



PROGRESS REPORT

On the Implementation of C10
Commitments Assigned To RUFORUM

September 2021



Training the Next Generation of Scientists for Africa

RUFORUM IS CONTRIBUTING TO THE TRANSFORMATION OF AGRICULTURE IN AFRICA

Who We Are

Founded as a Network in 2004, the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a consortium of 129 member universities in 38 African countries

Why RUFORUM Exists

- Realize economies of scope and scale through academic exchanges including fostering regional centers of excellence to train the next generation of agricultural scientists
- Provide an effective platform for University support to smallholders farmers through linkages with national agricultural research systems, the private sector and rural communities
- To champion national and regional policies to support effective postgraduate agricultural training, research and outreach

Our Operational Environment

- Serious lack of the skilled human resources needed to reach 6% agricultural growth and fulfill CAADP goals; Only 1 in 4 scientists are female
- Universities need to be better linked with National Agricultural Research Systems, Private Sector and National Policy
- Graduates need to be better adapted to employment opportunities
- Research needs to be more responsive to smallholder farmers and the rural poor
- Inadequate investment in higher education: poor remuneration, inadequate facilities, lack of funds for field research and few incentives for outreach and the uptake of research
- Limited collaboration and partnerships among African universities
- Most universities in Africa have closer relationships with Europe and the USA

As at August, 2021

\$236.3m

Mobilized by RUFORUM on behalf of member universities

423

Research grants awarded

2053

MSc graduates trained

565

Networking events held

627

PhD graduates trained

229

Undergraduates trained

1046

TVET students supported

67 PhDs, 92 MSc & 29 BSc supported through 29 Post-Doc Fellowships

773

Students supported under the RUFORUM Entrepreneurship Challenge Program (RECAP)

45%

Female Representation

927

Out of school Youth supported

53%

Alumni are on permanent or long-term contracts

98%

Alumni live and work in their country of origin

51%

Alumni found employment within 6 months of completion

63%

of alumni produced at least one paper in a refereed journal

26%

Alumni are in a position of influence at regional, national or local government levels

Changes we want

- Proactive graduates who are innovative and with the skills and commitment to improved livelihoods in rural areas and able to lead the transformation of agriculture in their countries
- Universities working closely with all stakeholders along the value chain to address the problems identified by small farmers
- A closely integrated network of universities, faculty and students, sharing experiences, new technologies, approaches and resources
- Greater visibility of the network throughout Africa and beyond
- More investment in higher agricultural education from governments, regional bodies and partners
- Greater use of Science, Technology and Innovation (STI) to support agricultural transformation

Our Partnership Strategy

We focus on mutually reinforcing partnerships with a Network of universities comprised of over 30,000 faculty and non-academic experts, non-governmental organizations, regional research and development agencies, bilateral and multilateral donors and a burgeoning private sector.

How We See the Future

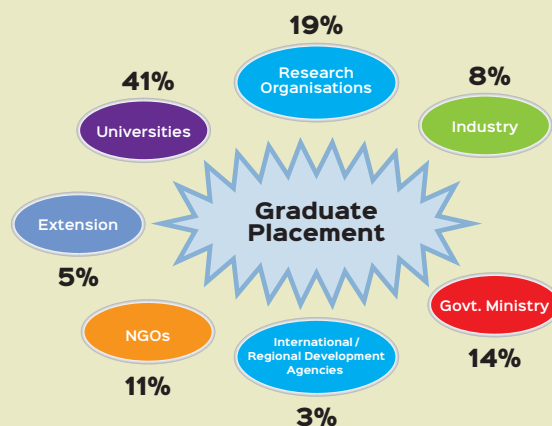
- Harnessing 4IR technologies to strengthen institutions and collaborations
- Integrating higher agricultural education with farmers' associations, National Agricultural Research Institutes, extension and development agencies, and the private sector.
- Investing further in regional MSc and PhD programs and scaling up research outputs and operational uptake.

Enhancing regional collaboration and other science partnerships

- Forming scientific partnerships globally with the Consultative Group on International Agricultural Research, universities and research institutes in emerging and industrialized economies.
- Facilitating increased intra-African access to quality education across the continent.
- Supporting post-graduate higher education and establishing post-doctoral programs.

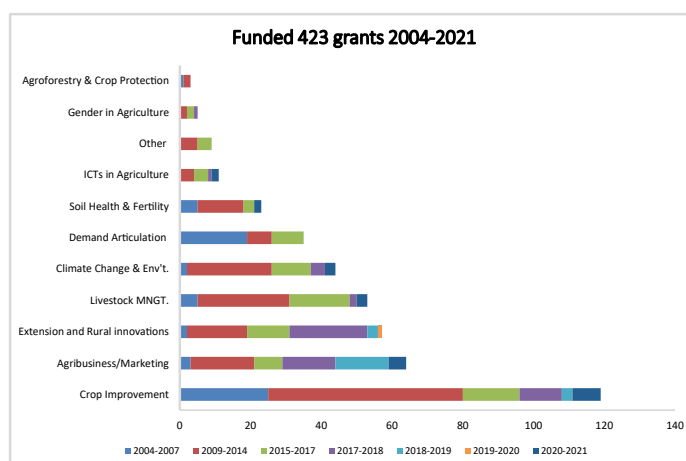
Placement: Graduates fill a diverse set of national human capital needs

Note: Includes all MSc. and PhD graduates from 2004 to 2020 sourced from the RUFORUM Tracer Study, 2020.



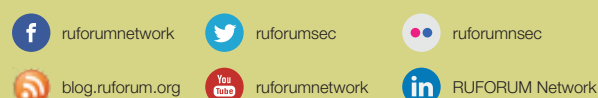
Funding across a range of agricultural disciplines

Note: Includes all grants under the Competitive Grant System (CGS) and Nurturing Grants (NG)



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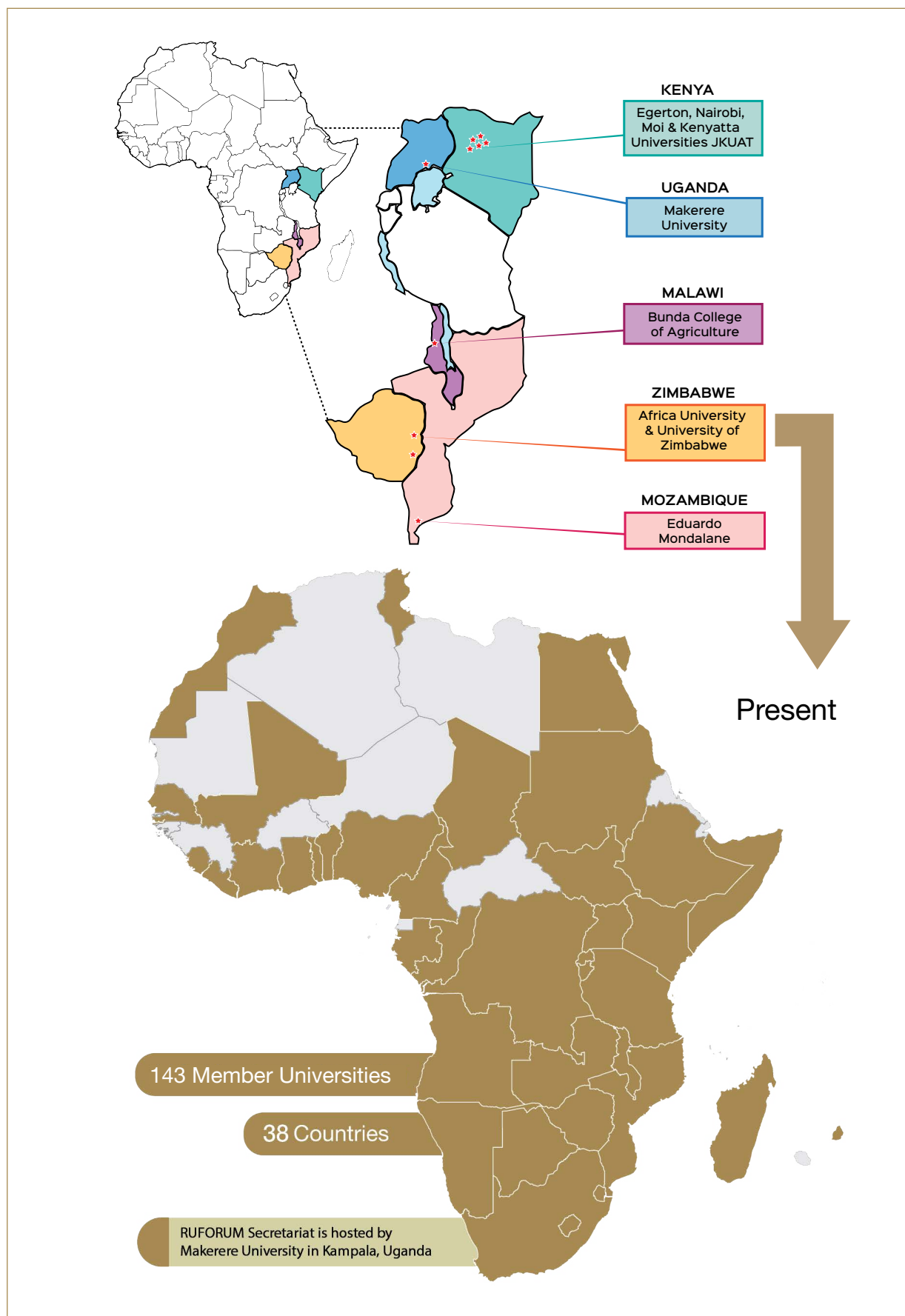
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Our Coverage

Expansion has been in Scope, Countries and within Countries

Phased Expansion 2004 - 2020



Our Vision

Vibrant, transformative universities catalysing sustainable, inclusive agricultural development to feed and create prosperity for Africa

Our Mission

To strengthen the capacities of Universities to foster innovations responsive to the demands of smallholder farmers and value chains through the training of high quality researchers, the output of impact-oriented research, and the maintenance of collaborative working relations among researchers, farmers, market actors, national agricultural research and advocacy institutions, and governments.

Our Motivation

“Transforming agriculture in Africa requires innovative scientific research, education and outreach approaches. The education sector needs to be more connected to the new challenges facing rural communities and needs to build capacity of young people to be part of the transformation of the agricultural sector”.





Our Strategic Objectives

Building synergy from networks of specialisation to develop quality human resources and capacity required to intensify and increase Africa's agricultural productivity and competitiveness;

Ensuring the products, processes and knowledge developed through university research directly respond to and are used by value chain actors in the agri-food system to catalyse transformation; and,

Marshalling resources and strategically allocating them to enable African universities to transform into viable institutional entities responsive to national aspirations and conditions through intensive knowledge-sharing and collective action.



Introduction

The Committee of Ten African Heads of State and Government (C10) Championing Education, Science and Technology in Africa endorsed by the African Union Assembly of January 2018 held its first Extra-Ordinary Summit hosted by the Government of the Republic of Malawi, 2-3 November 2018 in Lilongwe, Malawi. The summit adopted the [C10 Declaration](#) and [Action Plan](#) with three major commitments including; 1) investing in education, science and technology; 2) promoting education in Africa; and, 3) engaging the private sector.

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM, see [RUFORUM Flyer](#) and [RUFORUM at a Glance](#)) in collaboration with other partners was mandated to oversee the implementation of specific activities as enshrined in the C10 Action Plan. These activities, as assigned to RUFORUM, either in leading or as a partner fall under Four Priority Areas, i.e., Priority area 1: Operationalize Education, Science and Technology Funds in Africa; Priority Area 4: Strengthen teacher development and retention; Priority Area 5: Enhancing TVET and skill development for employment; and, Priority area 7: Strengthen higher education,

science, technology and innovation.

RUFORUM is a consortium of 143 universities in 38 countries in Africa with a vision to create ‘vibrant, transformative universities to catalyze sustainable, inclusive agricultural development to feed and create prosperity for Africa’. RUFORUM was established to provide a platform for networking, resource mobilization and advocacy; rationalize resource use; and, promote the integration of member universities into Africa’s development processes. RUFORUM programs respond to continental frameworks including the Comprehensive Africa Agriculture Development Program (CAADP), Science Agenda for Agriculture in Africa (S3A), Continental Education Strategy for Africa (CESA), the African Union Science, Technology and Innovation Strategy for Africa (STISA 2024) and the Continental TVET Strategy.

Below is a summary of achievements against each of the commitments assigned to RUFORUM. This report is presented against the backdrop of the continued COVID-19 period with several restrictions and challenges.

Table 1: Key results achieved against each task assigned to RUFORUM by the C10

Strategic Action	Key results by August 2021
C10 Commitment 1: Investing in Education, Science and Technology	
Priority area 1: Operationalize Education, Science and Technology Funds in Africa	
<p>Strategic Action 1.1: Commit a special fund to facilitate the training of female university members of staff and women in general to PhD level to support Agenda 2063 vision of quality education and gender equality</p>	<p>This action was assigned to the C10 as the responsible partner to create the Special Fund with The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), Association for the Development of Education in Africa (ADEA), African Development Bank (AfDB) and The United Nations Educational, Scientific and Cultural Organization (UNESCO) as other key partners.</p> <p>At the RUFORUM Network level, and part of building a pipeline of female academic on the Continent, RUFORUM operationalized the Bharati. K Patel Scholarship Fund by awarding a grant to University of West Kordofan in Sudan to support the training of the next generation of female scientists for Sudan. Under the grant, up to five female students are supported to undertake Masters degree studies.</p> <p>Further to the Gender Science Technology and Innovations (ST&I) Studies in Uganda, Sudan, Liberia, Mali and Mozambique commissioned with support from RUFORUM and the Forum for Women Vice Chancellors in Africa (FAWoVC) and similar studies in Cameroon, Democratic Republic of Congo, Ethiopia, Namibia and Zambia, RUFORUM finalized the gender-based analysis of the Science, Technology And Innovation (ST&I) ecosystem in South Sudan. The studies identified gaps in the current female participation in science and technology as well as the National Agricultural Innovation Systems. They establish a baseline for assessment and future interventions for female inclusion in Higher Agricultural Education and in Science Technology and Innovation.</p> <p>At RUFORUM, guidelines for student recruitment, award of grants and scholarships continue to emphasize gender parity in applications, award of fellowships and research grants initiatives. New initiatives look towards establishing a support system to ensure more female participation in RUFORUM programmes which current stand at an average of 45% in the PhD and Masters programmes.</p>
C10 Commitment 2: Promoting Education in Africa	
Priority area 4: Strengthen teacher development and retention	
<p>Strategic Action 4.1: Increase qualified teachers in Member States at all levels with special attention to STEM, ICT skills and digital technology</p>	<p>This action was assigned to C10 and Member States as responsible entities, with RUFORUM and International Institute for Capacity Building in Africa (IICBA) assigned as other key partners.</p> <p>RUFORUM continued to facilitate placements of University Staff for PhD training in different universities under its Graduate Teaching Assistantships (GTA) Programme (See GTA LINK). During the year, 26 additional Graduate Teaching Assistants were supported to undertake PhD training in 11 universities, bringing the total number placed to 174 (127 male, 47 female). Already, 23 (4 female, 19 male) GTA have completed studies and returned to their respective universities. The Graduate Teaching Assistantship (GTA) programme aims at increasing</p>

Strategic Action	Key results by August 2021
	<p>the number of PhD trained staff in African universities under a partnership arrangement among RUFORUM member universities that significantly reduces cost of PhD training and increases retention of the trained staff in the continent.</p> <p>To support participatory action research and training in conducting applied research on agricultural greenhouse gas emissions and removals in pastoral and agro-pastoral ruminant livestock farming systems in Africa, RUFORUM in collaboration with Global Research Alliance on Agricultural Greenhouse Gases awarded eight Graduate Research Grants to six Member Universities including Evangelical University in Africa (DR-Congo); Maseno University (Kenya); Makerere University (Uganda); University of Abomey Calavi (Benin); University of Eldoret (Kenya); and, University of Free State (South Africa).</p> <p>With funding from the Arab Bank for Economic Development in Africa (BADEA), RUFORUM is implementing a regional e-learning platform to operationalize one of the pillars of the African Digital Agriculture Programme (AfriDAP), one of the RUFORUM Flagship programmes. The regional e-learning platform will strengthen the use of digital technologies for teaching, learning and experience sharing amongst participating institutions, and the wider RUFORUM Network universities.</p>

Priority area 5: Enhancing TVET and skill development for employment

<p>Strategic Action 5.1: Promote dissemination and implementation of the Continental TVET Strategy</p>	<p>The C10 Summit assigned AUC, NEPAD and GIZ as the key implementing entities for this action, with RUFORUM, International Labour Organization (ILO), United Nations Educational Scientific and Cultural Organization (UNESCO), CAPA, ADEA and AfDB as other key partners.</p> <p>The Continental TVET strategy recognises that acquisition of technical and professional skills can take place in three learning environments including formal learning, synonymous with school or curriculum-based learning; non-formal learning; and, informal learning. As part of the formal learning, RUFORUM's TAGDev flagship programme recognises that improvement in food and nutrition security and the agricultural sector in general will cut across the educational value chain. In this regard, Universities work with TVETS to promote community engagement and as part of this initiative, RUFORUM has supported training of 77 additional TVET students from Uganda (41) and Ghana (36), bringing to total 583 TVET students supported in collaborative and peer-to-peer training together with the University students.</p> <p>Under the informal training approach, RUFORUM continued to implement the Out of School Youth Programme by supporting additional capacity building in market-oriented vegetable production in Northern Uganda. The Out of School Youth Training Programme aims at supporting effective transitions for youth in practical agripreneurship. Building onto the successes in implementing the Out of School Youth Programme, RUFORUM supported the Government of Uganda secure funding worth US\$15 millions from the Qatar Fund for International Development for Out of School Youth and construction of primary schools. The project will be implemented by an NGO in Qatar and beneficiary districts in Kiryandongo Refugee Settlement area and four sub-regions in Uganda (Acholi, Karamoja, Teso and Sebei Sub-region).</p>
<p>Strategic Action 5.1: Promote dissemination and implementation of the Continental TVET Strategy</p>	<p>This action area was assigned to AUC, NEPAD, GIZ and RUFORUM as key implementing entities.</p> <p>During the year, 29 students that completed Masters studies were supported to undertake field attachment in Benin, Ghana, Kenya, Malawi, Rwanda,</p>

Strategic Action	Key results by August 2021
<p>Strategic Action 5.3: Capacity building of TVET trainers and stakeholders and Rebrand TVET for enhanced access, equity, quality and relevance</p>	<p>Uganda and Zimbabwe to disseminate technologies as well as commercialize outputs generated under respective community action research value chains. Of these, 26 completed and disseminated technologies innovations and management practices to 3139 smallholders including: production of clean cassava seed to reduce virus diseases (cassava brown streak disease and cassava mosaic disease); and, using maize biomass to grow mushrooms amongst others. Documentaries profiling experiences in field attachment were produced, including:</p> <ol style="list-style-type: none"> Field Attachment Programme Award (FAPA) on Young baobab leaves by Vanessa IDOHOU Commercializing Pineapple Processing Through Capacity Building of TVET Students (FAPA) The unexploited nutrient benefits of Sesame (<i>Sesamum Indicum</i>) oil seed crop for smallholder farmers in rural areas of Zimbabwe <p>RUFORUM operationalized two new incubation hubs as part of the RUFORUM Entrepreneurship Challenge Program (RECAP) projects bringing to total 16 agribusiness incubation hubs fully operational and supporting 773 students at University of Abomey-Calavi, Benin (100); University of Burundi (42); Université Catholique de Bukavu, DR. Congo (52); University of eSwatini (65); Haramaya University (83), Ethiopia; University of Cape Coast, Ghana (40); Egerton University (50) and South Eastern Kenya University, Kenya; University of Juba, South Sudan; and, Bishop Stuart University (117), Busitema University (50), Gulu University (88), Muni University (32), Ndejje University (45) and Uganda Christian University (9) in Uganda. Key project outputs include 346 jobs and 112 student start-ups and marshalling of US\$ 99,000 in capital financing from several agencies including Agripreneurship Alliance, Sparkassen Foundation for International Cooperation; and, the African Agribusiness Incubators Network. This is proof of concept of the model that can be adopted for youth business incubation hubs.</p> <p>RUFORUM supported 23 competitive student enterprises from Uganda and Kenya to develop a brand identity and scale-out of their enterprises through the Innovations, Products to Markets Field Attachment (IPM-FAPA) and mentorship. These enterprises including trendyanimalfeeds.com; desktoplunches.co.ke; and, baoleaves.com amongst several others 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. Further, RUFORUM initiated a virtual platform for youth enterprises- the SME hub that provides mentorship and business growth ideas. To-date 381 applications have been processed through the platform.</p> <p>This task was assigned to AUC, NEPAD and GIZ as key implementing agencies with RUFORUM, ADEA, AFDB, ILO and UNESCO as partners.</p> <p>RUFORUM engaged Technical Vocational Education and Training institutions in collaborative training with other University actors at micro, meso and macro levels. At the University of Abomey Calavi, 80 (eighty) farmers, graduated students, NGO actors, Agricultural advisors and other executives participated in the baobab products fair that linked actors horizontally and vertically to boost the value chain. Further, Egerton University engaged Baraka Agricultural College TVET institution in the development of four course modules for training; (i) Climate Smart Agriculture for food security; (ii) Seed potato bulking and multiplication systems; (iii) Post harvest handling storage and marketing; and (iv) Seed potato production under hydroponic and aeroponics systems. These modules are targeting farmers and seed producers.</p>

Strategic Action	Key results by August 2021
<p>Strategic Action 5.4: Incorporate life skills development and career guidance in TVET</p> <p>Strategic Action 5.5: Enhance linkages between universities and TVET institutions with focus on strengthening practical skills and education to enhance innovation, entrepreneurship and skills development for employability</p>	<p>This action area was assigned to AUC, GIZ and UNESCO as the responsible partners with AFDB, ADEA, UNESCO, ILO and RUFORUM as partners. As a partner, RUFORUM undertook the following during the year;</p> <p>Through piloting the Technical Skills Development Program (TESDEP), RUFORUM awarded additional grants to the University of the Free State, South Africa and Bukalasa Agricultural College in Uganda to build a future for unemployed youth by building capacity and developing economic viability through entrepreneurship. RUFORUM has thus responded to the skills gap and needs of smallholder farmers and in particular, the youth that seek to improve their livelihoods through entrepreneurial agriculture.</p> <p>This action area was assigned to AUC, World Bank and RUFORUM as the responsible partners. During the year, the following were undertaken by RUFORUM:</p> <p>Within the framework of RUFORUM Community Action Research Programme involving Universities and Technical Vocational Education and Training (TVETs) institutions collaborating, RUFORUM awarded a grant to MSC Business College (TVET institution) at Free State Province, South Africa for business incubation of 10 start-ups. Further, Northern Uganda Youth Development Programme TVET in Uganda is hosting one of the incubation centers of a partner University, Gulu University to foster Youth business incubation at the TVET institution.</p> <p>University engagement with TVETs has resulted into several outputs for example, expansion of Potato seed production at Baraka Agricultural College in Kenya to 10 acres (100 tons) supplying at least 1200 farmers; and, fostering Safflower mechanization by engaging TVET students at Kagleng Brigades Institute in Botswana in fabricating a Safflower planter. The TVET students have also been engaged in value addition by the partner Universities.</p>
Priority area 7: Strengthen higher education, science, technology and innovation	
<p>Strategic Action 7.1: Strengthen foresight capacity at African Universities and other partners and support capacity building in this important area to support planning and future implementation of key programs</p> <p>Strategic Action 7.2: Develop programs to establish Research Chairs in African Universities, increase academic mobility schemes and improve infrastructure and increase staff capacity development</p>	<p>Implementing agencies for this action are AUC, RUFORUM, NRF (National Research Foundation) and OCP Morocco.</p> <p>Efforts continue to mobilise resources for the implementation of this activity. Several proposals have been submitted soliciting for support towards establishing a Centre of Excellence on data science and foresight studies at Makerere University</p> <p>Key implementing partners for this action include AUC, RUFORUM, IsDB and NRF.</p> <p>RUFORUM continued to engage potential funders for support towards the establishment of research chairs and regional training centres across the Continent.</p> <p>Academic mobility and staff exchange are a key feature of RUFORUM programming that would require further support. For 2020-2021 with support from Carnegie Corporation of New York, RUFORUM supported three Staff exchange fellowships to Makerere University Regional Center for Crop Improvement; Africa Center of Excellence for Climate Smart Agriculture and Biodiversity Conservation (Climate SABC) at Haramaya University; and, Uganda Martyrs University African Higher Education Centres of Excellence to enhance faculty-teaching, research and collaboration amongst RUFORUM Member</p>

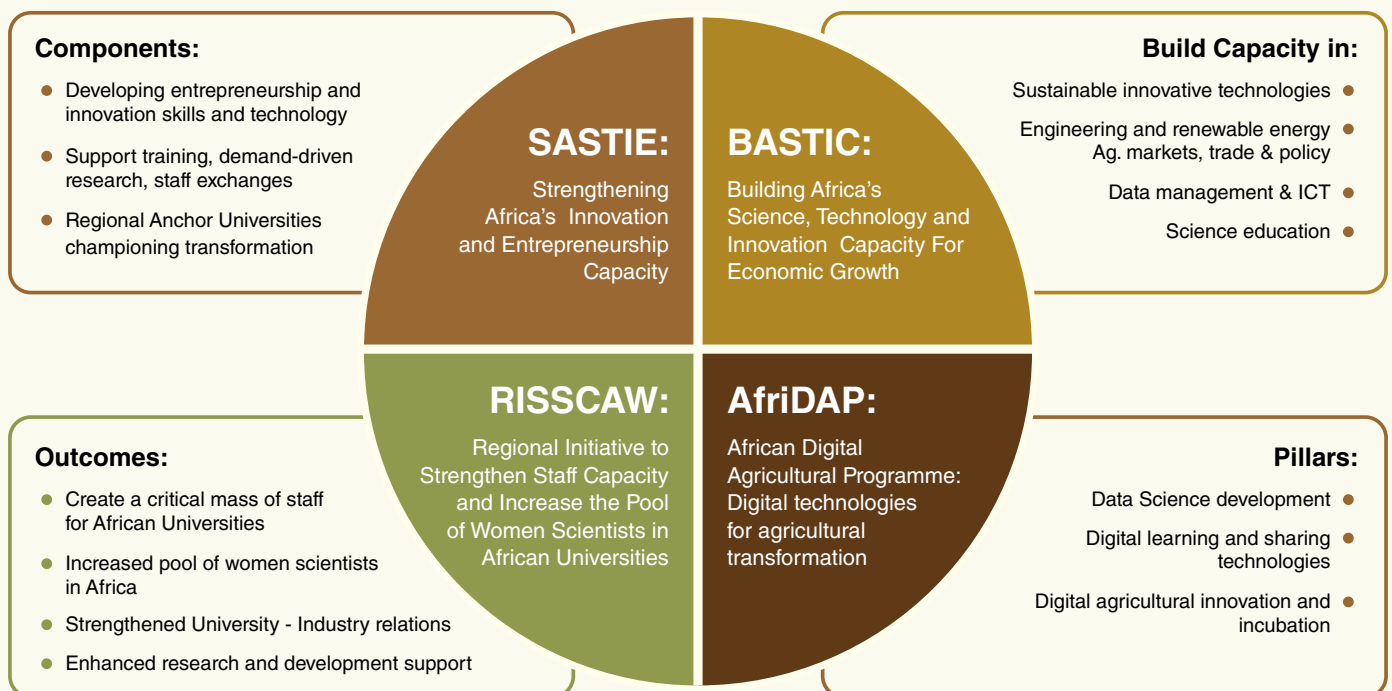
Universities. RUFORUM further supported two research teams coordinated by Eduardo Mondlane University (Mozambique) and Moi University (Kenya) to secure funding worth EUR 2.7 million from the European Union [Intra-Africa Academic Mobility Scheme](#). This will support training of 59 masters, 23 PhDs and facilitate exchange of 11 academic and administrative staff.

Following [adverts](#) for the mobility call under the five-year CoSTClim (Collaborative Action for Strengthening Training Capacities in Climate Risk and Natural Resource management) project, four (4) students from Makerere University were competitively selected to undertake a three-months academic mobility at the Norwegian University of Science and Technology (NTNU).



Our New Thrusts

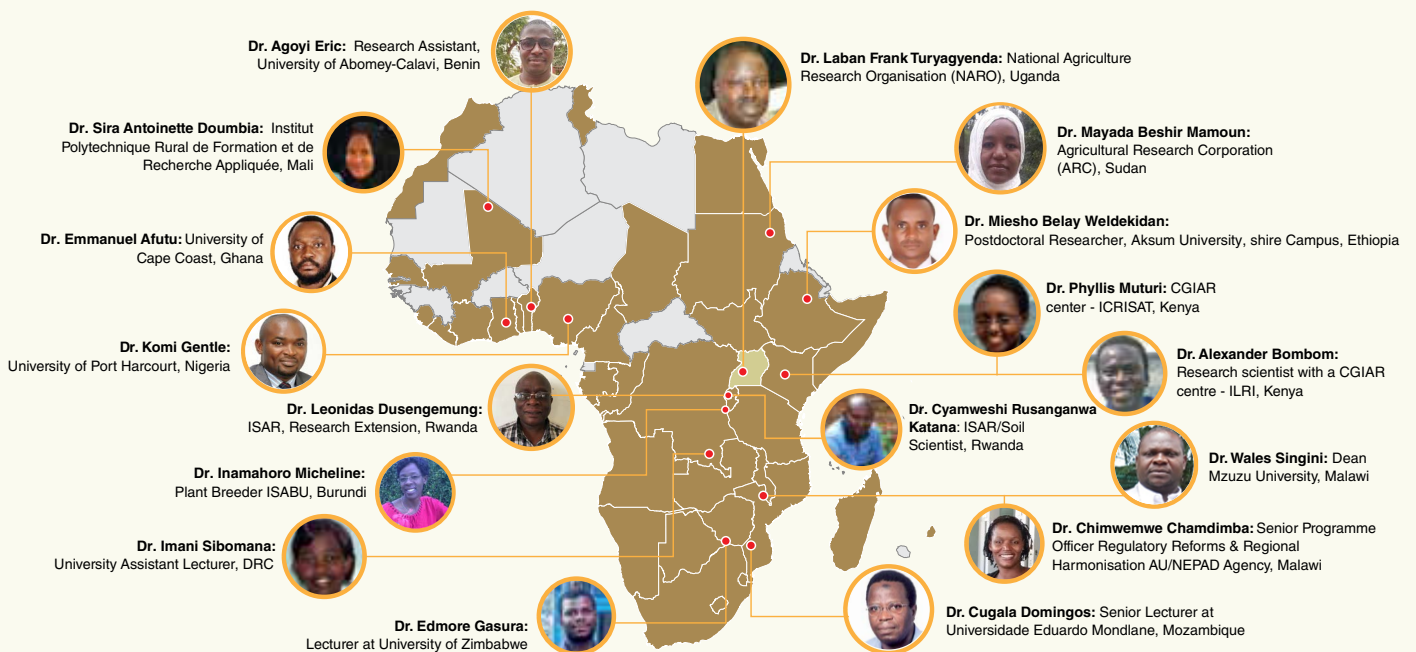
Four Continental initiatives for strengthening higher education and ST&I in Africa





RUFORUM graduates resourcing universities and research institutions

RUFORUM Alumni - Continental Impact



Funding

Our work has been funded by National Governments and:



RESEARCH
PROGRAM ON
Dryland Cereals



BILL & MELINDA
GATES foundation



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Manatū Ahu Matua





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