



Regional Universities Forum for Capacity
Building in Agriculture (RUFORUM)

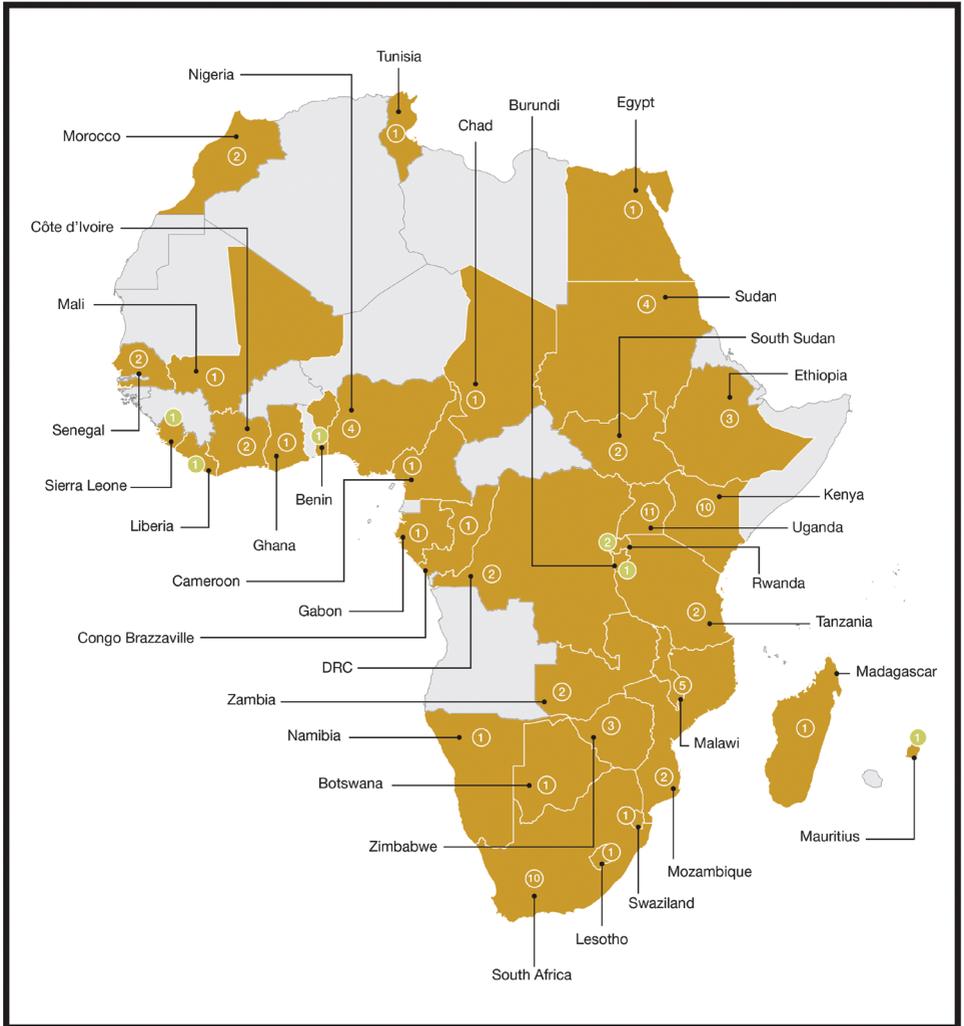
Vision 2030



The African Universities' Agenda for
Agricultural Higher Education, Science,
Technology and Innovation (AHESTI)

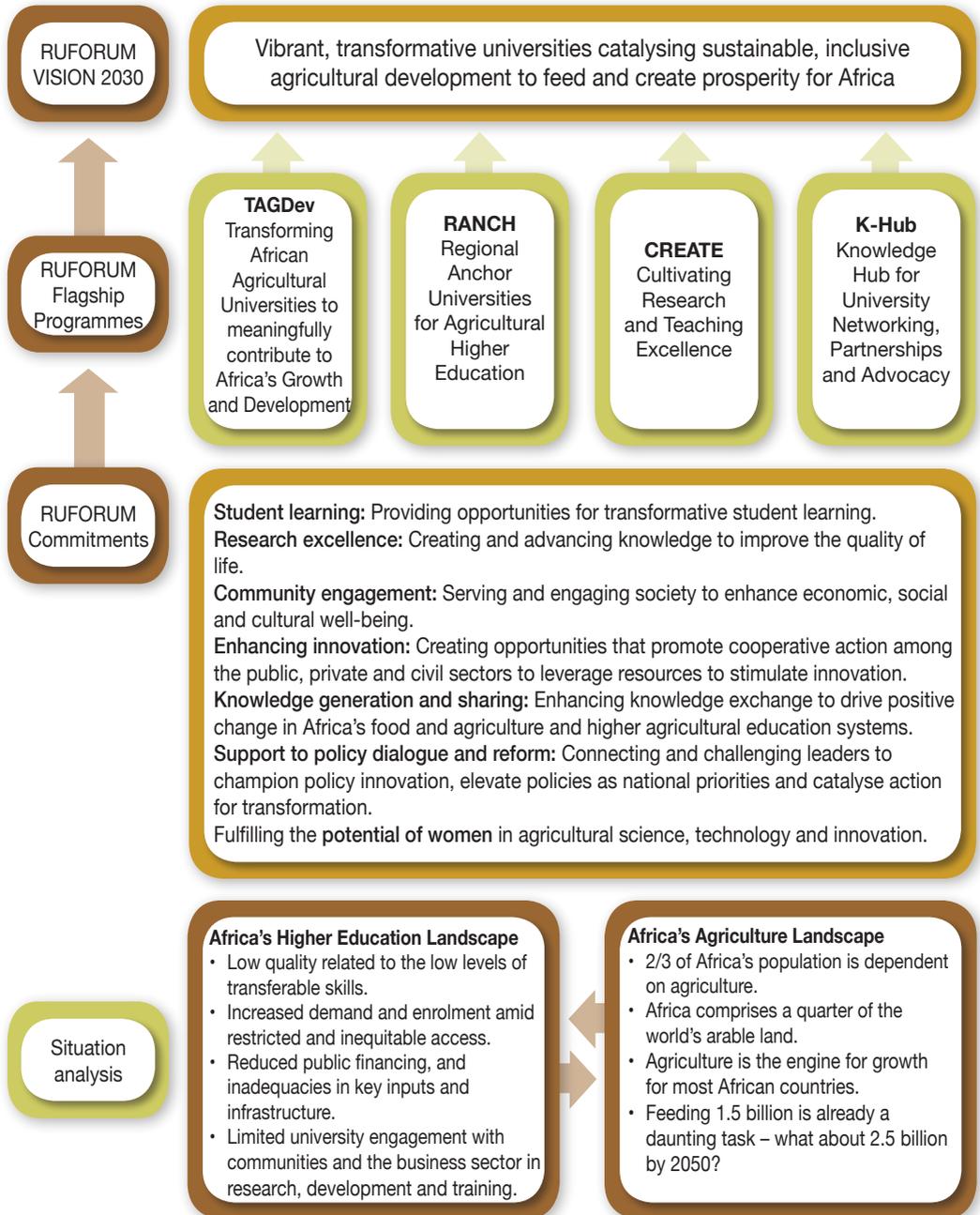
Abridged

OUR AFRICAN FOOTPRINTS – RUFORUM MEMBERSHIP AS OF 2017



*RUFORUM – a network of 85 universities in 35 countries in Africa.
Membership figures are indicated per country on the map.*

RUFORUM VISION 2030 AT A GLANCE



RUFORUM - HISTORICAL BACKGROUND AND MANDATE

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a network that currently has 85 member universities in 35 African countries, and continues to grow. Membership of RUFORUM is open to African postgraduate degree-awarding institutions with faculties, schools, institutes or equivalent units in the field of agriculture and related sciences and those offering science, technology and innovation (STI) programmes. RUFORUM evolved from its predecessor, the Forum on Agriculture Resource Husbandry (FORUM), with the aim of fostering integration of African universities into the national agricultural innovation systems (NAIS); providing a platform for training quality graduates to support development processes in Africa; rationalising resource use and enhancing economies of scale and scope; and providing a platform for networking, resource mobilisation and advocacy for agricultural higher education in Africa. RUFORUM is a network of higher education institutions with a strong passion for agriculture.

The RUFORUM approach is enshrined in the ‘Statement of Belief’ set out at its inception in 2004:

Transforming Agriculture in Africa requires innovative scientific research, educational and training approaches. The education sector should be more connected to the new challenges facing rural communities and must build capacity of young people to be part of the transformation of the Agricultural Sector.

The current strategy – ‘**RUFORUM Vision 2030: The African Universities’ Agenda for Agricultural Higher Education, Science, Technology and Innovation (AHESTI)**’ – emerges from a broadly informed, systematically conducted 12-month consultation process, and the imagination and commitment on the part of hundreds of people involved. The Vision

represents the expertise, insight and input of many individuals, including university faculty, staff and administrators, scientists and researchers, public officers and policy makers, the civic and private sector, and community members.

Presented here are an outline of the orienting problems of agricultural higher education and agricultural transformation in Africa, a vision for Africa's agricultural sector, the RUFORUM mission as a significant contributor to this transformation and, most importantly, the four strategic flagship initiatives that are at the heart of RUFORUM's strategy for harnessing the discovery, engagement and learning of **'vibrant, transformative universities to catalyse sustainable, inclusive agricultural development to feed and create prosperity for Africa'**. □

AGRICULTURE AND AFRICA'S DEVELOPMENT

A strong agri-food system is a crucial component of Africa's future development. With two-thirds of Africans dependent on farming for their livelihoods, boosting Africa's agriculture can create economic opportunities, reduce undernutrition, malnutrition and poverty, and generate faster and fairer growth. Feeding 1.5 billion people by 2030 and 2 billion by 2050 is the daunting challenge that Africa intends to meet. The transformation of African agriculture into a globally competitive, inclusive and business-oriented sector that creates wealth, generates gainful employment and improves quality of life will help to revitalise the rural areas.

Africa is a continent that, despite representing more than a quarter of the world's arable land, is made up of farmers that barely feed themselves. This challenge contributes to rampant poverty, undernutrition and malnutrition in children and adults, and unfortunate yet avoidable health and education outcomes.

The objective for the coming decades is to

ensure food and nutrition security for a population that is increasing and becoming more urbanised, helping to create wealth and jobs, in rural areas in particular, while reducing inequalities and vulnerability as well as protecting environmental and human capital.

The Comprehensive Africa Agriculture Development Programme (CAADP) is a regional policy framework of NEPAD (New Partnership for Africa's Development) that is implemented at country level. The 2014 Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods has as its mission the achievement of transformation, through harnessing opportunities for inclusive growth and sustainable development and working through and empowering multi-stakeholder partnerships. The focus of the CAADP-Malabo Declaration is on promoting and achieving accelerated African agricultural growth and transformation for shared prosperity and improved livelihoods.

African agriculture needs to move towards: i) simultaneously increasing yields, profitability and environmental sustainability; (ii) developing breeds and varieties needed for sustainable agri-food systems; (iii) decreasing food loss and waste through more efficient distribution systems; (iv) creating and sharing resources and knowledge solutions that serve all populations; (v) ensuring inclusivity and equitable development; (vi) addressing the burden of undernutrition, malnutrition and other diet-related health problems, to ensure the realisation of full human potential; and (vii) ensuring a safe and secure food supply that protects and improves public health. For all of this to be realised, it is important to foster an environment in which agriculture enterprises and engagement are attractive and can generate decent returns on private and public investments.

Maintaining profitable farm operations, meeting future demand for affordable, nutritious food, and achieving healthy working landscapes and ecosystems in the context of rapidly changing climates, shrinking water supplies and

growing populations will require models of innovation that create stronger connections among researchers, producers, educators, NGOs and public and private institutions. □

AGRICULTURAL HIGHER EDUCATION LANDSCAPE IN AFRICA

At the dawn of the 21st century, higher education in Africa was characterised by increased demand and enrolment amid restricted and inequitable access, decades of international lack of interest, and significant underinvestment, resulting in reduced public financing and inadequacies in key inputs. This generated quality-related challenges and concerns about the low levels of transferable skills. Universities have the mandate to produce the next generation of the workforce needed for the agri-food system value chain.

There is growing consensus on the need to shift from merely *fit-for-purpose* to *creative* models of agricultural higher education that make agriculture attractive to young people while creating impact in rural communities and serving the needs of industry.

Education that presents agriculture – including farming, but also all the other elements in the agriculture value chain – as an intellectually stimulating and economically sustainable/lucrative business and career option and that attracts young people to engage should be embraced by African universities as the new paradigm.

In terms of agricultural transformation, there is growing urgency to institutionalise into the university systems the approaches that have been tested and the lessons that have been learnt. The capacity for systemic impact can only be realised if the universities undertake institutional reforms and actually adopt the locally tested and proven best practices in their approach to agricultural education. There is also a gap evident, with too few projects that address issues further up the value chain, particularly in food waste, agri-food processing and integrating smallholder agriculture into

markets. It is important that all the universities in the network be exposed at the action level in the form of projects that work closely with farmers and the other stakeholders in those value chains.

The role of policies and policy champions is key in creating an enabling environment for transforming universities and other higher education institutions into organisations that produce quality graduates and relevant research, and for positively impacting communities and industry. No single player can achieve high levels of impact by operating alone; conversely, there is tremendous opportunity for collaboration and partnership among actors in order to realise impact at scale.

Universities, farmer communities, professionals and practitioners have a role to play in ensuring that the appropriate knowledge is generated and skills are kept current and relevant. Within the university system, RUFORUM envisions African universities that are high performing, producing graduates that are skilled and proactive and research outputs and innovations that are demand driven. Universities are expected to commit to developing their approach to managing, supporting and delivering public engagement for the benefit of staff, students and the public. ▣

RUFORUM COMMITMENTS

RUFORUM has made seven core commitments designed to support realisation of its Vision 2030. The commitments relate to transformative student education and learning, research excellence and impact, community engagement, enhancing innovation and creating opportunities, knowledge generation and sharing, providing support to policy dialogue and reform, and supporting the involvement of women in agriculture. These areas of commitment are chosen as the drivers of RUFORUM's core mission; they have been structured to capitalise on strengths and focus attention where maximum impact will be realised within the network and its member universities:

1. **Student attitude, teaching and learning:** RUFORUM member universities provide opportunities for transformative student learning by preparing students and developing their skills for the graduate labour market through work-integrated learning schemes. University teaching and learning must engender in graduates skills and attitudes related to critical thinking, application of theoretical concepts to solving real-world problems, working effectively in teams, effective communication and business acumen.
2. **Research excellence:** RUFORUM member universities create and advance knowledge and understanding, and improve the quality of life through the discovery, dissemination and application of gender-responsive research within and across disciplines.
3. **Community engagement:** RUFORUM and member universities serve and engage society to enhance economic, social and cultural well-being. This engagement provides opportunities for students to put the competencies achieved in their educational programme into practice, and to further develop these competencies through lifelong learning.
4. **Enhancing innovation and creating opportunities:** RUFORUM promotes cooperative action among the public, private and civil sectors, to leverage scarce resources and stimulate innovation informed by diverse perspectives, expertise and creativity. The establishment of *knowledge alliances* among agricultural higher education institutions and enterprises is fundamental to fostering innovation, entrepreneurship, creativity, employability and knowledge exchange.
5. **Knowledge generation and sharing:** RUFORUM enhances knowledge exchange and sharing of experiences along the entire food and agriculture value chain, in order to more effectively address challenges, scale innovation, and create economic return and sustainable jobs. RUFORUM takes special interest in alternative modes of spreading information through open communities and virtual networks built around common-use rights.
6. **Support to policy dialogue and reform:** RUFORUM seeks to drive positive change in Africa's food and agriculture and agricultural higher education systems, and to overcome the barriers that have traditionally

inhibited transformation, by connecting and challenging leaders from diverse communities not only to catalyse action and to elevate food and agriculture and agricultural higher education policies as national priorities, but also to support policy innovation that addresses critical challenges in a comprehensive and integrated way.

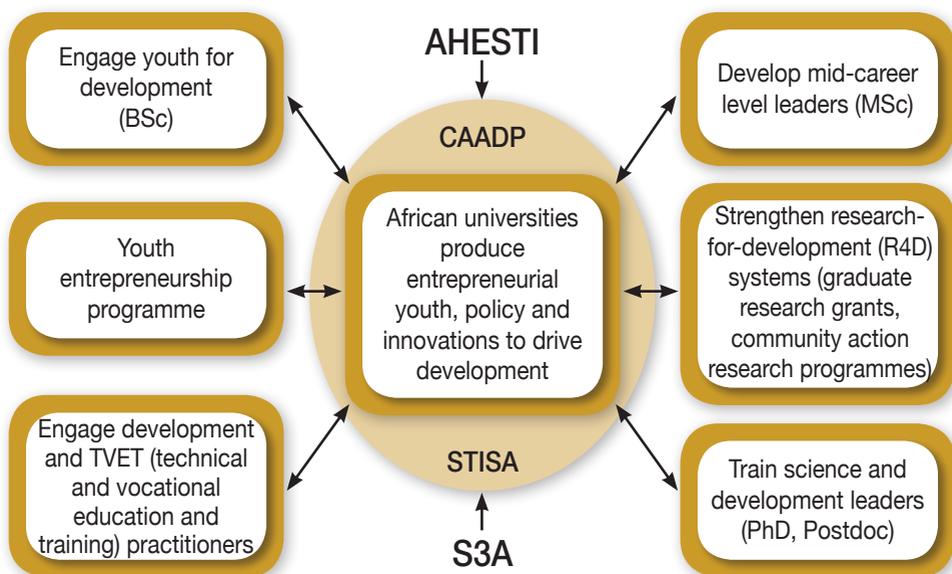
7. ***Fulfilling the potential of women in agricultural science, technology and innovation:*** While the number and proportion of women earning agricultural science degrees have increased dramatically, the need for additional focused steps to increase the representation of women in science faculties is obvious and persistent. RUFORUM is committed to increasing the pool of women scientists and professionals and to strengthening gender-responsive research for development. Key initiatives will make full use of a nation's scientific and technical talent – regardless of the sex and social/ethnic characteristics of the people involved.

The RUFORUM focus is on consolidating its position as an effective universities membership institution for: (i) developing quality human resources and capacity required to intensify and increase Africa's agricultural productivity; (ii) ensuring the products, processes and knowledge developed through university research reach down to value chain actors in the agri-food system to catalyse transformation; and (iii) 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. The RUFORUM focus also takes seriously the need to identify and build capacity for countries emerging out of conflict.

As a network of universities, RUFORUM has a strategic vision and accumulated experience and leadership skills to drive programmes that take on the challenges of transforming the higher education and agricultural sectors in Africa while bringing stakeholders together around a shared, long-term vision and influencing decision-makers at the highest levels.

The RUFORUM initiative advocates for national and continental commitment to investment in research and development, infrastructure and markets, and support for farmers and small-scale producers. While engagement with the Committee of Ten (C10) African Heads of State championing education, science and technology development on the continent provides the impetus for political and technical support at the highest level, involvement with the African Union’s STISA 2024 (Science, Technology and Innovation Strategy for Africa) in synergy with agencies such as the AAU (Association of African Universities) and AGRA (Alliance for a Green Revolution in Africa) gives a framework for engagement from different perspectives.

Figure 1 illustrates RUFORUM’s integrated approach to producing entrepreneurial youth, policy and innovations to underpin development.



The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

Figure 1: RUFORUM’s integrated innovation model for agricultural higher and tertiary education

Notes: AHESTI = African Universities’ Agenda for Agricultural Higher Education, Science, Technology and Innovation; S3A = Science Agenda for Agriculture in Africa.

RUFORUM'S TRANSFORMATIVE AGENDA FOR AFRICA'S AGRICULTURE

The RUFORUM transformative agenda for Africa's agriculture integrates social, business and technological transformation. The interface of the community engagement, community-based enterprises, and business incubation will provide the framework for community transformation, as shown in Figure 2.

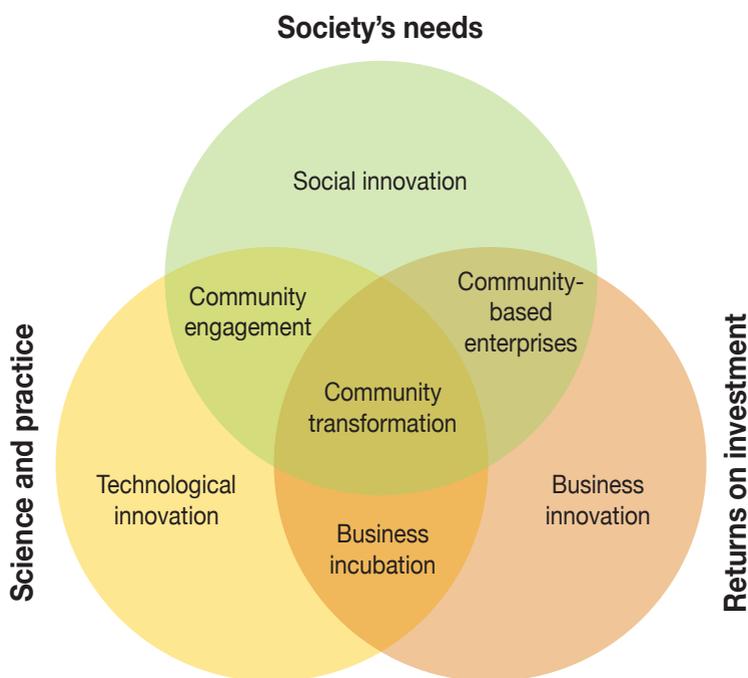


Figure 2: Framework for community transformation

The outcome of the integrative RUFORUM transformative framework is a 'dynamic regional platform that fosters collaboration, coordination and learning among member universities' through programmes that: (i) promote transformative teaching, training and learning; (ii) institutionalise impact-

oriented research, innovation and community engagement; (iii) enhance agribusiness acumen and entrepreneurship among students, faculty, staff and communities; and (iv) enable RUFORUM and universities to assume leadership and be more influential in national and continental agri-food systems and agricultural higher education policy debate and regulatory reform. □

FLAGSHIP INITIATIVES

The strategy calls for RUFORUM to reconfigure its initiatives and develop a series of flagship programmes to deepen its efforts and achieve transformative results. These high-impact, scalable initiatives build on and supplement RUFORUM's ongoing programming work. The RUFORUM-supported ongoing and pipeline programmes help to foster skills related to citizenship, employability, professionalism and entrepreneurialism that will last a lifetime. RUFORUM works closely with local communities and business, governments, NGOs, non-profit organisations and member universities to design and offer high-impact programmes, continually assessing the results those programmes achieve.

Four flagship programmes are initially being proposed for diffusion to drive results for transforming agriculture in Africa.

Flagship 1: TAGDev – Transforming African Agricultural Universities to meaningfully contribute to Africa's Growth and Development

The TAGDev programme seeks to transform African agricultural universities and their graduates, in order to respond better to developmental challenges through the enhanced application of science, technology, business and innovation for rural agricultural transformation. The programme is focused on: (i) developing a new model of agricultural education that connects

agricultural higher and tertiary education to rural communities through a student-centred agricultural extension model; and (ii) strengthening agribusiness and entrepreneurship through ‘student and/or community enterprise projects’. The programme pursues greater integration and collaboration with the business, technical and vocational education and training (BTNET) institutions focused on skills building and forging *sector skills alliances*, in order to support the design and delivery of joint vocational training curricula, programmes, and teaching and training methodologies, and drawing on evidence of trends in a specific economic sector and the skills needed for performing in one or more professional fields.

Through the programme, universities and their partners will work actively to change public perceptions, promoting agriculture as an intellectually stimulating and economically sustainable career. The goal in this regard is for agriculture to be widely recognised as a vitally important career and as a ‘cool’ and attractive option for young people. This will also entail universities and their partners modifying university curricula to make agriculture-based courses more attractive to young people and more relevant to the skills and opportunities they now seek.

Flagship 2: RANCH – Regional Anchor Universities for Agricultural Higher Education

The principal objective of the RANCH initiative is to escalate the setting up of a network of linked universities as African anchor universities/African centres of excellence and academic leadership in agricultural higher education and learning. These centres will promote regional specialisation and collective action among participating universities in areas that address specific common regional development challenges, in order to strengthen the capacities of these universities to deliver high-quality training and applied research and to meet the demand for skills required for Africa’s development. These *transnational partnerships* are both strategic and operational; they are aimed at developing initiatives addressing one or more fields of education or training, and promoting innovation and exchange of experience/know-how among universities and different types of organisations involved in education,

training or other relevant fields. Anchor universities will have unique strengths and competencies in STI. Anchor and associated universities will bring together their collective capacities and competencies to provide leadership in transforming teaching, research and outreach for greater relevance and the stimulation of agriculture and inclusive, sustainable, rural development serving their countries and the continent alike.

Similar anchors are being developed to promote advancement in STI in order to support agricultural development and attainment of STISA-2024. While some of the regional training programmes have been mainstreamed into host university programmes, others have transitioned into Africa Higher Education Centres of Excellence (ACE) under support from the World Bank. To broaden the scope of and complement existing anchors/centres of excellence, RUFORUM is developing the Regional Programme for Strengthening Higher Agricultural Education in Africa (SHAEA). Areas of focus will include the regional MSc and PhD training programmes aimed at: (i) building the teaching and research capacity of member universities and the wider national agricultural research and extension systems (NARES); (ii) enhancing capacity for training and research that targets improving food and nutrition security and access to knowledge; and (iii) building capacity in emerging areas of 'challenge' in the agricultural development landscape, so that Africa does not lag behind the rest of the world.

Flagship 3: CREATE – Cultivating Research and Teaching Excellence

CREATE is RUFORUM's continuing professional development scheme for academics at member universities. The programme provides participants with opportunities to focus on their learning and teaching practice alongside developing their research/scholarship and leadership skills. University staff are re-engineered to provide quality teaching using pedagogical techniques that produce higher learning outcomes for students – to achieve a shift from subject-centred to student-centred learning; from passive to active learning; from memorisation to understanding and original thinking; from information and mental engagement to the development of the whole person; from

academic and theoretical to life-centred knowledge; from fragmented to integrated knowledge; and from creating standardised products to fostering the development of resilience, individuality and creativity. Under CREATE, universities will adopt interdisciplinary and innovative approaches that integrate research, education and engagement activities in order to maximise university impact.

CREATE also aims to: (i) foster a culture of research excellence by offering a supportive environment for all aspects of the university agricultural research enterprise; (ii) galvanise member universities to institute processes for ensuring the continued upward trajectory of faculty with regard to research output and impact, by strategically pursuing funding and partnership opportunities, recruiting strong researchers, and providing opportunity and recognition through Research Impact Competitions in order to showcase high-quality projects that are making a difference to the community and nation alike; (iii) increase RUFORUM and university research impact by sharpening faculties' research identity and leveraging the RUFORUM identity for fundraising and graduate-student recruitment; (iv) providing more capacity for research by engaging universities and partners to create and reconfigure physical and virtual spaces; and (v) increasing doctoral student enrolment by engaging faculty in proactive recruitment and by providing more competitive funding.

Flagship 4: K-Hub – Knowledge Hub for Networking, Partnerships and Advocacy

The knowledge management and support flagship builds on RUFORUM's convening power and facilitates the creation, capture, organising, sharing and refining of information and content across teams and geographic locations – thus increasing access to the latest, up-to-the-minute, evidence-based information and knowledge. Connecting cooperating partners and entities under one content classification and taxonomy management system, the programme will encourage and enable staff and students to create knowledge assets to be shared across all network entities, and improve the overall performance and collaboration between organisations, departments and individuals, while increasing both information 'findability' and accessibility.

Implementing a world-class knowledge management solution that leverages the latest semantic technologies and practices has the potential to deliver great value to those whom RUFORUM serves (its ‘customers’), and increase efficiency and collaboration. The RUFORUM-ASTI Higher Agricultural Education Capacity Indicators (HAECI) portal and database and the Online Impact Portal (OIP) will serve as the main online impact platforms. In this process, RUFORUM working collaboratively with the International Food Policy Research Institute (IFPRI) will establish a Higher Education Indicator Platform for African universities.

Under the knowledge management and support flagship, RUFORUM will: i) create knowledge products that deliver value to its customer segments through knowledge translation of scientific papers and research outputs into actionable knowledge products, including policy recommendations, tip sheets, best-practices guides and training modules; ii) enhance access to knowledge utilising ICT and other knowledge management formats, giving due consideration to intellectual property; iii) build capacity and promote a culture of learning and knowledge-sharing aimed at improving policy and practice; and iv) build networks and communities of practice to facilitate knowledge-sharing, build a knowledge base and generate new ideas and knowledge.

Compounded, these four flagship initiatives will provide the foundation for advocacy, partnership and networks that will define the key characteristics of the RUFORUM brand towards 2030. ▣

INSTRUMENTS AND PROTOCOLS FOR IMPLEMENTATION OF FLAGSHIPS

RUFORUM employs various instruments and protocols for implementing its programmes:

- (a) **Academic Staff Development (ASD)** through the Graduate Teaching Assistantships, scholarships, fellowships and short-term training schemes to enhance and support excellence in academic practice at

- RUFORUM member universities across leadership and management, professional skills, research, teaching and learning.
- (b) **Regional Academic Mobility Scheme (RAMS)** – an intra-university academic mobility scheme promoting cooperation among African higher education institutions and supporting mobility in Africa with the aim of increasing access to quality education while strengthening the competitiveness and attractiveness of the institutions themselves.
 - (c) **RUFORUM Postdoctoral Fellows (Postdocs)** – providing opportunities for RUFORUM graduates to continue conducting professional research after the completion of their doctoral studies (typically a PhD). The ultimate goal of a postdoctoral research position is to undertake additional research, training or teaching in order to hone skills for the purposes of pursuing a career in academia, research or any other field.
 - (d) **Research Chairs** – to attract and introduce new research leadership capacity, while retaining excellence, with the intention of expanding scientific research and innovation capacity, improving research and innovation competitiveness, increasing the capacity of institutions to supervise postgraduate students, creating research career pathways for young and mid-career researchers, increasing diversity and achieving equity, and preventing brain drain.
 - (e) **Research Grants Scheme (RGS)** for influencing the strategic orientation of research to work closely with all stakeholders along the value chains to strengthen uptake and influence policy; and to increase Africa’s contribution to global, national and local knowledge through scientific publications, R&D collaboration, technology transfer and knowledge diffusion. □

CONCLUSION

The RUFORUM Vision 2030 brings together central tenets of agricultural and agri-food systems, and strategies for using the agricultural higher education systems as the engine of agricultural transformation. Within a framework

of renewed interest in higher education in Africa, the Vision recognises that universities as institutions have to undergo transformation if they are to meet the dynamic needs of the farming communities for sustainable development. Changes in modes of academic delivery, introducing entrepreneurship and practical skills, will make agriculture a viable business and career option that attracts the youth. At the same time, there must be engagement with all farmers (commercial and smallholder alike) as well as with the key stakeholders in the private and public sectors, and policy makers – all of whom are needed as vision enablers.

The Vision recognises that there are global and regional structures – including the United Nations SDGs and Africa Agenda 2063 – that act as reference points and benchmarks. There is renewed commitment by African governments to sustaining the CAADP momentum, a Science Agenda for Agriculture in Africa (S3A) and the African Union's STISA 2024. RUFORUM must position itself to respond to these opportunities, making the network's value very clear to its different customers and market segments.

The RUFORUM Vision is to engender a financially stable enterprise by 2030. The network will have significant financial and other resource input from the member universities, African governments, and regional and international agencies. Strong commitment from all stakeholders will ensure the attainment of Vision 2030 as articulated in this document.

The Vision is adaptable, with a scheduled annual rapid assessment and three-year reviews to evaluate progress. A comprehensive mid-term review will be undertaken in 2024. The Vision will be pursued through an operational framework with detailed strategic goals aligned to the Vision. Each strategic goal will further be delineated with the appropriate milestones, targets and activities to move towards the goal. The Operational Plan will outline points of integration with various implementation and/or facilitating units and key stakeholders. Further defined will be indicators for measuring progress and pertinent financial implications. Progress and adjustments will be reported on the RUFORUM knowledge portals and in publications. ■



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Building in Agriculture (RUFORUM)

Vision 2030

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