

Regional Universities Forum for Capacity Building in Agriculture Secretariat Quarterly Report

1st April- 30th June 2021

Summary

This report highlights key achievements and progress made during the period 1st April-30th June 2021 (the fourth and last quarter of the Financial Year 2020/2021, the third year of implementing the [operational plan-2018-2022](#) of RUFORUM [Vision 2030](#)). The Operational Plan is designed around four (4) flagship programmes underpinned by activities to support regional collective action and learning to give stimulus to achieving the RUFORUM vision for *vibrant transformative universities catalysing inclusive agricultural development to feed and create prosperity for Africa*. The four flagship programmes are:

- Transforming African Agricultural Universities to meaningfully contribute to Africa's Growth and Development (TAGDev) seeks to transform African agricultural universities and their graduates to better respond to developmental challenges through enhanced application of science, technology, business and innovation for rural agricultural transformation. This flagship programme is largely supported by the Mastercard Foundation.
- Cultivating Research and Teaching Excellence (CREATE) seeks to realign universities' research and teaching functions into a more integrated model with a focus on problem solving and enhancing the capacity of the entire university academic practice and outreach system mainly.
- Regional Anchor Universities for Higher Agricultural Education (RANCH) seeks to escalate the setting up of a network of linked universities as African anchor universities/African centres of excellence and academic leadership in agricultural higher education and learning.
- Knowledge Hub for University Networking, Partnership and Advocacy (K-Hub) builds on RUFORUM's convening power and facilitates the creation, capture, organising, sharing and refining of information and content across teams and geographic locations – thus increasing access to latest evidence based information and knowledge.

Below are the highlights of progress made across the flagships:

1. RUFORUM nominated as one of the 100 Champions for the United Nations Food Systems Summit 2021, RUFORUM convened 18 pre-United Nations Food Systems Summit 2021 events to generate perspectives from the different higher agricultural education stakeholders. The regional, institutional and technical dialogues under the theme *University-policy dialogue to strengthen resilient and inclusive agri-food systems in Africa* acknowledged and recommended to the UN Food Systems Summit the need to mobilize science, technology and innovation to accelerate agricultural transformation on the continent to drive inclusive economic development.
2. RUFORUM recognized His Excellency Dr. Lazarus McCarthy Chakwera, President of the Republic of Malawi, for championing Education, Science, Technology and Innovation advancement in Africa.

3. RUFORUM in collaboration with West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) and AKADEMIYA2063 have been successful in the bid to the International Development Research Center to host and manage a research and services network for responsible artificial intelligence for climate action innovation in Africa.
4. RUFORUM operationalized the BK Patel Scholarship Fund by awarding a grant to University of West Kordofan in Sudan to support the training of the next generation of scientists for Sudan.
5. RUFORUM Community Action Research Projects and Entrepreneurship Challenge projects continued to generate innovations that have been transformed into functional business enterprises producing and processing products and creating jobs.
6. Thirty four additional students (27 Masters and 7 PhD) completed studies with support from the Mastercard Foundation, Carnegie Corporation of New York and German Academic Exchange Service (DAAD) at Egerton University; Gulu University; Makerere University; Nelson Mandela African Institution of Science and Technology; Peace University; University of Cape Coast; University of Gezira; University of Khartoum; University of Kordofan; and, University of Nairobi

INTRODUCTION:

The narrative below expounds the achievements made during the period 1st April-30th June 2021, the fourth and last quarter of the financial year 2020/2021. The report is arranged by Flagship Programmes of the RUFORUM [Vision 2030](#).

Flagship programme: TAGDev-Transforming African Agricultural Universities for Africa's Growth and Development

a) Design and roll-out online adapted academic training programmes at early adopter universities

Sixty (60) graduate students were enrolled in the four fully online adapted (post COVID-19 lockdown) Master's degree programmes at Gulu University in Uganda. Egerton University in Kenya has adopted a blended learning approach. RUFORUM further supported institutional level skills development of 242 university academics (92 females and 150 males) working with the Egerton University e-Campus Directorate. This resulted into successfully adapting 172 courses for online learning for three Faculties; (i) Faculty of Environment and Resources Development; (ii) Faculty of Education and Community Studies; and, (iii) Faculty of Agriculture. RUFORUM through this intervention, under the TAGDev programme is achieving overall institutional transformation and impact.

b) Recruit students to complete graduate studies in agricultural sciences in Gulu University, Uganda and Egerton University, Kenya

Under Cohort V student recruitment, 653 applications (379 for Gulu University and 274 Egerton University) have been received from 25 African countries with new applications from eSwatini, Egypt, Gambia, Guinea, Mali and Togo. For continuing cohorts, 27 additional students completed studies at Egerton University, Gulu University; Makerere University, Peace University, University of Cape Coast, University of Gezira, University of Khartoum, and University of Kordofan, bringing to total 82 students (1PhD, 66 MSc, 15



BSc) that have completed, with 376 students (24 PhD, 170 MSc & 182 BSc) still undertaking studies with support from the Mastercard Foundation.

c) Support community action research teams of supported students and faculty at each university to engage with communities and strengthen commodity value chains for smallholder farmers

Community Action Research Programmes (CARP+) focused on delivering technologies, innovations and management practices to smallholder farmers and catalysing commodity value chains development and profitability have continued to make progress in Benin, Botswana, Ghana, Kenya, Namibia, South Africa, Sudan, Uganda and



University of Abomey Calavi students exhibiting baobab products

Zimbabwe. The Baobab-focused CARP+ implemented by University of Abomey Calavi has developed eight technological packages.

These products are currently being transformed into functional business enterprises producing and processing products and creating jobs. For instance, [The Boabab leaf powder has been adopted as alternative for tea](#). In addition, the Boabab CARP+ team has mobilised Technical Vocational Educational and Training (TVET) students and trained them in baobab products development and entrepreneurship. Broader dissemination of the technologies and management practices especially [grafting](#) as a means to baobab propagation and rapidly raising baobab kitchen gardens have been disseminated across Benin.

Other product development initiatives include RUFORUM support to Adoicerit Community Development Group, a women's group in Eastern Uganda in agricultural advisory services and training in value addition and entrepreneurship. Through these efforts, the group has prioritised hibiscus and oil seeds (soya beans and ground nuts) value chains and have generated several products including hibiscus wine, hibiscus bottled juices, and hibiscus tea.



Processed Hibiscus tea developed by smallholders

d) Support the development, scaling-up and documentation of commercialisable innovations emerging from agribusiness incubation centers for greater impacts

RUFORUM supported 23 competitive student enterprises from Uganda and Kenya translate their product innovations into enterprises. These enterprises including [pre-cooked vegetables](#), [Akpan Ltd](#), [Desktop Lunches Ltd](#), [Family Store Ltd](#), [Muggaga Holdings Ltd](#), [Ecobanana Initiative](#), [Trendy Animal Feeds Ltd](#), and [Daucus Ltd](#) are currently employing 65 persons (full time) and 64 persons (part time) and it is projected that over the next one year of focused support, 127 additional jobs will be created. In spite of this success, there still remains immense need for support to ensure growth and business survival beyond the two year birthdate.

e) Support Universities to pursue partnerships with industry to spin out start-ups based on commercializable research outputs and knowledge products

With funding support from the African Development Bank and Korea-Africa Economic Cooperation towards business incubation, the two incubation hubs at Mbarara University of Science and Technology (Uganda) and Université du Sine Saloum El-Hâdj Ibrahima NIASS (Senegal) have received technical backstopping, training and mentorship in communication, [entrepreneurship and incubation](#) and technology innovation. The support focused on enhancing the competitiveness of the incubation

hubs with requisite linkages with the private sector and other incubation players and actors.

f) Support Student field attachment to communities and mentorship for Cohort I, II, III and IV undergraduate and Cohort II and III post-graduates

A total of 26 out of 29 students awarded field attachment opportunities with support from RUFORUM completed attachment in Benin, Ghana, Kenya, Malawi, Rwanda, Uganda and Zimbabwe, disseminating technologies as well as commercializing outputs generated under respective community action research value chains. The technologies disseminated to 3139 smallholders included: production of clean cassava seed to reduce virus diseases (cassava brown streak disease and cassava mosaic disease); using maize biomass to grow mushrooms; using *Tithonia diversifolia* extracts to control *Botrytis cinerea* incidence; construction of a potato tuber processing solar drier for value addition; and, a software for linking smallholder farmers to produce and input markets. As a result of disseminating innovations, five Gulu University students working with 100 refugee households in Imvepi Refugee Settlement promoting climate smart agriculture technologies won the [Geneva Global ideas challenge](#) grant worth US\$ 2,500.

g) Support Feasibility Study for Youth employment, entrepreneurship and agro-innovation development in Uganda

With support from the Arab Bank for Economic Development (BADEA), RUFORUM in partnership with the Government of Uganda Ministry of Science, Technology and Innovations concluded a feasibility study on youth employment, entrepreneurship and agro-innovation development in Uganda. The study identifies key investment areas that will stimulate not only the prospects of the youth but will also contribute significantly to Uganda's economic development in a way that is more sustainable and inclusive. The study further elaborates how universities could be used to strengthen these efforts by contributing to the development of capacity: high level skills to support research and innovation and also by the training of trainers and by strengthening links between university students with communities and industry in ways that share skills and knowledge.

h) Document, synthesize and share lessons emerging from the TAGDev programme

During the quarter, the Secretariat shared student success stories, experiences in their individual transformation and the impact they are making at individual and community level. These demonstrate a change in mind-set for university graduates and students. Gulu University students from Cameroon; Ms. Fongwa Vanessa Ngwi [started her own clothing line during lockdown](#) and Ms. Ngwenchi Marilyn Goreh [translated her baking passion into a thriving cake business](#); and, from Benin Ms. Monique Mededode Sognigbe [initiated a goat rearing project in Benin](#). Other individual student stories documented during this period include, among others:

- i. [I got admitted into the prestigious YALI programme because of my innovative projects](#)
- ii. [I opened a shop to sell clothes](#)
- iii. [A scholarship that changed my family's life](#)
- iv. [Returning home armed with skills: Journey for improving potato production in Rwanda](#)
- v. [Towards achieving an increased agricultural productivity and farmer income in Malava Sub-County farmers in Kenya](#)
- vi. [I rear sheep to boost my family income](#)
- vii. [I started a boutique during lockdown](#)
- viii. [I sell eggs in my community](#)

- ix. [Making agriculture count again in Kenya](#)
- x. [The Mastercard scholarship has left a positive impact in my life](#)

Emerging lessons

- i. When universities and TVETs institutions collaborate to address an agricultural development issue, uptake of innovations is hastened and such collaboration needs to be nurtured and strengthened.
- ii. Certification of student products by respective National Bureaus of Standards has not been fully successful due to limited production space at some universities. Projects will need to make use of funds leveraged by the students to pursue and establish minimum standards to make them viable business ventures beyond the immediate family and community markets.
- iii. Evidence is beginning to emerge that entrepreneurship principles and attributes acquired at the university transcend the agricultural sector to other livelihood enterprises for the youth.

Flagship programme: CREATE-Cultivating Research and Teaching Excellence

a) Facilitate Academic Staff Development (ASD) through the Graduate Teaching Assistantship (GTA) program

Under the Graduate Teaching Assistantship (GTA) programme, nine additional students were facilitated undertake PhD studies in other universities bringing to total 152 (44 female, 108 male) GTA students still undertaking studies in several universities across the continent. To-date, 17 GTA students have completed doctoral studies and returned to their respective universities. The GTA programme was initiated by RUFORUM Vice Chancellors to increase the proportion of academic staff with PhD qualifications, contribute to locally relevant research and reduce the time away from the home institution and improve the quality of higher education at African Universities.

b) Support Regional Academic Mobility for academic and administrative Staff in Africa to promote access to quality academic programmes, strengthen inter-regional, inter-cultural exchange and collaboration in the field of higher agricultural education and research

Three fellows supported under the academic staff mobility fellowship continued to undertake teaching, mentoring and research to doctorate students at Makerere University Regional Center for Crop Improvement and Uganda Martyrs University (UMU)-African Centre for Agro-Ecology and Livelihood Systems. Specific focus was on developing core plant breeding and biotechnology competencies needed to initiate, refine, and manage crop variety development programmes; and, creating new knowledge that addresses critical constraints in improving agricultural production.

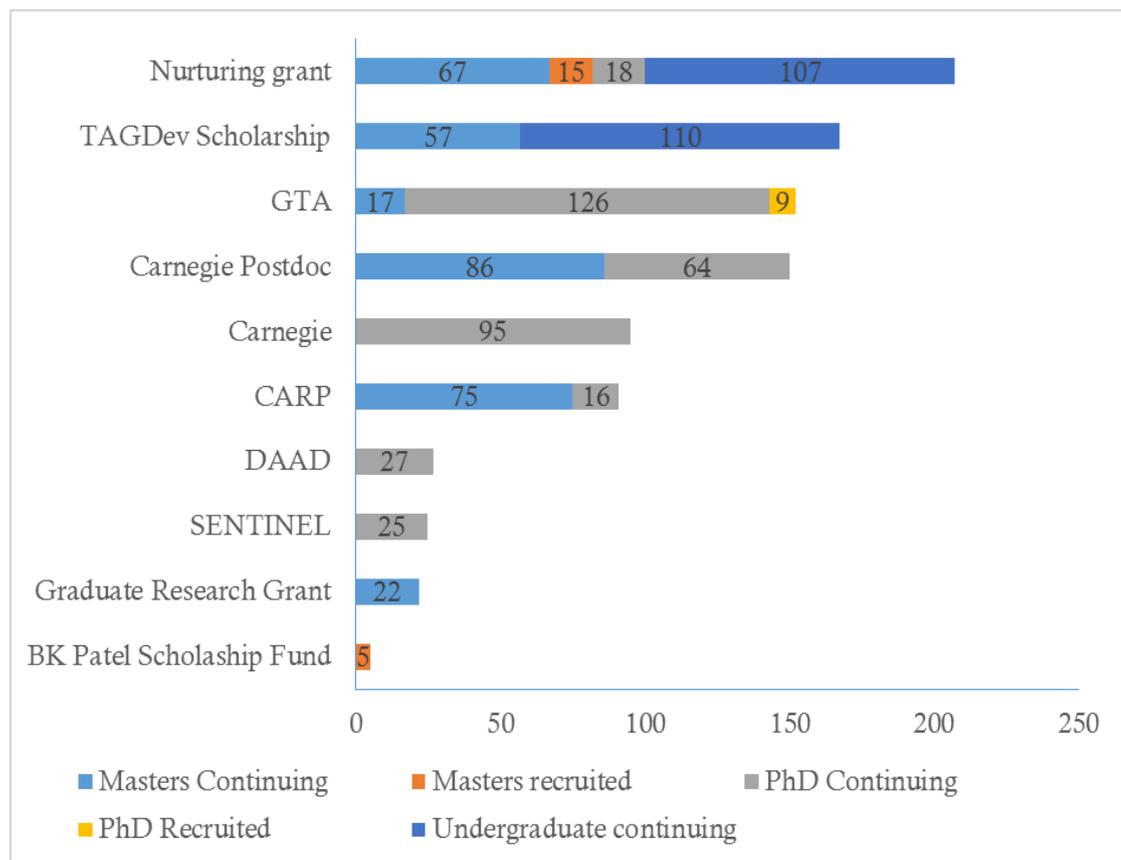
c) Support participation of women in science and technology-related training and research activities in all institutions benefiting from RUFORUM schemes

During the quarter, RUFORUM finalized the [gender-based analysis](#) of the science, technology and innovation (ST&I) ecosystem in South Sudan aimed at identifying current gaps to support science and technology in national agricultural innovation systems. The study established disparity in women representation in: higher education sector; staffing and high academic ranks; science, technology, engineering and mathematics (STEM) specialization; and in the share of enrolment in universities and technical vocational educational and training (TVET) sectors. The study thus recommended availing resources for postgraduate training to PhD levels, including

increasing the pool of women scientists. Cumulatively, RUFORUM has supported 44.4 % training of females across all educational levels.

d) Provide opportunities for Doctoral training to increase the pool of science, technology and innovation (ST&I) leaders in Africa with a focus of fragile states

As part of escalating doctoral training on the Continent, seven additional students completed doctorate studies at Makerere University, University of Nairobi and Nelson Mandela African Institution of Science and Technology with support from the Carnegie Corporation of New York, Germany Academic Exchange Service and the RUFORUM Graduate Teaching Assistantship programme. To further maintain the pipeline, 20 Masters Students (18 female, 2 male) were recruited with support from RUFORUM nurturing support as well as the RUFORUM BK Patel scholarship fund.



Number of Continuing students supported under the different granting portfolios of RUFORUM

e) Support post graduate training and research for small and fragile states

Cumulatively RUFORUM has supported the training of 520 students (208 female, 312 male) from 13 fragile States of Burkina Faso; Burundi; Cameroon; Congo – Brazzaville; DR Congo; Liberia; Mali; Mozambique; Nigeria; Somalia; South Sudan; Sudan; and, Zimbabwe. Of these, 232 students (107 female, 125 male) are still undertaking studies in 33 Network member universities.

f) Support students share research findings, obtain mentorship support and skills enhancement

During the quarter, RUFORUM supported two online trainings including [competitive grants development](#) training of 121 masters and doctoral students from 17 countries and 30 universities; and, [econometrics for non-econometricians and early career scientists](#)

training of 149 masters and doctoral students from 33 Universities. These online courses while principally developed and targeted for the RUFORUM supported students, are also helping to keep the RUFORUM network engaged during this period of COVID-19 disruptions. They are also providing an avenue for students outside direct scholarship recipients to benefit from skills enhancement trainings.

g) Support RUFORUM Post- Doctoral Fellows undertake thematic research to strengthen agri-food systems, inclusivity and environmental sustainability

Under the Post-Doctoral fellowships programme, RUFORUM continued to support ongoing students (86 Masters and 65 PhD) to ensure smooth progress in academics. The Fellows have generated additional knowledge products/publications including;

- i. [Influence of soil organic carbon, fertiliser management, and weeding regime on weed dynamics and maize productivity on sandy soils in eastern Zimbabwe](#)
- ii. [Effect of Botanical Extracts on Late Blight \(*Phytophthora infestans*\) and Productivity of Tomato \(*Solanum esculentum*\)](#)
- iii. [Treatment Failure and Associated Factors among Individuals on Second Line Antiretroviral Therapy in Eastern Uganda: A Retrospective Cohort Study](#)

h) Support thematic research to strengthen agri-food systems, inclusivity and environmental sustainability

RUFORUM continued to support participatory action research and training in five (5) universities (Makerere University (Uganda), Maseno University & University of Eldoret (Kenya), Université d'Abomey Calavi (Benin) and Université Evangélique en Afrique (DR Congo) on topics related to the measurement and management of greenhouse gas emissions and removals in pastoral and agro-pastoral ruminant livestock farming systems in Africa.

Emerging issues and lessons

RUFORUM has strived to increase the participation of women in science technology and innovation interventions. Affirmative action and targeted calls have been beneficial in enhancing gender parity in access to capacity building opportunities.

RUFORUM has also continued to engage the World Bank and African Governments to operationalize the Strengthening Higher Agricultural Education in Africa (SHAEA) Initiative. Dialogue is continuing.

Flagship programme: K-HUB-Knowledge hub for university networking, partnership and advocacy

a) Organize national forum meetings to link universities (students and staff) to national agricultural innovation system actors for demand articulation and exposure to the needs of the sector

RUFORUM facilitated seven national forums as part of the [United Nations Food Systems Summit](#) dialogues in [Burundi](#), [Somalia](#), [Benin](#), [DRC](#), [Sudan](#), [Namibia](#) and [Zambia](#). The dialogues recommended that national food system frameworks pay specific attention to analysis of the drivers and components of the agri-food systems; identify data gaps; and, find promising entry points for inclusion to improve nutrition and poverty reduction outcomes within the food system.

b) Intergrate RUFORUM online platforms to facilitate and enhance systematic access to information.

During the quarter, the Secretariat updated the RUFORUM website with additional content focusing on [E-Learning](#), [RUFORUM Honorary](#), [Post COVID-19](#), [UN Food Systems Summit](#), and, [Entrepreneurship and community training](#) and associate projects ([PBL BioAfrica](#), [AgriENGAGE](#) and [AgriSCALE](#)). The Secretariat further updated the Higher Agricultural Education Capacity Indicator ([HAECI](#)) platform with additional indicators and enabled for real-time updates.

RUFORUM continues to appear in the first 10 top results with an online traffic of 18,000,000 (0.84 seconds) in the last quarter. The intensification of social media engagements continued with an upward trend with the RUFORUM Blog registering 21,439 followers while the RUFORUM Mailing list has grown to 18,480 subscribers. The RUFORUM website registered 8492 new visitors mainly from United States of America; United Kingdom; Poland; Indonesia; Uganda; China; Kenya; France; South Africa; and, Nigeria as indicated in the figure below:

Country	Users	% Users
1.  United States	882	10.26%
2.  United Kingdom	781	9.08%
3.  Poland	643	7.48%
4.  Indonesia	522	6.07%
5.  Uganda	515	5.99%
6.  China	437	5.08%
7.  Kenya	429	4.99%
8.  France	275	3.20%
9.  South Africa	241	2.80%
10.  Nigeria	223	2.59%

Top countries that accessed content from the RUFORUM website

c) Foster dialogues on emerging global issues for collective action together with specific focus groups for a needs-oriented network

As part of building momentum towards the 2021 United Nations Food Systems Summit, and in line with the [nomination](#) as Food Systems Champion, RUFORUM organized Pre-UN Food Systems Summit Independent Dialogues at national, regional ([North Africa and Middle East](#), [East and Southern Africa](#), [Central Africa](#), and [West Africa](#)), continental ([Africa Ministers' Policy Dialogue](#), [Vice Chancellors Forum](#) and [Selected Advocates for Africa's Development](#)) and global levels ([Global Networks](#) and [Global Youth](#)). The [dialogues](#) under the theme: *University-policy dialogue to strengthen resilient and inclusive agri-food systems in Africa* acknowledged and recommended to the UN Food Systems Summit the need to mobilize science, technology and innovation to accelerate agricultural transformation on the continent to drive inclusive economic development.

d) Strengthen knowledge use through dissemination of knowledge products and services, providing easy-to-access on-time information and using specific feedback mechanisms to gauge client satisfaction

RUFORUM published Volume 5 Issue 2 of the African Journal of Rural Development focusing on seed and production systems, pest control and farmer empowerment and how these can inform interventions towards transforming agricultural food systems on the continent. Other publications developed included editions of the [RUFORUM weekly news digest](#); [press releases](#); [media monitoring reports](#); and, 26 publications focusing on [fisheries and aquaculture production](#); [plant diseases](#); [weed control and soil fertility](#); [participatory approach in collective markets](#); and [policy and management](#) in the RUFORUM institutional repository with global distribution of users as indicated in the figure below;



Top Countries accessing content from the RUFORUM Institutional repository

e) Facilitate the establishment of customized user-friendly Virtual Learning Environments - “Moodle Platforms” to enable universities provide relevant and practical training using the latest electronic means to deliver and enhance the student learning experience

RUFORUM in collaboration with Commonwealth of Learning (COL) trained 110 participants from 24 countries across the globe on the development and implementation of agricultural Massive Open Online Courses (AgMOOCs) for sub-Saharan Africa. The training provided insights on Commonwealth of Learning approach towards AgMOOCs implementation; the role of faculty and leadership of academia in contextualizing current skill sets towards advancing scalable AgMOOCs; and, prospects for advancing scalable online courses in research, extension and education. To further facilitate online learning in African Universities:

- i. RUFORUM with support from the Arab Bank for Economic Development in Africa (BADEA) and the Bill and Melinda Gates Foundation (BMGF) delivered elearning refresher courses to students and Staff of Lilongwe University of Agriculture and Natural Resources, Malawi to support capacity building in online learning. A total of 4,500 students and academic staff participated in the initiative. This will form the basis for scaling out to other RUFORUM member Universities.
- ii. With support from the Bill and Melinda Gates Foundation and Arab Bank for Economic Development in Africa (BADEA), RUFORUM developed a Scientific Data Management course module for online delivery to students and staff of Member Universities.

Emerging issues and lessons

Higher Education Institutions have increasingly engaged in online activities as a way of coping with the COVID-19 pandemic. The number of stakeholders reached through virtual undertakings has been significantly higher than through physical convenings. Future convenings will have to consider a blended approach to maintain the expanded reach and scope.

Flagship programme: PROGRAM SUPPORT – Technical, administrative and logistical support

a) Convene Governance meetings to guide the network in designing operating models to ensure that the network is effective to meet the strategic objectives of Vision 2030

During the quarter, RUFORUM Secretariat convened the 29th Finance and Administration committee meeting to discuss RUFORUM's financial performance and the budget proposal for the financial year 2021/2022. The meeting recommended resource mobilization intensification to sustain activities in line with the RUFORUM Vision 2030 as well as encouraging member Universities to remit membership subscription fees.

b) Support broker alliances and partnerships to assist universities establish delivery networks for scaling-up research outputs, knowledge products and innovations

During the quarter, RUFORUM formalised partnership with three institutions including Innovation Village in Uganda to strengthen the capacity of Ugandan and African universities to deliver entrepreneurship relevant training and research, and identify and nurture entrepreneurs from the student and faculty body; AKADEMIYA2063 to build capacities for data and policy analysis by developing academic curricula that respond to the needs of policymakers and by working in partnership with local analytical networks that help to link knowledge supply to knowledge demand in countries that are part of the RUFORUM Network; and, Commonwealth of Learning (COL) to strengthen e-learning within the RUFORUM Network through capacity building workshops for sharing insights on the implementation of Agricultural Massive Open Online Courses (AgMOOCs).

c) Support University research teams successfully submit at least 10 proposals to support university-level activities

RUFORUM Secretariat supported member universities to develop and submit proposals to several agencies, focusing on climate smart innovations in the livestock value chain in the northern communal areas of Namibia; resilient finger millet for low resource production in Uganda and other dryland tropics; developing a phytosanitary knowledge and training hub (PhytoKaT) in South Africa; and, piloting an Agri-Food Mentorship and Coaching Program for Africa.

d) Prepare and submit at least 10 proposals to support implementation of the RUFORUM Vision 2030

During the quarter, International Development Research Center (IDRC) and Swedish International Development Agency (SIDA) awarded US\$ 900,000 to West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL), RUFORUM and AKADEMIYA2063 to host and manage a research and services network for responsible artificial intelligence for climate action innovation in Africa (RESEN-RAICAIA). Other proposals submitted focused on climate change and strengthening human capital development for agricultural transformation in Sudan and selected fragile states in Africa.

e) Recurrent Secretariat operations while mainstreaming operations in line with Covid 19

The Secretariat operations have been undertaken through a mix of working from office and working from home to curb further spread of COVID-19 across staff and their families.

Emerging issues and lessons

Political will is important in supporting the efforts of researchers and innovators. These efforts need to be directed towards innovation to support delivery of higher education to achieve a vibrant agricultural sector, valorize local knowledge, and develop policies to strengthen food systems in the continent.

Planned activities for the period July-Sept 2021

1. Plan for the 7th RUFORUM Triennial Conference due 06-10 December 2021 in Cotonou, Benin
2. Facilitate external audit of RUFORUM for the financial period 2020/2021
3. Resource mobilisation for the RUFORUM Network
4. Explore avenues for operationalizing the RANCH flagship programme
5. Recruit the 5th and last Cohort of students to undertake Masters studies at Gulu and Egerton Universities with funding support from the Mastercard Foundation
6. Participate in the UN Food Systems Summit 2021 - Champions Network and independent dialogues. This will include jointly with the Government of Malawi hosting a Pre-United Nations Food Systems Summit 2021 Dialogue for African Heads of State