricultural machinery) and 8.4% focused on animal diseases and pest management including veterinary science and trans-boundary animal diseases (TADS). Another 5.6% tackled animal production including nutrition and agricultural engineering and 6.5% addressed food science and nutrition (Table 1). Only a few proposals addressed agri-business management, rural development and socio-economics, farmer groups, land access and tenure management, agro-forestry and forestry and woodland management (Table 1). A disaggregation based on commodity focus showed that 26.4% of the proposals were focused on cereals, 10.4% on fisheries and

aquaculture and ruminants respectively. The focus for other commodities is reflected in Figure 5.

Discussion

The submission, archiving, retrieval and analysis of the information through the RIMS has revealed the power of harnessing information and communication technology in providing quality organization and assessment process of the grants applications. This has helped address the units' previous challenges relating to email based submissions of proposals and feedback. According to the Technology Affinity Group and Grants Managers Network report (2014), many foundations are very progressive in their grant making programs but less forward-thinking in strategic use of technology in their business practices. However in RUFORUM, deliberate efforts have been taken to increase utilization of ICTs as a flexible resource to researching the network's members,

Table 1. Disaggregated proposal submission by thematic focus area and principal investigator.

Thematic area	Proposal focus area	Number of proposals	Percent per focus area	Overall percent per focus area of submitted proposals
Animal Production				
	Animal disease & pest management, including veterinary science & TADS	9	40.9	8.4
	Animal production (including nutrition & agriculture engineering)	6	27.3	5.6
	Livestock nutrition & management	4	18.2	3.7
	Animal breeding & biotechnology	3	13.6	2.8
			Male	70.0
			Female	30.0
Crop Production				
	Seeds (plant breeding, biotechnology, agro-biodiversity, distribution systems)	13	39.4	12.1
	Agronomy & agricultural engineering (cropping & pasture systems, agric. machinery)	12	36.4	11.2
	Disease & pest control including integrated pest management	6	18.2	5.6
	Post-harvest management (on farm storage, processing)	2	6.1	1.9
Submission by gender category				
			Male	70.0
			Female	30.0
Cross cutting thematic areas				
	Food science & nutrition	7	26.9	6.5
	Climate change & natural resources management	6	23.1	5.6
	Rural development & socio-economics	5	19.2	4.7
	Agricultural extension, communications & information systems	4	15.4	3.7
	Agri-business management	2	7.7	1.9
	Rural development & socio-economics	2	7.7	1.9

Table 1. Disaggregated proposal submission by thematic focus area and principal investigator.

Thematic area	Proposal focus area	Number of proposals	Percent per focus area	Overall percent per focus area of submitted proposals
Submission by gender category			Male	65.4
			Female	34.6
Farm Management & Agriculture/Natural Resource Economics:				
	Farm, commodity & household economics	6	60.0	5.6
	Agribusiness (agro-processing, business, economics, entrepreneurship)	2	20.0	1.9
	Farmer Groups	2	20.0	1.9
Submission by gender category			Male	88.9
			Female	11.1
Land, Soil and Water				
	Soil Science	4	44.4	3.7
	Water access, tenure and management	4	44.4	3.7
	Land access, tenure and management	1	11.1	0.9
Submission by gender category			Male	100
			Female	0.0
Other Production Systems				
	Aquaculture and fisheries	5	71.4	4.7
	Agro-forestry	1	14.3	0.9
	Forestry & woodland managementWildlife	10	14.30.0	0.90.0
Submission by gender category			Male	100
			Female	0.0

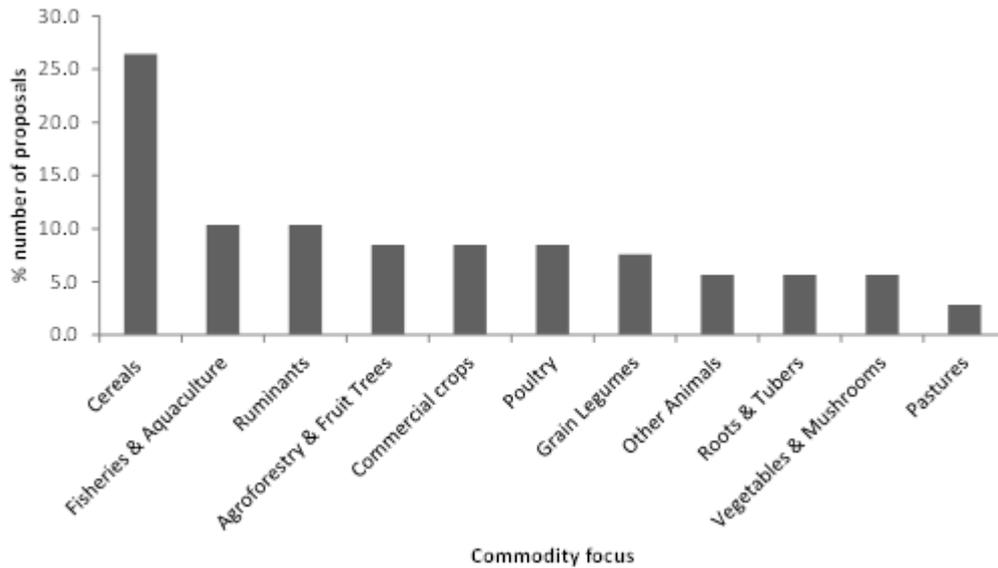


Figure 5. Proposals submitted by commodity focus.

partners and improving business processes at the Secretariat. Harnessing ICT for improved performance at the RUFORUM Secretariat and the Network remains a key focus with efforts underway to engage member universities to explore ICT for outreach and community engagement as part of increasing dissemination of knowledge and technologies.

Through the RIMS platform submission, applicants facilitated compliance check of their own proposals by selecting their project focus area, theme and sub-theme. This process has helped the Secretariat to identify the region's research focus areas mostly addressed by the researchers to include: crop production, cross-cutting issues and animal production. This finding corroborates with earlier observations made by Mukwunye (2010) in a review of Africa's agricultural research and development under taken on behalf of Food and Agriculture Organization of the

United Nations (FAO). In that study, it was observed that research scientists across Africa have paid too much attention to 'production' while neglecting other equally important constraints along the agricultural commodity value chains. The uniqueness of the 6th GRG call was that it required scientists to focus on innovations for sustainable crop and livestock systems with value chains that improve smallholder incomes. This strategic focus was partially arrived at to address the limited attention paid to commodity value chains including marketing and access to markets.

Cross-cutting issues relating to climate change and natural resources management, food science and nutrition, agricultural extension, communication and information systems, agri-business and rural development and socio-economics featured prominently in this 6th GRG submissions. This suggests an increased appreciation to the role cross-cutting issues play in development and a positive response to the requirements set-out in the GRG Call for Proposals that required a

greater focus on multi-disciplinarity and commodity value chains. According to Solheim (2014) cross-cutting issues such as environment, gender and development should be looked at as one thing due to the mutually co-existing benefits. However, it may also represent the research scientists' shift of attention in relation to the donor priorities for example, within the CGIAR system as well as among major international organizations such as Stockholm Environment Center, The Nature Conservancy, and French Agricultural Research Centre for International Development (CIRAD) and Eco-agriculture Partners that have had a strong emphasis on cross-cutting issues (CGIAR, 2013). Thus, what is observed in the 6th GRG submissions could be reflective of the general regional wide research concerns. It is also probable that this observation on research themes is an attempt by applicants to make effort to address neglected research areas in terms of limited support available from national governments and development partners. With this assumption, the RUFORUM CGS has effectively played its role especially since a granting mechanism can only be considered effective component of a portfolio of funding mechanisms if they complement rather than substitute long-term public funding for strategic research (Benigen and Brinkerhoff, 2000).

There was a decimal (<1%) focus given to land, water and wildlife and other production systems such as aquaculture, agroforestry, forestry and woodland management. This might be attributed to few research scientists or limited MSc. programs in some of these fields in sub-Saharan Africa partly arising from changes in strategic research focus areas as well as transformations occurring at institutional level (International Union of

Soil Science, 2006). Nevertheless, these are important areas that require attention in terms of building human-resource and research capacity for the now rapidly expanding higher education and agricultural sectors sub-Saharan Africa.

Moving forward

In moving forward the following actions are recommended for the future action by the RUFORUM Network and stakeholders in higher education:

- a) Considering the trend in GRG proposal submissions, it is important for RUFORUM Secretariat to utilize the Deans and Principals Committee meetings to urge for timely preparation of proposals. Doing so would enhance quality proposals development and in-time submissions thereby eliminating the last minute hurdles that were experienced during this round of call.
- b) In addition to encouraging timely preparation and development of quality proposals, the Deans and Principals Committee should encourage strong participation from their member universities and countries. The Secretariat would also need to hold dialogue with some universities to understand their limited and in some cases non-response to the GRG call for proposals.
- c) Considering the relatively low number of applications received from the female scientists, RUFORUM Secretariat and its member universities need to continue strengthening recruitment of female students and

faculty members as well as strengthening gender considerations in research. Actions might include: a percent reservation of grant award allocation to female scientists while ensuring quality and competitiveness, conducting technical proposal training workshops for female scientists and others from less participating university in conjunction with partners such as African Women in Agricultural Research for Development (AWARD) and member universities research and training directorates and the gender divisions.

- d) RUFORUM Secretariat needs to address gaps in the RIMS set up to make it more user friendly and address some of the technical gaps identified. Specifically there is need address applicants' difficulty in on-line registration, accessing templates, and uploading reviewers reports.
- e) For any of its Call for proposals, RUFORUM Secretariat needs to put in place a helpline with deadline for receiving and answering queries.
- f) There is need to further disaggregate the current disciplinary options (e.g. agronomy and agricultural engineering need to be separated) whilst maintaining the thematic and commodity focus and value chain approach. This will allow for a proper tagging and analysis of the submitted proposals.
- g) Finally, by increasing the use of virtual granting process, RUFORUM is slowly transitioning to reducing her carbon footprint by reducing paper and energy consumption thereby contributing to climate change mitigation efforts; these

efforts are part of a global good practice that should be promoted.

Acknowledgement

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References

- Benigen, R.J and Brinkerhoff, D.W. 2000. Financing agricultural research in Africa and the sustainable financing initiative: Review, Lessons and proposed Next Steps. Washington DC: US Sgency for International Development, Bureau for Africa, Office of Sustainable Development, Technical Paper.
- Bharati K. Patel and Woomeer, P.L. 2000. Strengthening agricultural education in Africa: The approach of the Forum for Agricultural Resource Husbandry. *Journal of Sustainable Agriculture*, Vol. 16(3), 53 - 74.
- CGIAR, 2013. CGIAR Annual Report 2012: Partnership for impact. CGIAR. Montpellier, France. 49 pp. Available at: http://library.cgiar.org/bitstream/handle/10947/2868/CGIAR_Annual_Report_2012_Partnership_for_impact.pdf?sequence=1
- International Union of Soil Science, 2006. The future of soil science. International Union of Soil Science. CIP-Gegevens Koninklijke Bibliotheek, Den Haag. Available at: <http://www.iec.cat/mapasols/DocuInteres/PDF/Llibre07.pdf>

- Mukwunye, U. 2010. Regional review of Africa's agricultural research and development. GCARD 2010. Available at: http://www.fao.org/fileadmin/user_upload/rome2007/docs/Regional_Review_of_Africa_Agricultural_Research_and_Development.pdf
- Solheim, E. 2014. Mainstreaming cross-cutting issues: 7 Lessons from DAC Peer Reviews. OECD, Paris, France. Available at: <http://www.oecd.org/dac/peer-reviews/Final%20publication%20version%20of%20the%207%20Lessons%20mainstreaming%20cross%20cutting%20issues.pdf>
- Technology Affinity Group and Grants Managers Network, 2014. Grant Information Technology survey report. Technology Affinity Group/Grants Managers Network report. Available at: <http://gmnetwork.org/wp-content/uploads/2014/11/2014-IT-Survey-Report-Final.pdf>