



GROWING AFRICAN BASED INSTITUTIONS: LESSONS FROM AN AFRICAN NETWORK

July 2021



RUFORUM: Dynamic and Resilient network

The RUFORUM was created in 2004 by ten Vice Chancellors of universities of five African countries to provide a platform to strengthen engagement between African universities to increase capacity to raise the productivity of smallholder agriculture. RUFORUM further strengthened networking, resource mobilization and advocacy to transform universities for relevance towards inclusive sustainable development. It helped rationalize resource use and enhance economies of scale and scope encouraging universities to directly support inclusivity and African development priorities. The RUFORUM network connects globally with other university, research and agriculture networks, development partners, policy and decision leaders. It leverages synergies and solidarity to deliver relevant science solutions for development, increase human capital and promote institutional reform in African higher agricultural education. RUFORUM acknowledges youth as the propulsive engine to drive change and lead the charge for a better Africa. The network is African initiated and owned, aligned with country goals, and thrives in a multi-stakeholder inclusive engagement that is alive to gender equality and gender responsive interventions.

Building on a collective foundation

The RUFORUM network is building on a shared collective voice enshrined in its African Universities' Agenda for Agricultural Higher Education, Science, Technology and Innovation (AHESTI) and Vision 2030 agenda. The RUFORUM Vision 2030 seeks for *vibrant transformative universities that catalyze sustainable inclusive agricultural development to feed and create prosperity for Africa*. RUFORUM network universities appreciate that transforming African universities for growth and development will yield quality human capital, institutional reform and deliver science solutions for development to bolster Africa's competitiveness and improved livelihoods.

Our Vision¹

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

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.

Motivation

Transforming agriculture in Africa requires innovative scientific research, educational and training approaches. The education sector needs to be more connected to the new challenges facing rural communities and needs to build the capacity of young people to be part of the transformation of the agricultural sector". This is reinforced by the Science Agenda for Agriculture in Africa.

¹<https://www.youtube.com/watch?v=Br4c0ihKY2M>

RUFORUM's growth trajectory

From its genesis in 2004 RUFORUM has over the years steadfastly grown based on demand and a rationalized growth and development plan. By 2019, the membership had grown to 129 universities found in 38 countries of Africa. RUFORUM is attractive to new members due to its relevant value proposition and mission, which aim to strengthen and grow university institutions and programs of research, human resource development, and outreach especially to communities a major thrust of African Governments. Through community engagement, RUFORUM supports universities to strengthen their participation in development processes and practice as part of their contribution to generating development solutions especially for small-holder farming- the largest sector employing at least 60% of sub-Saharan African population. This approach also enables universities directly engage in economic development of countries throughout Africa. Further, the network enables universities to share resources and information, leveraging on collective physical, financial, and human resources not readily accessible to individual members.

In order to intensify advocacy for agricultural higher education and its related role in African's development agenda by African University, in 2014 RUFORUM signed an MoU with the African Union Commission to lead the implementation of the African Union Science, Technology and Innovation Strategy for Africa 2024 (STISA -2024), Priority One of "Eradication of hunger and achieving food and nutrition security." Further, as RUFORUM is an implementing agency in STISA 2024 Priority One and through its numerous [convenings](#) the network has brokered partnerships for University contribution to meeting the Sustainable Development Goals and Agenda 2063. The engagements from national to continental level have intensified discussions on how Africa can best leverage on its population dividend, anchored on its institutions, to develop capacity at institutional, national, regional and international levels with support of development partners. Overall, therefore, RUFORUM has catalysed the renaissance of African University by degrading the "Ivory tower" description of African University, through progressive engaging in research, development and policy arenas.

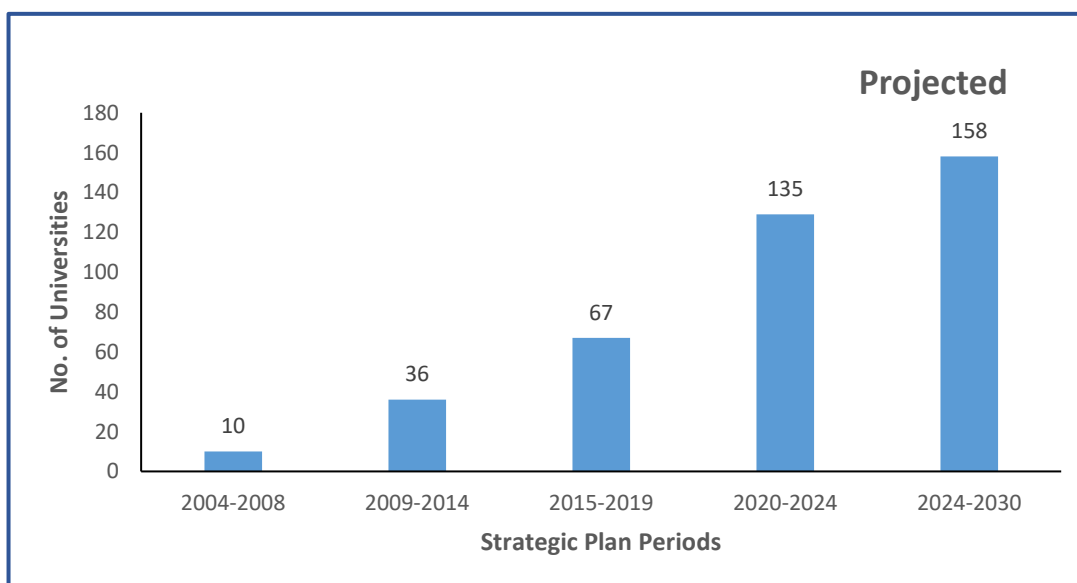


Figure 1: Growth in RUFORUM network membership-members admitted by planning cycle

Bill and Melinda Gates Foundation Funding to RUFORUM: Success of commitment

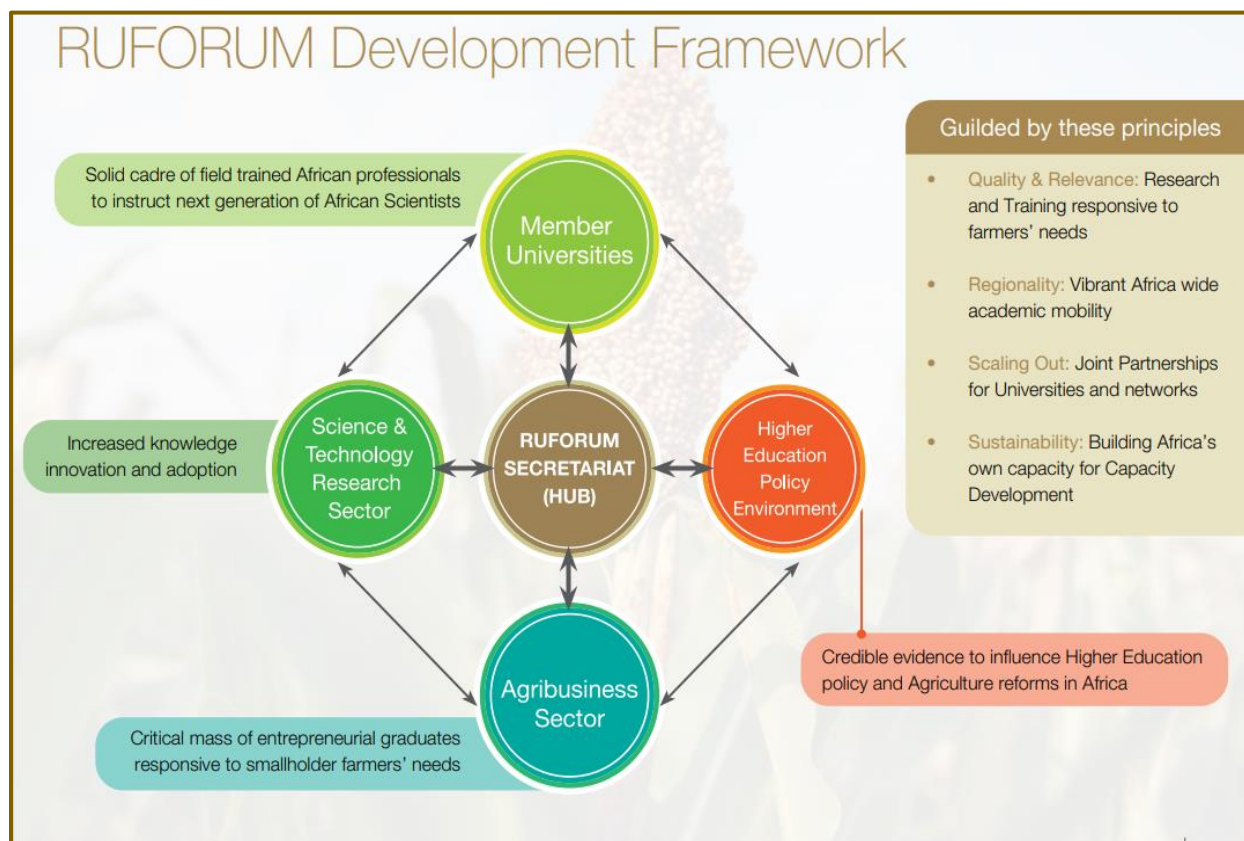
RUFORUM's partnership with The Foundation was born in 2005 in Maputo-Mozambique, and subsequent successful convening in Mangochi-Malawi in 2005. During these convenings, young academics, supported through RUFORUM impressed upon the Foundation their ability to engage directly with farmers and to jointly address some of their agricultural problems. Subsequently discussions were held and an Institutional Strengthening Grant was awarded to RUFORUM. The Grant aimed to develop a comprehensive and viable program underpinned by strong governance and management anchored on RUFORUM's project development, quality assurance and accountability systems. RUFORUM has benefited from this strategic investment, building a strong reputation for transparency, as well as excellent financial and technical audit and accountability systems, and is held in high esteem by its members.

Specifically, the support to the Secretariat helped:

- (a) Develop functional Governance Organs and a fully constituted Secretariat with a dedicated staff, for mission fulfilment.
- (b) Strengthen mission delivery mechanisms (implementation, measurement and evaluation, mentorship and close relationships with Network members);
- (c) Support diverse convenings that have raised the profile of member universities and the convening power of RUFORUM;
- (d) Strengthen member universities capacity to mobilize resources for collective and individual needs;
- (e) Contribute to development of quality graduate training programs that meet national to regional needs through its regional MSc and PhD training programs and as well as graduate research grants;
- (f) Support development of quality assurance systems for higher education;
- (g) Promote an inclusive agenda by intensifying training of women and their engagement in science, technology and innovation
- (h) Reduce human resource erosion from African Institutions, thereby increasing return on investment by BMGF and other development partners on higher education
- (i) Catalyze stronger relationships with governments and strengthened relationship between universities and policy makers.

Overall, therefore the Institutional support to RUFORUM has been critical for establishing a strong foundation for a viable sustainable African led and grown Institution, something that would not have been possible if only short-term support had been provided. In fact, under this grant, RUFORUM network expanded from 32 universities in 2009 to 129 universities in 38 African countries in 2019. This expansion, underpinned by a strong institutional structure has increased the regional and international image and position of the network as a vibrant outcome and impact-oriented consortium. This strong institutional setting of RUFORUM has been key to attracting, leveraging and maintaining funding and increasing investment opportunities from other partners and Governments that continue to sustain RUFORUM operations and activities.

The RUFORUM success thrust to the continent and to the university system in Africa with potential for scalability and strengthening is evident through:



1. Partnerships for human capacity and agriculture sector development

RUFORUM has played a significant role in brokering, nurturing and managing partnerships from local to global scale in order to mobilize resources that are essential to deliver on the development goals of African institutions. This has been through networks for training and research that brings together universities in Africa that have a focus on higher agricultural education. Collectively, the Network has potential to train close to 700,000 young Africans who are the foundation for the continent's present and future growth. More specifically through RUFORUM funding with partners, the Network has been able to graduate 1200 PhDs and over 5000 MSc students. These endeavours are rooted in inclusive programming that takes cognizance of gender, youth and socio-economic background of participants. The RUFORUM [Regional PhD programs](#), developed and launched with BMGF support were the first to provide taught course components and significantly expanded the opportunities for Africans to study on the continent. They provided high quality postgraduate degrees encouraging participatory field research and helped to strengthen relationships within the continent. These regional programs increased both human capital and smallholder agricultural productivity. They also led to the adoption of taught courses in other faculties and raised the profile of African doctoral training. As the strength of the Network has grown these efforts have been reinforced by the universities themselves waiving fees to the faculty of member universities to support raising the qualifications and the quality of African postgraduate degrees.

Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) Experiences and Lessons from BMGF Funding Commitment for Growth

Networks for training and research have emerged providing a platform for science leadership and programming. RUFORUM thus stands out as a platform for linkages and coordination of African researchers and researchers from outside Africa in various initiatives including competitive projects development, students' identification and placement. The RUFORUM Network bridges the gap with global partners such as AGRINATURA, APLU, AAU, Association of Indian Universities² and GCHERA that have increased the participation of African Universities in the global higher education agenda, thus enhancing Africa's contribution to global knowledge. But most importantly RUFORUM has created a community of African researchers working together to address common but context specific challenges. The Network has been able to galvanize participation of African academics in competitive projects that have mobilized more than 250 million United States dollars towards research and training.

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.



Grant requirements for intra- and inter-institutional collaboration as well as inter- and multi-disciplinary research processes have brought together specialists of different skills to work together and bring their scientific abilities to achieve answers to significant questions. This has

² <https://news.mak.ac.ug/2010/11/chea-2010-reaffirming-commitment-higher-education-agric>

² <https://news.mak.ac.ug/2010/11/chea-2010-reaffirming-commitment-higher-education-agric>

² <https://repository.ruforum.org/system/tdf/RUFORUM%20Monthly%20Newsletter%20-Jan%202012.pdf?file=1&type=node&id=35288&force=>



accelerated the progress of university research and enhanced the quality of the work as well as extending the repertoire of the partners. RUFORUM-brokered partnerships among researchers has ensured that their knowledge, skills and technologies become available more to mutually benefit the participants, ultimate beneficiaries and the Network. The more the researchers collaborate, the greater the chances for success and problem solving, the prospects for acquiring and sharing knowledge and experience, and also in making equipment, facilities, and laboratories available to other researchers even if they belonged to other institutions.

2. Nurturing young talent

RUFORUM has expanded its agenda of agricultural and tertiary education through engagements and commitment to advocate for vocational training. RUFORUM recognizes the pivotal role that technicians and other vocational trained human capital has in development processes and practice thereby increasing productivity of the education value chain in Africa. This effort by RUFORUM has led to realization and appreciation of the need for more inclusive human capital development that addresses diverse segments/ components of Africa's higher education ecosystem and is now being further championed by other global players. The RUFORUM approach delivers skilled and employable human resources, minimizes waste of talent and potential, and reduces drop-out rates that have characterised Africa's education processes.

Through the RUFORUM Young African Entrepreneurs Competition (RUYAEC)³, young innovative and entrepreneurial Africans have been identified and nurtured. Today participants in the program have been able to engage with an estimated 40,000 smallholder farmers, creating about 250 jobs as start-ups, and raised the profile and vibrancy of innovation and entrepreneurship in the continent.

3. Engaging high level policy to invest in human resource development and research

RUFORUM today provides a platform for universities to engage with key stakeholders through its annual and biennial convenings and programs. Over the last 15 years, RUFORUM has held 385 networking events that have led to increased investment, positioning and policy influence of African Universities and their higher education and research agenda in the development of the continent. Interface has embraced delegations of Vice Chancellors meeting with the highest policy makers in some of the countries. Evidence of policy engagement has manifested through initiatives such as the Committee of 10 African Heads of State (C10) championing education, science, technology and innovation development endorsed by the African Union Assembly of January 2018⁴. The [first Extra-Ordinary C10 Summit](https://au.int/en/pressreleases/20181102/first-extra-ordinary-summit-committee-ten-heads-state-and-government-c10) hosted by the Government of the Republic of Malawi, adopted an [Action Plan](#) and identified RUFORUM as one of the key partners in the implementation

³ <http://www.ruforum.org/younginnovators/>

⁴ Committee of Ten Heads of State and Government (C10) Championing Education, Science and Technology in Africa: <https://au.int/en/pressreleases/20181102/first-extra-ordinary-summit-committee-ten-heads-state-and-government-c10>

of the Science, Technology and Innovation Agenda on the continent. RUFORUM has continued to provide leadership to push for the commitments made at the Summit.

The Ministerial Conference on Higher Education in Agriculture (CHEA)⁵ co-hosted by the Government of Uganda, RUFORUM and other regional and international partners in 2010, laid the foundations and created momentum for several investments that have been made in higher agricultural education in Africa to date including the African Higher Education Centers of Excellence that has now invested more than US\$350 million in the continent's education and agriculture sectors. The [Ministerial Round Table dialogue](#) practice was adopted as a common occurrence of the annual RUFORUM convening and Biennial Conferences. This has provided a valuable platform for universities to interface with policy, leadership development and interactions with other stakeholders, including more recently, hosting a Pre-United Nations Food Systems Summit Dialogue for [African Heads of State and Governments on 01 July 2021](#).

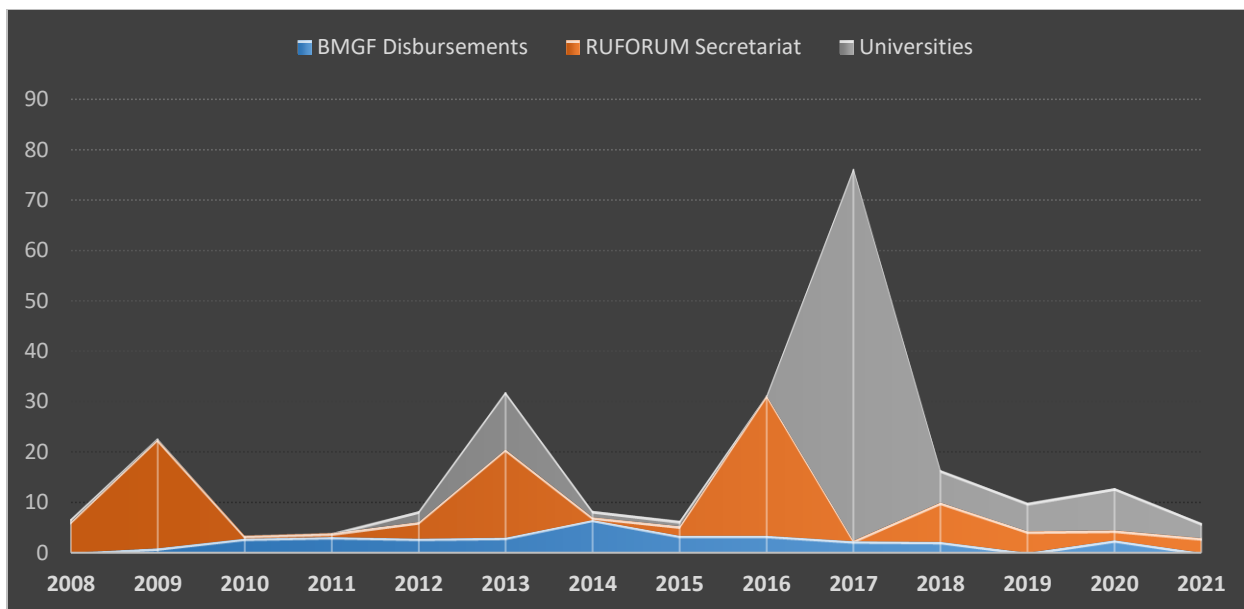
4. [Resource mobilization efforts leveraging on BMGF support](#)

The BMGF Institutional Grant and other support^{6,7} has over the years strengthened the Network's operational capacity to mobilize about US 250 million for diverse mission areas. This has enabled the network to: (i) Become attractive for funding from other agencies that have provided matching funds; (ii) The Secretariat is fully constituted and actively operational; (iii) The Secretariat is in a better position to mobilize resources for membership and facilitated them develop capacity for grantmanship to support research and capacity development. RUFORUM Secretariat and its members have since developed multi-stakeholder, multidisciplinary platforms for action towards African Agenda 2063, addressing diverse development concerns including the need to increase agricultural productivity but from a broader sustainable agri-food systems perspective that is also equitable and responsive to emerging challenges including climate change and biosecurity threats.

⁵ <https://news.mak.ac.ug/2010/11/chea-2010-reaffirming-commitment-higher-education-agric>

⁶ <https://www.youtube.com/watch?v=N7yoK90IOKY>

⁷ <https://www.ruforum.org/consultative-forum-kampala>



BMGF refers to funds granted to support the Secretariat and for disbursement to members for projects; RUFORUM Secretariat refers to other funds raised and disbursed to members by RUFORUM; Universities refers to funds raised through RUFORUM facilitated proposals and disbursed directly to universities

5. Rebuilding Africa’s research capacity and thought-leadership

Based on its expanded agenda and strong management and operation systems, RUFORUM has built high-quality and relevant postgraduate training programs in agriculture and more broadly in Science, Technology and Innovation (ST&I). The BMGF support among others strengthened and supported growth of masters and PhD level graduate training and has had spillover effects on member universities such as: (i) Targeted support for undergraduate training that leverages on postgraduate training, research and knowledge-sharing; (ii) Technology platforms and the “skills revolution” needed for universities to be leading actors in the national agricultural transformation systems have been established⁸; and (ii) Establishment of regional centers of excellence to train the next generation of scientists for Africa in Africa anchored to RUFORUM documented and evaluated Institutions. The BMGF grant to RUFORUM attracted support for Strengthening Capacity for Agricultural Research and Development in Africa ([SCARDA](#)) project that identified, commissioned and disseminated information on how capacity strengthening for agricultural research that leads to measurable and sustainable impact in conflict-stricken nations could be done focusing on [Rwanda](#), [Burundi](#) and [Sudan](#). The SCARDA process became the link for sustained National Agricultural Research Systems (NARS) engagement in national development agendas, especially in developing the CAADP Country Compacts and Investment Plans. The RUFORUM investment also catalyzed sharing of resources to train for weaker universities thereby creating an environment for collective growth in the universities’ human resources.

⁸ <https://www.youtube.com/watch?v=9XUpf4UBKi0>

Building on earlier results, RUFORUM is currently supporting students from conflict-stricken nations of Burundi, Cameroon, Democratic Republic of Congo, Liberia, Mali, Mozambique, Nigeria, Somalia, South Sudan, Sudan and Zimbabwe. RUFORUM has supported the design of strategic actions to rebuild critical human resources for countries emerging from conflict while strengthening the same capacity for emergent NARS and universities. It is on this principle that the concept of Regional Anchor Universities and African Centers of Excellence was founded, to create a hub of universities with different competitive nodes.

Leveraging on RUFORUM's stronger members the network has developed an Academic Mobility Program that provides a suite of mobility arrangements including short-term stays of up to three months for academic staff and administrative staff to share their experiences, and support the quality of research and training in other universities. The Mobility program further involves short stays for students seeking help in laboratory facilities, field attachments, data analysis and thesis writing opportunity under the Doctoral Completion arrangement. Other interventions within the Mobility arrangements are through support to students' placement under funding from Intra-ACP Mobility, Intra-Africa Mobility, and Erasmus Plus. [The RUFORUM Graduate Teaching Assistantship \(GTA\)](#) program with 40 African Universities (training 325 PhD and internally mobilizing US\$24m for the universities) has emerged as a home-grown model for human capacity development and this has promoted retention of highly qualified staff in the continent. The RUFORUM Post-Doctoral Fellowship Program has been key in consolidating retention of the highly trained and qualified human resources within the African universities to support the competitiveness of universities and to drive the knowledge economy within Africa.

The RUFORUM strategic visioning for institutional reform and investments for human capital and development for Africa has designed and nurtured improvement in the quality of training programs in Africa such as: regional coursework based PhD⁹ and MSc programs (12); curriculum review and reform in 15 universities; intensified engagement of universities in development agenda of their respective countries; engagement of Northern Universities (Europe and North America) in collaborative training; and research through new market oriented training and research. Through university academic staff strengthening trainings, institutions such as Makerere University have become distinguished actors in human capital development for their countries as well as the wider Africa region¹⁰.

⁹ About Regional PhD Programs: <https://www.ruforum.org/regional-training-program>

¹⁰ <https://repository.ruforum.org/system/tdf/Ruforum%20Case%20Study%20-%20Makerere%20story%20PR.pdf?file=1&type=node&id=33631&force=>



Mentorship and skills enhancement programs for young professionals have been instituted. RUFORUM provides the framework for shared life experiences, interaction between seasoned researchers and students to provide them with opportunity to define their future. Through this mentorship, young professionals have received accelerated promotions in their respective universities to the ranks of lecturers, senior lecturers, associate professors and professors and a number of them have taken up leadership roles in the National Research System especially in Benin, Burundi¹¹, Democratic Republic of the Congo, Ethiopia, Mali, South Sudan¹², Kenya^{13,14}, Gambia¹⁵, Rwanda, Botswana¹⁶, and Uganda¹⁷.

The RUFORUM model is creating a new generation of African scholars that know more about smallholder agriculture and rural conditions throughout the continent rather than simply their countries^{18,19}. These students will play a significant role in fostering regional integration and promoting work across language divides.

¹¹ <https://repository.ruforum.org/node/33500>

¹² <https://repository.ruforum.org/documents/analysing-adapting-innovating-growing-robust-agricultural-research-system-south-sudan>

¹³ <https://repository.ruforum.org/documents/soil-microbes-markets>

¹⁴ <http://ruforumimpact.org/project/training-science-leaders-for-africa-featuring-abigael-otinga/>

¹⁵ https://repository.ruforum.org/system/tdf/The_Gambia.pdf?file=1&type=node&id=31320&force=

¹⁶ <https://repository.ruforum.org/documents/impact-graduate-research-grants-examples-botswana>

¹⁷ <http://ruforumimpact.org/project/training-science-leaders-for-africa-featuring-robert-kawuki/>

¹⁸ <http://ruforumimpact.org/project/ruforum-regional-programmes-research-methods/>

¹⁹ <https://www.ruforum.org/MCF/tagdev-videos>

6. Inclusive programming in higher education

RUFORUM encourages member universities to provide opportunities to less advantaged students and also strengthen the role of [women in science, technology and innovation](#) including engineering and mathematics with opportunity to stay in school and finish their higher education. Through deliberate effort, the share of women participation in ST&I in the RUFORUM programming in the last 15 years increased from 4% to the current 45 percent. As part of advancing equity, a target of 60% share of women joining higher education for undergraduate studies with RUFORUM support and a 50% share for those joining post-graduate studies in the science domain has been set. This has seen an increased number of young women joining the science fields with RUFORUM support at the focus universities including Egerton University and Gulu University. Further, to institutionalize this, women Vice Chancellors in the RUFORUM member universities have created [the Forum for Women Vice Chancellors in Africa](#); that is now championing the science, leadership and mainstreaming of the women into the science and leadership agenda in Africa.

Emphasis has been put on equal opportunity for disadvantaged youth in particular girls and those coming from conflict and post conflict areas. This has been achieved through a number of mechanisms, including through a targeted selection process, focusing on securing a differentiated admission of students from disadvantaged communities to join [universities](#). This is particularly important because their scores in high schools are not as competitive as those of students that undertake their studies in urban areas and under relatively good conditions.

7. Innovations for development - Responding to the Science Agenda for Africa

RUFORUM acts as a spring board for African universities to directly engage in the development to deployment of solutions and evidence that are contextually relevant through the Community Action Research Program (CARPs). The CARP framework facilitates Universities to work with the communities to co-design, co-create and co-produce knowledge for their development needs and put them into practice. Twenty (20) CARPs have now been supported in the RUFORUM system, directly benefiting an estimated 120,000 smallholder farmers (see CARP stories for Wheat-Ethiopia²⁰, Cassava-Uganda²¹, with various success²², Fisheries-Malawi²³, Baobab-Benin²⁴, and Livestock-Tanzania²⁵).

²⁰https://repository.ruforum.org/system/tdf/ANNUAL%20PROJECT%20REPORT%20Wheat%20CARP%202015_16.pdf?file=1&type=node&id=36001&force=

²¹<http://www.cassava-carp.org/frontend>

²²<https://blog.ruforum.org/2017/02/03/enabling-rural-women-prosper-from-cassava-bioethanol-production-through-university-community-engagement/>

²³<http://ruforumimpact.org/project/strengthening-universities-community-engagement-for-transformed-agriculture/>

²⁴<http://ruforumimpact.org/project/a-formidable-baobab-research-team-ruforum-expands-support-in-west-africa/>

²⁵<https://blog.ruforum.org/2015/06/08/nelson-mandela-african-institute-of-science-and-technology-awarded-a-300000-grant-from-ruforum/>

Students, especially graduate students in participating universities are playing a key role in the delivery of complementary extension services; a greater linkage with the National Agricultural Advisory Services is currently illustrating university contribution towards professionalization of extension services as well as agriculture. Further, in fulfilment of STISA 2024 Priority One of eradicating hunger, students and alumni are delivering appropriate technologies, innovations and management practices to an estimated 1,500,000 smallholder farmers in Africa. Through these efforts RUFORUM has been able to demonstrate the role that universities can play in society transformation and elimination of hunger, malnutrition and raising the income and economic base of rural communities.

The [aquaculture technologies](#) developed at Lilongwe University of Agriculture and Natural Resources (LUANAR) focused on increasing fish production and rural incomes through application of aquaculture innovations in the value chain. Fish farmers were linked to Innovative Fish Farmers Network Trust, a group of fish farmers at national level that aim at training and empowering fish farmers with different techniques. Eighty fishponds were constructed and 110,000 fingerlings of *Oreochromis shiranus* (80,000 improved strains, 40,000 local strains) were stocked. Pond yield increased by 69%, from 750 kg/ha/year to 1,266 kg/ha/year. At an average price of US\$2.7/kg, average gross income of about US\$1,688 was realized from a 1ha pond per year- **The LUANAR Fisheries Unit is now an African Centre of Excellence with Support from the World Bank.**

From the BMGF support, RUFORUM attracted resources from the MasterCard Foundation to expand the CARP pilot concept from the initial four CARPs to 16 more CARPS where the complementary extension delivery model through the Student Centred Outreach Approach has been expanded to Egerton University and University of Nairobi (Kenya), Gulu University and Makerere University (Uganda), University of Cape Coast (Ghana), University of Abomey Calavi (Benin), University of Gezira, University of Khartoum, University of Kordofan and Peace University (Sudan), Botswana University of Agriculture and Natural Resources (Botswana), University of Namibia (Namibia) and University of Free State (South Africa). The CARPs are directly reaching an estimated 45,000 smallholder farmers with various technologies, innovations and management practices in various commodity value chains including cassava, maize, potatoes, piggery, baobab, and sheep. Participatory research has increased adoption rates of new methods or technologies by farmers and communities involved in the design and execution of the research programs due to the increased sense of ownership over the processes and products, as well as the reassurance that the outcomes are intended to suit the community needs and preferences.

Through the RUFORUM Entrepreneurship Challenge Program (RECAP)²⁶, the RUFORUM Secretariat supports establishment of Agribusiness Incubation hubs in universities. The program has expanded to 16 universities currently estimated to be training 700 young entrepreneurs in

²⁶ <http://www.ruforum.org/MCF/ongoing-recap-projects>

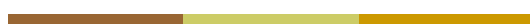
Benin, Burundi, Cameroon, DR Congo, Ethiopia, Ghana, Kenya, Senegal, South Sudan, Uganda and commencing soon in Lesotho, Liberia, Mali, Tanzania and Zambia. Student enterprise development and research is also encouraged to reach out to work with [refugees](#) and their host communities.

Overall, the RUFORUM approach to provide a platform for harnessing capacities in different universities has now been adopted beyond agricultural science fields. It is now being used by African Universities to train Medical Professionals for Africa, and for building capacity to respond to some of the emerging human health diseases and pandemics.

Our future prospects

Over the last 15 years of RUFORUM benefiting from the BMGF institutional grant, it is clear that a network approach is essential for addressing common challenges across Africa. The nature of agricultural development challenges still remain common, in spite of the diverse agri-food systems present on the continent. As such, RUFORUM still considers collective investments through networks as has been done by BMGF as critical to support specific country programs. RUFORUM thus envisions *Vibrant and transformative universities that catalyze sustainable and inclusive agri-food system development in Africa collectively working to generate public goods that know no borders* in line with the Sustainable Development Goals and the Africa Union Agenda 2063. Such collective efforts that are supranational in nature as RUFORUM are essential for African owned and led institutional growth with the network playing a facilitator role with the following benefits and or roles:

- a) **Economies of scale and scope** as well as higher return on investment based on a shared mission that builds and leverages existing strengths for regional and national capacity undertakings especially capacity development and research for development. Such efforts will enable inter-alia an intra-African access to quality education at affordable costs and with higher students returning home and employment within Africa;
- b) **Stronger, connected and well-functioning institutions** that support local innovations for specific development needs and or niche. Such local but strong networked institutions are better able to address shared development challenges such as climate change, and biosecurity threats (diseases and pests) as well as policy that affects transboundary engagements. They do this by increasing retention and performance of local talent within the continent;
- c) **Proactive programming that integrate higher agricultural education** into rural farming communities, smallholder farmers' associations, National Agricultural Research Institutes, extension and development agencies, and the private sector, thereby enhancing relevance, faster knowledge transmission and a pathway of youth returning to agriculture;



- d) **Investing in regional centres of leadership and/or excellence** that build on the proven regional Masters and PhD programs as well as scaling up research outputs to beneficiaries. This approach bolsters Africa's capacity to maximize its return-on-investment for research and training by producing public goods using its best options (research teams) at competitive costing for itself and with global development community;
- e) **Supporting African university transformation and reform processes** that expand the scope of missions beyond the traditional three roles of teaching, research, and outreach to address wider economic ecosystems imperatives and opportunities. The reform investment should also grow a cadre of dynamic thought leaders who frame and guide research and development as well as policy and investments for the continent;
- f) **Relevant development solutions.** For the agricultural sector the common challenge on increasing productivity still abounds. The questions of access to, affordability and financing and adoption plague Africa's smallholder agriculture. Yet the need to address such systemic challenges and broader development thrusts such as market and business development are weak undermining industrialisation and job creation for especially the youth in Africa. By focusing on systems wide investments as piloted in CARPs that can now be taken to scale RUFORUM demonstrates that a broader food systems approach is viable in Africa with capacity to deliver meaningful transformation and outcomes. Such networks will also benefit from RUFORUM model of strategic partnerships with institutions and actors from within and outside of Africa.





Some lessons on what could be done better

RUFORUM has had remarkable success in strengthening relationships across the continent, in working closely with its members to improve and extend higher education and to transform the way universities approach research to respond to, and work with smallholder farmers and rural communities in general. The RUFORUM model and approaches have been able to:

- a) Built capacity especially of founder members to conduct high quality research with some Universities being among Africa's premier Universities based on diverse University rankings.
- b) Take a broader look at agriculture and interlinked sectors of the economy such as health sciences leveraging on its members. The common areas on zoonoses, transboundary diseases, diagnostics etc have been identified and require further development.
- c) Significantly address the issue of retaining high-level skills, with over ninety percent of graduates remaining on the continent;
- d) Enhanced inclusion of women in university faculties, research institutions, student bodies and embraced gender sensitive research;



- e) Strengthened the role of universities in delivering science solutions for development, influence policy and contribute to global knowledge.

Notwithstanding, RUFORUMs' expansion to all five sub-regions of Africa, i.e., Central, Eastern, North, West, and Southern Africa and the resultant demand on RUFORUM Secretariat have made it difficult to deliver outcomes at the same scale and scope. It should also be noted that, while the Network has achieved a lot, thanks to the BMGF Institutional Grant, and has among others country-to-continental policy support, Africa's growth and transformation agenda remains demanding. Many new public and private Universities created to accommodate the success of free education in the continent, now implemented for just under two decades, are still in their infancy requiring support. Such new Universities and the growing agricultural research needs are beholden to Strategic Programs such as RUFORUM to service them. Moreover, Africa has yet to fully address the wide researcher-to-development population target for faster adoption and impacts. Indeed, the African Union has placed responsibility on RUFORUM to champion implementation of the Science, Technology and Innovation Strategy for Africa-2024 Priority Area One on Reducing Poverty and Food and Nutrition Insecurity. Further, as Africa grapples with efforts to engage in the Fourth Industrial Revolution, many countries are still stuck in the 3rd industrial revolution, African University must be part of the strategy to bring up to speed the continent's development thrusts and investments. The RUFORUM network has demonstrated that this is possible and could be harnessed further as economies and their needs evolve.

It is our considered opinion, that based on RUFORUMs' rich repertoire in Africa's Agriculture and Higher Tertiary Education and its related research for development across disciplines, the network provides a solid platform for diverse investments and engagements needed to close development gaps especially in human resourcing and research for development. Going forward RUFORUM is still needed and must now move beyond pilots of tested practices and investments to scaling-up and-out of proven solutions and mechanisms (partnerships and delivery models), especially to its new regions of North, West and Central Africa. The investment menu will vary but will be guided by key principles of regional benefits, quality performance and implementation, impact orientation, and importantly sustainability and high return on investment by universities and the expanded RUFORUM. The journey has begun but the road is long.

