



The Regional Universities Forum for Capacity Building in Agriculture



OCTOBER 2020

PROGRESS REPORT

on Implementation of C10 Tasks Assigned to RUFORUM by the Committee of Ten African Heads of State and Government (C10) Championing Education, Science and Technology in Africa



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, 2020

\$214.9m

Mobilized by RUFORUM on behalf of member universities

400 **Research grants** awarded

1958 MSc graduates trained

537 Networking events held

536 PhD graduates trained

195 Undergraduates trained

1046 **TVET** students supported

52 PhDs, 73 MSc & 29 BSc supported through 29 Post-Doc Fellowships

575

Students supported under the **RUFORUM Entrepreneurship** Challenge Program (RECAP)

45%

927

Female Representation Out of school

Youth supported

98%

53% Alumni are on permanent or long-term contracts

> 51% Alumni found

employment within 6 months of completion

Alumni live and work in their country of origin

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

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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

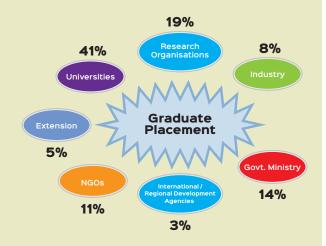
- Harnessing 4IR technologies to strengthen institutions and collaborations
- Integrating higher agricultural education with farmers' associations, National Agricultural Research Institutes, extension and development agencies, and the private sector.
- Investing further in regional MSc and PhD programs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

Enhancing regional collaboration and other science partnerships

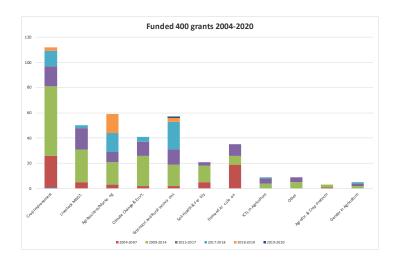
• Forming scientific partnerships globally with the Consultative Group on International Agricultural Research,

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)



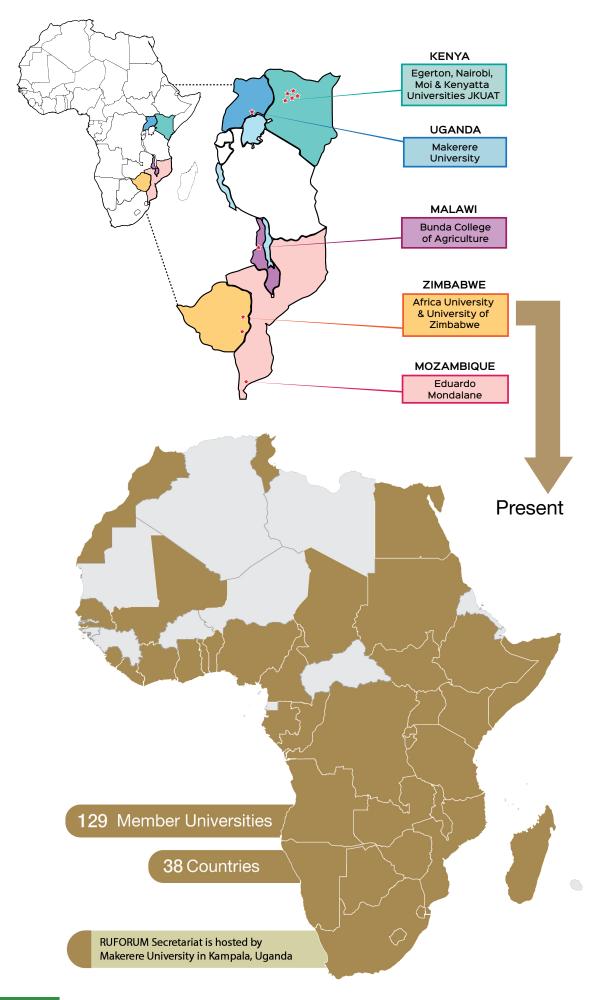
universities and research institutes in emerging and industrialized economies.

- Facilitating increased intra-African access to quality education across the continent.
- Supporting post-graduate higher education and establishing post-doctoral programs.





Our Coverage



PROGRESS REPORT

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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 <u>RUFORUM Flyer</u> 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 129 universities in 38 countries in Africa with a vision to create 'vibrant, transformative to catalyze universities 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 tasks assigned to RUFORUM. This report is presented against the backdrop of 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 2020

C10 Commitment 1: Investing in Education, Science and Technology

Priority area 1: Operationalize Education, Science and Technology Funds in Africa

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 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.

To establish the status of participation of women in Science, Technology and Innovation (ST&I) in Africa, five country case studies (Uganda, Sudan, Liberia, Mali and Mozambigue) were commissioned with support from RUFORUM and the Forum for Women Vice Chancellors in Africa (FAWoVC). Additionally, RUFORUM has commissioned similar studies in Cameroon, Democratic Republic of Congo, Ethiopia, Namibia and Zambia. The studies provide a baseline that will be used to measure progress on the interventions to increase the participation of Women in Science, Technology and Innovations. Similarly, RUFORUM during the period 2-6 December 2019 supported the convening of the Third Forum for Women Vice Chancellors in Africa (FAWoVC) Symposium (See Video) bringing together 45 women leaders from across Africa. The symposium recommended making use of evidence of disparity of women in ST&I to advocate for change; rewarding individuals or institutions that have endeavoured to enhance adoption of ST&I by women; and, scheduling career talks from prominent female scientists to instil mind set change especially for the girl child.

RUFORUM also submitted proposals to several development agencies to support the Regional Initiative to Strengthen Staff capacity and Increase the pool of Women Scientists in African Universities (RISSCAW). This will contribute towards increasing the participation of women in higher education, Science, Technology and Innovations. Further, new RUFORUM fellowships and research grants initiatives have adopted the 50% opportunity for female applicants. To-date, RUFORUM has supported training of 536 PhD students, with 44% being female.

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C10 Commitment 2: Promoting Education in Africa

Priority area 4: Strengthen teacher development and retention

Strategic Action 4.1: Increase qualified teachers in Member States at all levels with special attention to STEM, ICT skills and digital technology

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.

RUFORUM has 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, 51 additional Staff were supported to undertake PhD training in 25 universities bringing the total number placed to 138 (97 male, 41 female). Already 16 have completed training. Currently, 289 (217 male, 72 female) academic Staff from 35 Universities are waiting placement. The target is to train 325 PhDs by 2022. The Graduate Teaching Assistantship (GTA) programme aims at increasing 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.

Additionally, the Carnegie Corporation of New York provided a two-year grant (USD 1.5 Million) to support research of 42 Graduate Teaching Assistantship fellows.

Priority area 5: Enhancing TVET and skill development for employment

Strategic Action 5.1: Promote dissemination and implementation of the Continental TVET Strategy

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.

RUFORUM has supported training of 275 additional TVET students from Benin (10), Ghana (135), Kenya (93), Namibia (10), South Africa (8), Uganda (1), and Zimbabwe (18) in collaborative and peer-to-peer training together with the University students, bringing to total 1046 TVET students supported in collaborative training with university students. Further, through the collaborative engagements with TVET institutions 120 Out of School Youth were trained in Agripreneurship and business incubation, bringing to total 1,047 Out Of School Youth trained in high value agricultural crops production.



C10 Commitment 2: Promoting Education in Africa

Priority area 5: Enhancing TVET and skill development for employment

Strategic Action 5.2: Provide practical attachment programmes and strengthen incubation of business and entrepreneurship training This action area was assigned to AUC, NEPAD, GIZ and RUFORUM as key implementing entities.

Under the RUFORUM field attachment programme, 19 masters students were supported to undertake field attachment. Eight (8) of these worked with communities in Northern Uganda; two were attached to the African Union Commission under the Oversees Volunteer Programme; and three were attached to the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)-Nairobi. Technologies disseminated included: utilization of cassava or cassava processing by-products for the animal feed industry in Coastal Kenya; improved cassava varieties through the minisetts technology to smallholders in coastal Kenya; and the Indigenous Microorganisms technology (IMO); and, cassava post-harvest handling/marketing.

During the period, RUFORUM operationalized seven new incubation hubs as part of the RUFORUM Entrepreneurship Challenge Program (RECAP) projects bringing to total 15 agribusiness incubation hubs fully operational and supporting 575 students at University of Abomey-Calavi, Benin (100); University of Burundi (48); Université Catholique de Bukavu in DR. Congo (27); University of eSwatini (66); Haramaya University, Ethiopia; University of Cape Coast, Ghana (40); Egerton University (32) and South Eastern Kenya University, Kenya; University of Juba, South Sudan; and, Bishop Stuart University (116), Busitema University (50), Gulu University (88), Muni University, Ndejje University and Uganda Christian University (8) in Uganda. Key project outputs include 46 jobs and 120 student start-ups 30 of which have successfully transitioned to operating outside the University campus following one full year of incubation within the university campus environment. Competitively, these student enterprises have mobilized US\$ 31,400 in capital financing from several agencies including Tony Elumelu Foundation, Mastercard Foundation, Agripreneurship Alliance, and CEED Uganda.

Strategic Action 5.3: Capacity building of TVET trainers and stakeholders and Rebrand TVET for enhanced access, equity, quality and relevance This task was assigned to AUC, NEPAD and GIZ as key implementing agencies with RUFORUM, ADEA, AFDB, ILO and UNESCO as partners.

RUFORUM supported skills enhancement training of 185 TVET trainers in Kenya and Uganda in competitive grants development, communication, agricultural extension, networking and advocacy; and, entrepreneurship. This is fundamental in enabling TVET systems provide youth with innovative skills in fast changing labour markets.

Strategic Action 5.4: Incorporate life skills development and career guidance in TVET	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; At Baraka Agricultural College in Kenya, RUFORUM supported development of a fully accredited National level 4 and 5 Competency Based Curriculum in Piggery. In addition, the previously developed occupational Standards were transformed into a fully-fledged curriculum. Through this curriculum, RUFORUM is helping to increase the number of qualified practical TVET graduates for strengthening agricultural value chains in Kenya.
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	This action area was assigned to AUC, World Bank and RUFORUM as the responsible partners. During the year, the following were undertaken by RUFORUM: Under the collaborative partnership between Baraka Agricultural College TVET and Egerton University in Kenya, production of potato seed has been greatly enhanced through infrastructural support (for post-harvest handling) and training farmers in good potato agricultural practices. This has increased Potato production significantly and enabled the TVET institution to become more competitive not only in seed production but also in providing advisory services to farmers (See more stories here). To enhance relevance and potential uptake of research to communities, a technology dissemination and business incubation centre was established by Gulu University in Uganda at a technical vocational education and training (TVET) institute, Northern Uganda Youth Development Centre (NUYDC), to promote uptake of technologies generated.
Priority area 7: Strengthen higher education, science, technology and innovation	
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	Implementing agencies for this action are AUC, RUFORUM, NRF (National Research Foundation) and OCP Morocco. As part of enhancing foresight capacity in African Universities, RUFORUM is mobilizing funding under the initiative to strengthen Africa's science, technology and innovation capacity (BASTIC). This is still work in progress.
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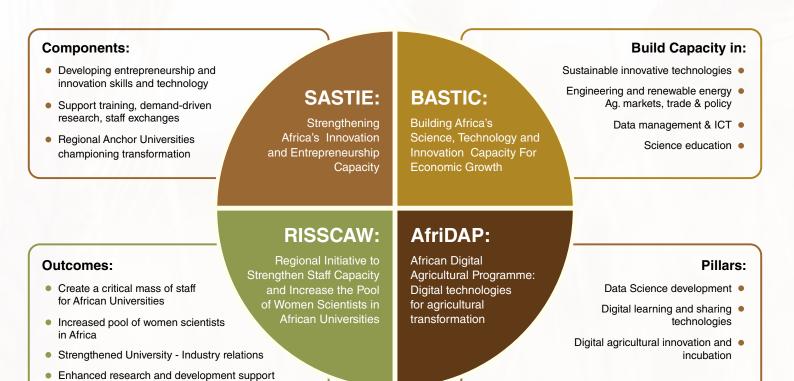
Strategic Action 7.2: Develop programs to establish Research Chairs in African Universities, increase academic mobility schemes and improve infrastructure and increase staff capacity development Key implementing partners for this action include AUC, RUFORUM, IsDB and NRF.

RUFORUM continued to engage potential funders for support towards the establishment of research chairs and regional training centres across the Continent.

During the period RUFORUM supported its member universities to win four of the seven grants awarded under the European Union supported Intra-Africa Academic Mobility Scheme Call for proposals EACEA/03/2019. The four grants/projects will support the training of approximately 160 graduate students (Masters and PhD students) in universities across Africa and support 40 staff exchanges across Africa, hence promoting intra-Africa collaboration in the field of higher education and regional integration. Teams supported by RUFORUM also won two grants under the Erasmus+ Programme of the European Union. This translates into 14 universities working jointly to train graduate students for Africa in Africa.

Our New Thrusts

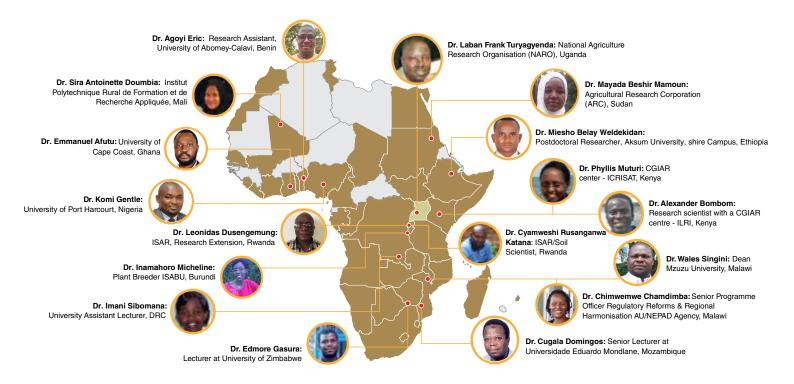
Four Continental initiatives for strengthening higher education and ST&I in Africa



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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























Ministry for Primary Industries Manatū Ahu Matua









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