

**PRIORITY AREA ONE:**  
Eradicating Hunger and Achieving  
Food and Nutrition Security

**PROGRESS** REPORT  
on Implementation of **STISA 2024**



**September, 2021**

## 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 New Thrusts

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





# Introduction

**T**he Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a consortium of 129 universities in 38 African countries with a vision to create ‘vibrant, transformative universities to catalyse sustainable, inclusive agricultural development to feed and create prosperity for Africa’. RUFORUM operations are guided by the RUFORUM [Vision 2030](#) that targets investment in Africa’s Agricultural Higher Education, Science, Technology and Innovations (AHESTI). RUFORUM has a Memorandum of Understanding (MoU) with the African Union Commission signed in 2014 to support the implementation of the African Union Science, Technology and Innovation Strategy for Africa 2024 (STISA -2024), Priority One “Eradication of hunger and achieving food and nutrition security”.

This report presents a summary of progress for the year 2020/2021 against each of the STISA strategic objectives.

## Strategic Action

## Key results by July 2021

**Strategic objective 1:** Enhance effectiveness of STI in addressing/ implementing priority areas *[for STISA-P1 by aligning with and implementation to advance the CAADP targets and the Africa's Accelerated Agricultural Growth and Transformation Agenda (3AGT)]*

**Strategic Action 1.1:** Set priorities, develop and implement prioritised multidisciplinary flagship programmes supported by efficient management to meet the needs of society within context of the Science Agenda for Agriculture in Africa

1. RUFORUM formalized/ renewed partnership with several organizations including: The Uganda Ministry of Science Technology and Innovations to deploy science, technology and innovations for poverty reduction; American University of Beirut (AUB) to provide a framework for collaboration in several areas including but not limited to staff exchanges; Innovation Village in Uganda to strengthen the capacity of Ugandan and African universities to deliver entrepreneurship relevant training; AKADEMIYA2063 to build capacities for data and policy analysis; Commonwealth of Learning for the provision of AgMOOCS; and, Food and Agriculture Organization of the United Nations to strengthen the capacities of RUFORUM member universities to better contribute to the improvement of food security.
2. RUFORUM, through the Community Action Research Program enhanced the visibility of science at national, supra-national and at community level in Benin (Baobab value chain); Botswana (Safflower value chain); Ghana (Pineapple value chain); Kenya (Cassava & Potato value chains); Namibia (Encroacher bushes value chain); South Africa (Wool value chain); Sudan (Honey Bee, Natural Resources Management, vegetable and non-timber products value chains; Uganda (Rice, Pig and Potato value chain); and, Zimbabwe (Water Harvesting value chain) through generation of innovations that are beneficial to communities. These innovations including potato value added products, parboiled rice equipment, briquette production from rice husks, [Indigenous Micro-Organisms \(IMO\)](#) technology and the [local rice seed business](#) of Gulu University have been adopted by several entities including government agencies, private sector and smallholder farmers.

## Strategic Action

## Key results by July 2021

**Strategic objective 2:** Improve technical competencies and institutional capacity for STI development *[for STISA-P1 – build and improve systemic capabilities at national level to a sufficient critical mass - human capital, technical competencies, infrastructure, enabling environment, innovation and entrepreneurial mind-set and institutional capacity]*

**Strategic Action 2.1:** Support building, upgrading and/or enhancing quality of agricultural R&D and AET infrastructural assets core for scientific and technological developments to support

1. RUFORUM promoted capacity building, shared science and educational capacities across African countries by continuing to implement the Graduate Teaching Assistantship (GTA) programme. This is a home-grown initiative by RUFORUM Vice Chancellors to improve the quality of higher education at African Universities by increasing the proportion of academic staff with PhD qualifications, contributing to locally relevant research and reducing the time away from the home institution. The initiative was officially launched by the then African Union Commissioner for Human Resource, Science and Technology, H.E. Dr Martial De Paul Ikounga on 25th July 2014 at Maputo, Mozambique. A total of 151 (41 female, 110 male) GTA students are still undertaking studies in several universities across the continent and 23 (4 female, 19 male) have completed studies and returned to their respective universities.
2. Scholarship beneficiaries under RUFORUM published 59 peer reviewed journal papers focusing on technologies innovations and management practices emerging from research undertaken by students under respective projects. These publications included: [Effect of Canola and Compound Fertilizer on Potato \(\*Solanum tuberosum\* L.\) Bacterial Wilt Management; Effect of phosphorus application rates on the quality of potato propagated from rooted apical cuttings;](#) and, [Climate-Smart agriculture and potato production in Kenya: review of the determinants of practice](#) amongst several others.

**Strategic Action 2.2:** Develop and connect human and institutional capacities – enhancing technical and professional competencies, response capacities and capabilities to manage and govern the advancement of STI, integrate and co-create new knowledge to drive Africa’s agricultural transformative agenda. Under this strategic action,:

1. During the year, RUFORUM supported 180 additional students to commence their PhD (85) and Masters (95) studies in several Universities across Africa bringing to total 2053 Masters and 627 PhD graduates supported to date with 45% female overall. Seven (4 Male, 3 female) students supported by RUFORUM under the Carnegie Corporation of New York/Graduate Teaching Assistantship and the German Academic Exchange Service (DAAD) completed studies at Makerere University (5), University of Nairobi (1) and Nelson Mandela African Institution of Science and Technology (1). RUFORUM further continued to implement the Technical Skills Development Programme (TESDEP) to enhance the educational value chain whilst allowing university academics, graduates and TVET trainers and students to co-learn, co-innovate, and co-skill each other as well as co-design at the same time. Through the initiative, 927 TVET students and 1046 out of school youth have been engaged.
2. RUFORUM adopted several measures to respond to the challenges to education occasioned by the COVID-19 pandemic including support for the digitization of nine academic programmes for online delivery at Egerton University (5): MSc Soil Science, MSc Horticulture, MSc Agricultural Extension, MSc Agri-Enterprise Development and MSc Natural Resources Management; and, Gulu University (4): MSc Agri-Enterprise Development; MSc. Food Security and Community Nutrition; MSc. Environment and Natural Resources Management; and, MSc. Animal Production and Marketing. An additional 220 Masters and undergraduate course units (172 at Egerton University and 48 at Gulu University) were transformed for online delivery. RUFORUM is further establishing a Regional E-Learning Platform for Member Universities to promote e-learning and increased access to ag- education with support from the Arab Bank for Economic Development in Africa (BADEA).
3. With support from Carnegie Cooperation of New York, RUFORUM awarded 10 [Fellowships](#) focusing on research areas ranging from breeding for resistance to crop pests and diseases, climate change to Management

of Mycotoxins. The RUFORUM Post-Doctoral Fellowship Programme aims at increasing and ensuring high retention of African graduates in Africa in order to strengthen universities and research institutions capacity to meet the growing demand for higher education and research for creating knowledge and prosperity on the continent. Further, Carnegie Corporation of New York supported academic mobility and exchange. This we believe will further strengthen the Higher Education Centres of Excellence as well as research and collaboration amongst RUFORUM Member Universities to promote food and nutrition security.

4. Resource mobilisation and advocacy to develop and connect human and institutional capacities - RUFORUM 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](#).

**Strategic Action 2.3:** Build systems for data collection and analysis, as well as sharing of information on progress towards major goals and implementation of activities

RUFORUM focus has been to update information on indicators in the higher agricultural education system in Africa as a benchmark for cross-country learning and providing a basis for intervention at institution and policy levels. To this end, the [Higher Agricultural Education Capacity Indicator \(HAECI\)](#) platform was updated with additional indicators and further enabled for the provision of real-time updates. The portal provides information on degree programs offered, research focus by major commodity area, and number of peer-reviewed publications as well as time series data on the various demographic characteristics of teaching staff and student populations.



## Strategic Action

## Key results by July 2021

**Strategic objective 3:** Promote economic competitiveness through fostering innovation, value addition, industrial/ agribusiness development and entrepreneurship in synergy with other instruments

**Strategic Action 3.1:** Develop National and Regional innovation and knowledge systems that add value to and ensure optimal returns from investments in STI

RUFORUM under the Transforming African Agricultural Universities to meaningfully contribute to Africa's growth and development (TAGDev) Flagship is promoting science and technology commercialization and agribusiness innovations. For 2020-2021, 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 [nutrisolutionbenin-com.stackstaging.com](http://nutrisolutionbenin-com.stackstaging.com); and [akpanbenin.com](http://akpanbenin.com) 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.

**Strategic Action 3.2:** Foster value addition, agribusiness and entrepreneurship to address and respond to African socio-economic challenges

The RUFORUM Entrepreneurships Challenge Program continued to support implementation of the 16 [business incubation centers](#) currently operational in Benin (01), Burundi (1), Democratic Republic of Congo (01), Ethiopia (01), eSwatini (01), Ghana (01), Kenya (01), Uganda (07), Senegal (01) and South Sudan (1). To date, 773 incubatees (473 male, 300 female) have been engaged out of which 112 enterprises have been created with 346 employees. The enterprises continue to leverage additional funding through public private partnerships. Similarly, under the RUFORUM Community Action Research Programmes, students have developed several spin-off enterprises/ businesses including [Sesameal-high fibre based porridge flour](#) and [Fruition Crushed](#). These products including the [Boabab leaf powder as alternative for tea](#) are currently being transformed into functional business enterprises producing and processing products and creating jobs.

## Strategic Action

## Key results by July 2021

**Strategic objective 4:** Protect knowledge production (including inventions, and indigenous knowledge) by strengthening IPR and regulatory regimes at all levels

**Strategic Action 4.1:** Transform and strengthen Africa's agricultural STI environment into an effective innovation system to meet Africa's socio-economic needs

Under the auspices of the Government of the Republic of Uganda with a grant from Arab Bank for Economic Development in Africa, RUFORUM is finalising the Youth Employability and Entrepreneurship Development in the Agricultural Sector in Uganda feasibility study and project proposal. The feasibility study explored innovation and agribusiness for the diverse youth groups, both within the higher agricultural education sectors, out of school, urban, peri urban and rural.

**Strategic objective 5:** Facilitate STI policy reforms, harmonization, science diplomacy and resource mobilization

**Strategic Action 5.1:** Through effective policy practice provide an enabling policy and institutional environment for the sustainable application and performance of science - integrating STI in strategies, plans and programs at national and regional levels

1. RUFORUM continued to advocate for the implementation of effective ST&I policies at country and regional levels by mobilizing resources towards the execution of [Continental initiatives](#) aimed at strengthening Higher Agricultural Education, Science, Technology and Innovation in African universities. These initiatives as agreed during the [Ministerial Round table](#) that was hosted on the side-lines of the RUFORUM Annual General meeting held at the University of Cape Coast Ghana include the African Digital Agriculture Programme (AfriDAP) aimed at strengthening online learning and teaching in RUFORUM Member universities and Strengthening Africa's Innovation and Entrepreneurship Capacity (SASTIE) that have been supported by the Arab Bank for Economic Development in Africa.

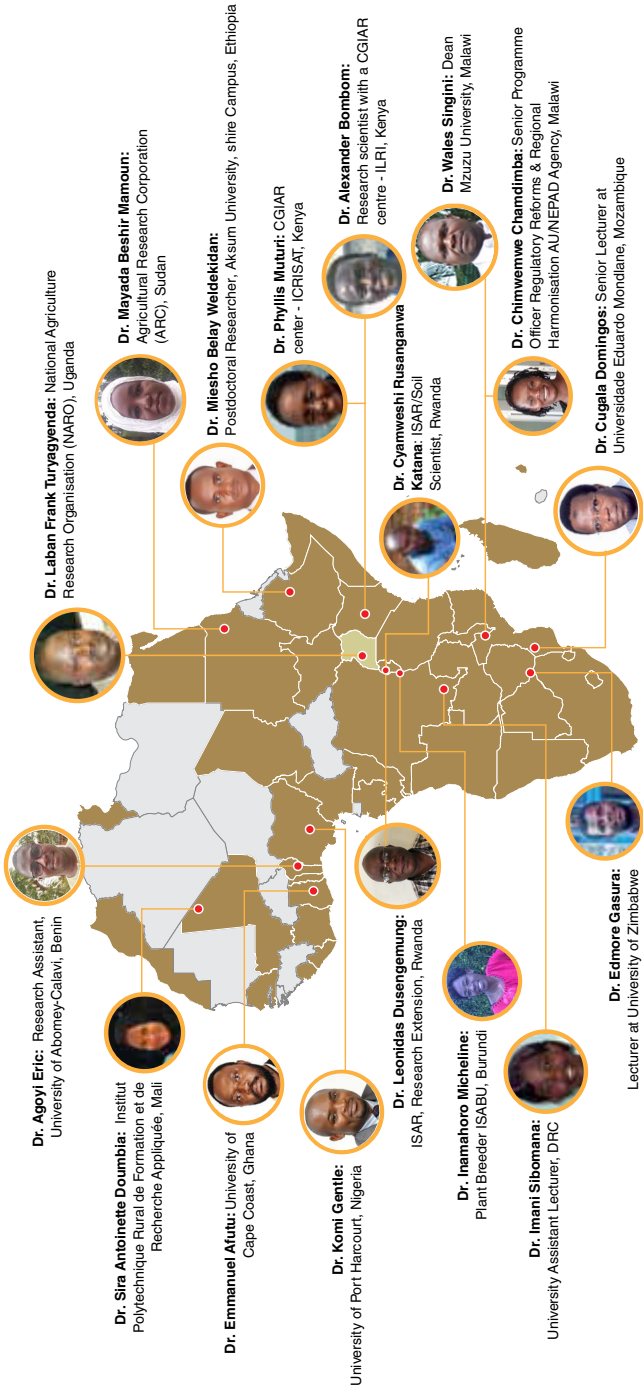
2. RUFORUM had active presence and participation towards the 2021 United Nations Food Systems Summit by convening independent dialogues under the theme University-Policy Dialogue on Strengthening Food Systems for Improved Productivity, Inclusivity and Resilience. The [dialogues](#) cascaded at all levels of policy making, into the Heads of State Dialogue, hosted by the President of the Republic of Malawi. The [Lilongwe Declaration](#) on education, science and technology was forwarded to be part of the Common Africa Position to the Summit.
3. The Secretariat continued to engage Member Governments on the endorsement of the Charter to legitimize RUFORUM as an implementation agency for facilitating Higher Agricultural Education and Research. Eleven countries namely; Benin, Cameroon, Democratic Republic of Congo, Ghana, Kingdom of eSwatini, Liberia, Malawi, Mali, Sierra Leone, Sudan and Zimbabwe have endorsed the RUFORUM Charter.

**Strategic Action 5.2:** Establish funds and financing mechanisms that promote national, regional and continental solidarity in agricultural STI

1. RUFORUM mobilized resources from several agencies to support intra Africa academic mobility, host and manage a research and services network for responsible artificial intelligence for climate action innovation in Africa, accelerate the Impact of CGIAR Climate Research for Africa, establish a Regional E-Learning Platform for Member Universities, create labelled datasets for crops and support to Out of School youth. Partnership with several agencies continues to be fundamental in supporting the RUFORUM Network.

# RUFORUM graduates resourcing universities and research institutions

## RUFORUM Alumni - Continental Impact



# Funding

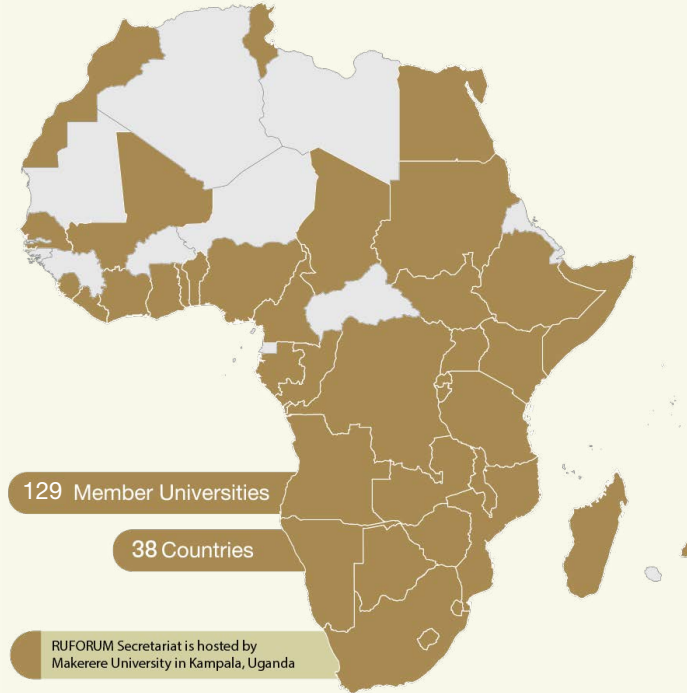
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RESEARCH PROGRAM ON Dryland Cereals



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