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NEWSLETTER

RUFORUM AGM SUPPLEMENTS JULY-NOV, 2023

Transforming Higher Education to Sustainably Feed and Create Prosperity for Africa



@RUFORUM2023

This brief highlights of happenings at the 19th RUFORUM Annual General Meeting and Conference in Yaounde, Cameroon





The Minister of State, Minister of Higher Education, Cameroon, H.E. Prof. Jacques Fame Ndong, and the Minister of State, Minister of Higher Education, Scientific Research and Innovation, Chad, H.E. Dr. Tom Erdimi, and other dignitaries visiting posters and exhibitions

Message from the Executive Secretary

Prof. Patrick Okori



This year, RUFORUM marks 19 years as an apex network for advancing agricultural higher and tertiary education in Africa. It is a milestone in the history of the organization as it progresses in its new journey as an adult organization. Incidentally, this 19th Annual General Meeting (AGM) having in its side-lines scientific conference and side meetings is also the first time a meeting of this magnitude and scope has been held in Central Africa. The AGM, has been hosted by the Government and People of Cameroon. The RUFORUM network and partners are grateful for the patronage of His Excellency Paul Biya, the President and Head of State and the entire Government machinery who have made the 19th AGM successful. Thank you, Merci beaucoup.

During the AGM, a number of African Governments and key African and global institutions together with the RUFORUM network were involved. The African Governments included Benin, Cameroon, Chad, Ghana, Lesotho, Liberia, Malawi, Uganda, Zambia and Zimbabwe. The meeting also

involved apex continental and global organizations, such as African Union Commission, the African Development Bank, The European Union, and The Food and Agriculture Organization of the United Nations. Education and research agencies, such as, The Inter-University Council for East Africa, Forum for Agricultural Research in Africa, African Forum for Agricultural Advisory Services, Sub-regional Research Organizations – ASARECA, CORAF-WECARD, CCARDESA, AgriNATURA, and One CGIAR, and key R&D programs (WACREN, AICCRA, IOFS, AWARD), also participated in various sessions.

The theme of the conference was “*Transforming Higher Education to Sustainably Feed and Create Prosperity for Africa*.” This theme was informed by:

First: Africa must become food secure. It must be an equal opportunity employer especially for its young population, being the youngest continent on the globe. It must also create wealth for its peoples, and unlock opportunity for the present and future posterity. These aspirations are summarized in Agenda 2063, and it is our collective duty to turn such key strategies and visions into actions and investments.

Second: Annually our continent generates 10-12 million new job entrants, but the African's economy can only generate currently about 3 million jobs. We must therefore escalate and or rethink how we conduct training and skilling of our young people. Of importance is the need to address the issue of inclusion. Africa may not reap a demographic dividend, unless it delays the exit of

young girls from education to motherhood, a process called demographic transition. Asia achieved its demographic transitions relatively earlier than Africa and has been able to make progress. Accordingly, we are working to increase our gender programming as a network, with an increase in gender inclusion and targeting to benefit more young women and girls. It is important to note that the women of Africa feed the continent and therefore need all our support to benefit themselves, their families and our continent. I invite you all to join us in this journey.

Third: Africa's higher degree needs, especially doctoral degrees are dire. It is estimated that Africa must graduate 100,000 PhDs over a decade. Yet India with a similar population as Africa, 1.4 billion, graduates 24,000 PhDs annually compared to the projected 10,000 PhDs a year for Africa. We must therefore intensify postgraduate education to improve our scientists per million ratio, which is one of the lowest in the world. Africa's low science human capital capability therefore affects its science agenda, discovery-to-delivery ecosystem functions, and must be remedied in earnest.

Fourth: Partnerships - Early this year, an Action Plan for engaging Apex Organizations for Education- RUFORUM, Research- FARA and the SROs- CORAF, ASARECA, CCADESSA, International research-One CGIAR and the Extension and advisory services – AFAAS was launched. It is a collective duty of all these apex organizations to leverage each other's niches and comparative advantage to make agriculture

work for Africa.

The RUFORUM network is grateful for the invaluable sacrifices, investments and hard work by its Cameroon member Universities, who through the stellar leadership of the RUFORUM Board Chair, Prof. Theresia Nkuo- Akenji, Vice Chancellor, University of Bamenda, who closely working with the other Rectors and Vice Chancellors in Cameroon, Prof. Horace Manga Ngomo, Rector, University of Buea, Prof. Idrissou Alioum, Rector, University of

Maroua, Prof. Roger Tsafack Nanfosso, Rector, University of Dschang, and Prof Mamoudou Abdul Moumini Rector, University of Ngaoundere have made this 19th AGM happen. Thank you. We deeply thank the immediate past Vice Chancellor, University of Ngaoundere Prof. Florence Uphie Chinje who played a major role in hosting this AGM.

To the entire local organizing committee, RUFORUM Staff, partners and Governments who all tirelessly work to deliver a great meeting. Merci beaucoup.

The guidance and leadership provided by RUFORUM Member Universities Vice Chancellors and Rectors, Board Members, Principals and Deans, Academics and Students is highly commendable and speaks of a network that remains laser focused in making agriculture work for Africa.

Thank you everyone for making the 19th AGM and conference a success. God bless you all, and God bless Africa!

“ It is important to note that the women of Africa feed the continent and therefore need all our support to benefit themselves, their families and our continent. I invite you all to join us in this journey.

Cameroon Higher Education Day, Yaoundé, Cameroon

Ms. Evaline Acan, Corporate Communications and Advocacy Officer, RUFORUM Secretariat



Government and University officials at the Cameroon Higher Education Day at University of Yaoundé 1, Cameroon

RUFORUM member universities in Cameroon, with support from the RUFORUM secretariat and the Government of the Republic of Cameroon, came together to host the first Cameroon Higher Education Day on October 25, 2023, at the University of Yaoundé 1, Yaoundé, Cameroon. The inaugural event was held under the theme “Harnessing and Intensifying University and Partner Efforts and Opportunities for Agricultural and National Development.” It was opened by the Minister of State and Minister of Higher Education, His Excellency Prof. Jacques Fame Ndongo.

In attendance were other Cabinet and Senior Government leaders: the Minister of Economy, Planning and Regional Development, Minister of Livestock, Fisheries and Animal Industries, Presidents of Regional Assemblies, Inspector General of Academic Affairs and Secretary Generals from the Ministry of Higher Education, Ministry of Livestock Fisheries and Animal Industries and Ministry of Youth Affairs and Civic Education. Other participants included higher education leaders and educators from public and private institutions of higher learning, development partners, private sector leaders, researchers, the Chamber

of Agriculture, innovators, students from state and private universities, and the National Union of Farmers.

The goal of the Higher Education Day was “*enhancing the relevance of universities and other higher education training programs to meet the current and future capacity needs of Cameroon.*”

Additionally, it sought to identify opportunities, particularly, the entry and convergence points for universities and their partners to implement national development agenda, with a specific focus on the agri-food system transformation in Cameroon.

During his opening remarks, His Excellency Prof. Jacques Fame Ndongo commended RUFORUM for its commendable efforts in advancing higher tertiary and agricultural education in Africa. He further urged universities to collaborate among themselves, noting that it is pivotal for creating a comprehensive higher education ecosystem to meet Africa's human capital development needs.

Prof. Jacques Fame Ndongo further noted that strengthening of Cameroon's agri-food system and integrating it to the education system was paramount for sustainable development, food security and economic resilience of the nation. "Strengthening the agricultural and education sector is fundamental for producing a skilled workforce that is equipped with modern knowledge, sustainable farming practices, innovation, and entrepreneurial skills" for growing Cameroon

agricultural sector," He said.

The RUFORUM Board Chair, and Vice Chancellor of University of Bamenda, Prof. Theresia Nkuo-Akenji in her speech indicated that climate change was one of the pressing challenges facing the country, continent and the world, and called upon universities to provide solutions. "Africa must speak to itself, but must engage partners to address contemporary challenges it is facing with universities playing a key role as development solution providers." However, Cameroonian universities are underutilized due to limited resourcing and must partner with Government and other actors, to leverage investments for higher agricultural and tertiary education and research for development." She added.

Prof. Nkuo-Akenji further noted that by investing in agricultural education, Cameroon could

increase the pool of its professionals required to address evolving challenges and provide services needed to increase productivity, and drive economic growth.

Additionally, knowledge dissemination, extension services, and community outreach programs of universities could be harnessed to ensure that research findings from universities reach the last mile. Furthermore, a seamless partnership between universities and Technical Vocational Education and Training institutions, is imperative to offer well-rounded education to the nation's young people by alignment to industry needs.

The Higher Education day was concluded with RUFORUM member universities in Cameroon showcasing their research output through exhibition.

“Universities must collaborate among themselves, it is pivotal for creating a comprehensive higher education ecosystem to meet Africa's human capital development needs.”

H.E. Prof. Jacques Fame Ndongo



Group photo: Government and University officials pose for a photo at the Cameroon Higher Education Day at University of Yaoundé 1, Cameroon

The 19th RUFORUM Annual General Meeting in Yaoundé

Ms. Evaline Acan, Corporate Communications and Advocacy Officer, RUFORUM Secretariat

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) convened its 19th Annual General Meeting (AGM) at the Palais de Congrès in Yaoundé, Cameroon, from October 28th to November 2nd, 2023. This gathering, the first of its kind in Central Africa, brought together over 600 delegates, including ministers, development partners, university leaders, students, private sector representatives, farmers, and emerging researchers. The central theme of the AGM was, “*Transforming Higher Education to Sustainably Feed and Create Prosperity for Africa,*” and it underscored the urgent need to reshape higher agricultural and tertiary education for the continent’s sustainable development and food security.



His Excellency Professor Jacques Fame Ndongo, Minister of State, Minister of Higher Education opening the 19th RUFORUM AGM

The AGM was inaugurated by His Excellency Professor Jacques Fame Ndongo, Minister of State, Minister of Higher Education in Cameroon. The meeting provided a vital platform for stakeholders to discuss strategies for enhancing the role of universities in agricultural and national development, as well as alignment with the African Union’s Agenda 2063, ‘*The Africa*

We Want.’

The Hon. Minister Prof. Jacques Fame Ndongo urged participants to seize the opportunity presented by the AGM to drive constructive discussions on agricultural production, food safety research, and improved food security. He noted that the event was pivotal for Africa to think and act boldly by proposing solutions and recommendations

for creating positively change that will enhance the continent’s growth trajectory.

The week-long event included pre-AGM activities, side events, business meetings, capacity-building sessions, scientific conferences, poster sessions, and exhibitions. High-level policy dialogues with ministers, government leaders, and development partners were held.

Collectively, review of progress, in financing higher agricultural education and strengthening the role of the sector in transforming agri-food systems for sustainable and equitable development was done.

Minister of State, Minister of Higher Education, Scientific Research and Innovation of Chad, Dr Tom ERDIMI, who was attending the RUFORUM event for the first time noted the significant role of higher education in providing solutions to development and urged the meeting to strengthen partnerships across Africa by learning from each other. He noted the challenges of drought and climate change, a problem for which collective effort is required and for which such a meeting that brings together Africa and global actors together could provide solutions for policy and investment guidance.

The Deputy Minister for Education in Malawi, Her Excellency Mdooko Nancy Chaola, called for vibrant resource mobilization mechanisms to collectively finance Africa's education. She urged universities to rebuild curricula to meet current needs and emphasized the role of education in achieving the United Nations Sustainable Development Goal 2 (SDG 2) of ending hunger.



H.E. Nancy Chaola Mdooko

Prof. Theresia Nkuo-Akenji, the RUFORUM Board Chair and Vice-Chancellor of the University of Bamenda, expressed gratitude to President Paul Biya and the Government of Cameroon for hosting the AGM. She acknowledged the significant contributions of the RUFORUM member universities in Cameroon, and their partners for enabling the AGM to take place. She further acknowledged the contribution of the RUFORUM Secretariat and the network for making the 19th AGM a success.

The AGM showcased RUFORUM's achievements in its 19-year existence, focusing on priority areas such as reforming training agendas, fostering entrepreneurship, conducting research for development, and establishing partnerships for scale and impact. Prof. Nkuo-Akenji emphasized the collective strength of the RUFORUM network, comprising 170 universities across 40 countries.

Prof. Patrick Okori, the RUFORUM Executive Secretary, expressed gratitude to the host universities and partners. He highlighted the importance of turning opportunities into investments for Africa's agricultural and higher education transformation. He underscored the urgent need for Africa to become food secure and outlined RUFORUM's commitment to inclusion and diversity essential development, underpinning for a sector where women and youth have been largely left behind. Yet Africa's smallholder female farmers are responsible for feeding most of its 1.2 billion people. RUFORUM he noted, now has an inclusion target, of 70% women.

Reflecting on Africa's higher agricultural education needs, Prof. Okori cited the World Bank's

recommendation of 10,000 new PhDs graduates for Africa, underscoring the need to intensify graduate training for a continent where the ratio of scientists per million is lower than all the other continent's of the world. Such deficit undermines the continent's ability to sustainably produce science solutions for itself. He encouraged collaboration between universities, governments and development partners to address these challenges collectively.

The event also addressed the broader challenges facing Africa, including economic growth deceleration, climate change that affecting agriculture, and youth unemployment. Prof. Okori stressed the importance of education and research for Africa's future, quoting Malcolm X: *"Education and research for development are the passports to the future, for tomorrow belongs to those who prepare for it today."*

Prof. Ngomo Horace Manga, Vice-Chancellor of the University of Buea, highlighted the prioritisation of agriculture and education in Cameroon for economic growth. He acknowledged government initiatives, such as the recruitment of 2000 lecturers, to enhance the quality of higher education.

During the AGM, RUFORUM recognized President Paul Biya, for his outstanding service to Cameroon and Africa by championing education, agriculture and economic development of especially the Communauté Économique et Monétaire de l'Afrique Centrale (CEMAC) region. The conference emerged as a pivotal moment for stakeholders to collectively address the challenges facing

African agriculture and higher education. With a focus on collaboration, innovation, and transformative strategies. The AGM laid the groundwork for a sustainable and prosperous future for Cameroon and the continent.



Posters and exhibition session led by Prof. Theresia Nkuo-Akenji, the RUFORUM Board Chair



Group photo: Senior Government officials and institutional leaders during one of the policy meetings

An Action Plan for Intensifying Investment in Agricultural Higher Education in Africa

Ms. Evaline Acan, Corporate Communications and Advocacy Officer, RUFORUM Secretariat



Group photo: Senior Government officials and institution leaders

On the 30th October 2023, following productive discussions that involved senior government leaders, the European Union, The African Development Bank, development partners, apex education institutions of Africa and Europe, apex science institutions of Africa and globally, as well as RUFORUM, an action plan for intensifying investment in agricultural higher education in Africa was generated.

The high level policy dialogue was preceded by, deliberations involving senior Government leaders, Science institutions, Universities and their networks/ organizations as well as The African Development Bank, that reviewed previous commitments to

investments in higher agricultural education for Africa. The outcomes of these deliberations was an action plan presented to a wider audience of stakeholders.

The action plan was subsequently discussed and endorsed under the leadership of H.E. Minister of State, Minister of Higher Education, Prof. Jacques Fame Ndongo. In attendance were government of Cameroon Ministers (The Ministry of Scientific Research and Innovation (MINRESI), the Ministry of External Relations (MINREX), the Ministry of Agriculture and Rural Development (MINADER), the Ministry of Livestock and Animal Industries (MINEPIA), the Ministry of Economy, Planning, and Land Planning (MINEPAT), the Ministry of Employment and

Vocational Training (MINEFOP), the Ministry of Secondary Education (MINSEC), the Ministry of Youth affairs and Civic Education (MINJEC), the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED), and the Ministry of Forestry and Wildlife (MINEFOF)), Deputy Minister of Education, -Malawi, Minister of State, Minister of Higher Education, Scientific Research and Innovation, Chad and senior Government leaders from Uganda, Lesotho, Cameroon, Ghana, Benin, Liberia, Zimbabwe and Zambia. Also in attendance was European Union Commission delegation, the Mastercard Foundation, The Inter-University Council for East Africa, Forum for Agricultural Research in Africa,

African Forum for Agricultural Advisory Services, AgriNATURA, and One CGIAR.

The action plan was underpinned by recognition for:

- a) Strengthening capacity to train at graduate, doctoral and post-doctoral levels, to collaboratively build staff capacities in universities.
- b) Broadening ecosystem approach towards strengthening agricultural higher and tertiary education where education sub-sector is integral and catalyses positive changes in the agricultural sector.
- c) Reinforcing the education ecosystem across universities and TVETs to leverage secondary and primary education to upgrade the skill levels of young people entering

the labour force and ensure that university education is relevant to national development priorities.

- d) Intentional actions to create wealth and jobs in an inclusive and equitable manner in order to meet the future of work opportunities for Africa's young population.
- e) Investing in youth programs that advance requisite technical skills, entrepreneurship and uptake of digital solutions to expand innovation and employability.

Accordingly, the action plan has been developed to address the above issues by focusing on four broad areas that will intensify and focus Higher Agricultural and Tertiary Education and agricultural development investments:

1. Reforming the training

agenda for Africa to meet its development needs

2. Enhancing research for development and wealth creation
3. Strengthening entrepreneurship education, and business incubation
4. Leveraging partnerships for scale and impact

As the dust settles from this monumental event, the stakeholders disperse in a shared departure towards action, ready to implement, innovate, and actualize the promises made within the walls of this historic gathering. The action plan is now set in motion, and its impact is poised to resound across the educational realm of Africa, setting the stage for a transformative era in education.

Leveraging Artificial Intelligence and Digitization for Teaching, Learning and Policy

Ms. Evaline Acan, Corporate Communications and Advocacy Officer and Eng. Nada Sidigg Musa, Technical Specialist for Knowledge Management, RUFORUM Secretariat



Participants in a session on digital technologies organized by the West and Central Research and Education Network (WACREN) in the RUFORUM AGM.

Africa faces a rising demand for access to quality education by its large young population. While significant strides have been made in school enrollment, the progress towards achieving United Nations Sustainable Development Goal 4, focusing on quality education, has been notably slow. Recent assessments underscore the urgent need for intensified efforts to leverage digital connectivity and its integration into the economy.

The recent COVID-19 pandemic demonstrated the benefits of digitization not only in education but also across various sectors of the economy. This shift was complemented by a surge in data analytics and the promising prospects presented by Big Data and Artificial Intelligence (AI). This combination has the capacity to strengthen learning experiences and promote inclusivity within agricultural higher education, research, and policy.

In order to expand opportunity for unlocking access to quality education and use of advances in digital technologies to create development solutions and

innovations. Discussions on how to leverage artificial intelligence and digital solutions for education science and technologies in Africa were held.

It's worth noting that Africa has witnessed substantial growth in digital technologies and AI, laying the groundwork for transformative changes within the economy. The agricultural education sector, in particular, stands to benefit significantly from these advancements. While ongoing investments strive to enhance education and research for inclusive and high-quality development, these efforts could be further amplified by embracing the opportunities presented by AI and Big Data.

The session, which was co-organized with the West and Central Research and Education Network (WACREN), explored the potential of digital technologies and artificial intelligence in enhancing teaching and learning practices across Africa. This meeting brought together a diverse array of stakeholders, including researchers, educators, policymakers, and technologists, 16 fostered discussions and insights into the utilization of

digital tools and AI applications in education settings.

Additionally, the meeting spotlighted the progress made in implementing the African Digital Agriculture Programme (AfriDAP), with a focus on pillar one's support on digital learning and sharing technologies, and Pillar two, on Data Science.

Participants explored strategies for implementing open data sharing recommendations while upholding existing ethical and research guidelines. The benefits of AI in education, such as personalized learning, adaptive assessments, and intelligent tutoring systems were discussed. Simultaneously, they addressed concerns and challenges related to data privacy, algorithmic biases, ethical considerations, and the digital divide, particularly within the African context.

As Africa stands at the nexus of technological advancement and educational innovation, RUFORUM and its partners promise to create pathways that can revolutionize education, leverage technology, and create an inclusive and transformative educational landscape for the continent's future.



Group Photo: Facilitators and participants after attending a session on digital technologies organised by WACREN

Scientific sessions thematic areas



Participants in one of the scientific sessions at Palais des Congres, in Yaounde, Cameroon

The AGM focused on four integrated thematic areas that address emergent development and education challenges. These issues require Africa's collective effort.

Theme 1: Access, equity, and quality of African Higher and Tertiary Education.

This theme focused on transformative education to prepare young people for the workforce and the capacity to leverage regional and collaborative experiences to take best practices to scale. It was underpinned by the fact that Africa's working-age population, growing at 3% per annum and projected to generate approximately 450 million young people ready to work by 2035 may not find the suitable jobs. Moreover, currently Africa's economy creates about

3 million jobs annually compared to between 12- 15 million jobs requirements. Thus, Africa's higher education, especially in the agricultural sector needs to be relevant to the skills and knowledge needs of the sector to enhance employability. The theme paid specific attention to:

- Reforming the training agenda for Africa to meet the continent's development needs
- Reviewing the funding frameworks for Higher Agricultural Education with a focus of making it equitable, responsive and relevant to national and regional development needs.

Theme 2: Africa's new harvest: Preparing Africa's agriculture and related sectors to feed and grow the continent's economy.

According to the African

Development Bank, the low productivity of Africa's agricultural sector makes it uncompetitive, with major producer agro-ecologies having high rates of poverty, subjecting 232 million people to undernourishment. Agricultural growth is a foundation for equitable and sustainable growth, because as it also supports food systems that produce nutritious, safe and affordable food. Growth however must be sustainable and well-integrated into the broader economy and major agrifood systems. This thematic area covered four integrated research for development areas that collectively are required for sustainable agricultural growth. This thematic area covered the following sub-themes:

- Regenerative agriculture: An evolution of conventional

agriculture, reducing the use of water and other inputs, and preventing land degradation and deforestation. It protects and improves soil, biodiversity, climate resilience and water resources while making farming more productive and profitable

- Reducing food losses, evening food supply and creating market opportunities for Africa's food systems. It informed on key issues such as : (a) Africa imports annually food worth 40 billion USD but also exports food worth about 35 billion USD; (b) Food losses are estimated at 15.9 percent and 17.2 percent in quantity and in caloric value, respectively, and (c) Africa's processed, food and beverage markets currently worth US\$ 313 billion will reach US\$ 1 trillion by 2030.
- Africa's Blue Economy: Sustainable marine and fresh water exploitation. It aimed to open discussions on how African can leverage its blue economy to spur development if it is managed in a sustainable manner. Africa's fish supply is projected at 6 million tons by 2030 with the Fresh water fisheries the largest sector of Africa's blue economy, employing nearly 12 million people and the sector generating an estimated value added of more than \$24 billion.

Theme 3: Accelerating and scaling up Africa's climate change adaptation and mitigation actions

This theme took cognizance of

the fact that Africa is vulnerable to climate change impacts because of over reliance on rain-fed agriculture. Predictions show that global warming of 1.5°C or 2.0°C, a now more than likely scenario, will shorten crop growth duration, aggravate droughts, and consequently reduce yield for major staple cereals. Climate change adaptation was noted as necessary to reduce the likely impacts on agricultural productivity. Discussions under this thematic area explored pathways, practices and innovations required to strengthen the capability of Africa to respond to the climate change stress. Specific areas of discussion included: climate information services, climate change mitigation research (including estimates of carbon emissions), climate change governance and climate-adaptive agriculture.

Reference was made to partnerships and collaboration to scale out climate change mitigation and adaptation practices on the African continent and advocating for an appropriate policy environment to support climate action.

Theme 4: Accelerating economic growth: Trends, Youth, Policy Practice and Futures

Sub-Saharan Africa, home to more than 1 billion people, half of whom will be under 25 years old by 2050, is a diverse continent offering human and natural resources that have the potential to yield inclusive growth and eradicate poverty in the region. According to African Development

Bank (AfDB), Africa's economy has continued to grow even after the COVID-19 pandemic by 6.9 percent and 4.1 percent in 2022 to 2023. However, the (AfDB) economic outlook warns of headwinds facing Africa's economies, many of which directly impact on agriculture among other sectors. These include tightening global financial conditions and soaring food and energy prices. Policy implications informed by evidence improve prospects for faster and justifiable growth and poverty reduction and, at the same time, have broad public support to ensure sustainability. The meeting noted that:

- Labour is the most important factor of production for economic development and that there should be convergence in harnessing and skilling human resources appropriately to increase productivity;
- Young people are more interested in engaging in technology-based work and business along the different segments in the value chain such as value addition, trade, etc. where policy investments for young people should focus on and;
- Enhancing value chain functionality: methods, approaches and inclusive policy design and experiences from ongoing initiatives;

The theme therefore interrogated best practices, and policy implications required for accelerating growth and impact delivery especially with respect to sustainable job and wealth creation across Africa.

Universities have frontline role to play in food production

Mr. Ngalame Elias, Cameroon-based freelance writer for the Thomson Reuters Foundation
Source: University World news -Africa Edition

Stronger collaboration between stakeholders in the agriculture value chain to improve food production as well as fight against hunger and climate change in Africa is critical.

This has been resolved at the 19th annual general meeting (AGM) of the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) themed 'Transforming Higher Education to Sustainably Feed and Create Prosperity for Africa'. It ended on 2nd November in Yaoundé, Cameroon.

Higher education authorities accepted resolutions aimed at enabling universities in Africa to play a frontline role in improving agricultural production to help the continent to not only feed itself but become a global bread basket.

"The opportunities of making Africa the bread basket of the world are there. We just have to make maximum use of the potential we have and our universities have a big role to play in this direction," Jacques Fame Ndong, Cameroon's minister of higher education, said at the closing ceremony. He emphasised the need to boost food production, but also nutrition quality, amid climate change.

More people are facing hunger

According to a report by the Food and Agriculture Organization of the United Nations, Africa is lagging behind to meet Sustainable Development Goal

(SDG) 2, which targets an end to hunger and envisages that all people have access to safe, nutritious and sufficient food all year round, and to end all forms of malnutrition.

Data from the report estimates that some 281.6 million people on the continent, over one-fifth of Africa's population, faced hunger in 2020, which is 46.3 million more than in 2019. This deterioration continues a trend that started in 2014, after a prolonged period of improving food security.

In addition to hunger, millions of Africans suffer from widespread micronutrient deficiencies, while overweight and obesity are already significant public health concerns in many countries. Progress towards achieving the global nutrition targets by 2030 remains unacceptably slow, the report says.

What universities can do

Against this backdrop, higher education officials at the meeting said universities faced the challenge to contribute to bringing about much-needed transformation in food production in Africa.

"Africa must stand tall in the face of its many simultaneous and overlapping challenges. Without extraordinary efforts, working in collaboration in all sectors, it will be difficult to meet these aspirations [to change food production] and the targets of the SDGs," says Professor Avlessi Felicien, the deputy board chair

of RUFORUM and the rector of the University of Abomey-Calavi, Benin.

RUFORUM resolutions called on higher education institutions to intensify training in food transformation processes and develop innovative skills through research to meet the expectations of actors in the agri-food value chain.

Universities in Africa have also been enjoined to improve their adaptation capacities with greater autonomy from governments through innovative income-generation.

Another key request was the creation of a dynamic regional platform for collective advocacy, coordination and resource mobilisation for learning practices.

This, the higher education authorities said, would help universities on the continent to integrate new approaches into teaching and research that will positively improve the entire value chain in the agricultural sector.

"Africa can feed itself and others if we take the right approach, beginning with the training and acquisition of the required skills and knowledge in food production," said Professor Theresa Akenji, the vice-chancellor of the University of Bamenda, Cameroon, and the chair of the RUFORUM board.

She told University World News that the meeting this year brought

together some 163 universities from 40 countries in Africa to exchange knowledge, train and acquire new skills.

"We need a new generation of young scientists, agriculture experts that will not only be skilled but passionate and confident to contribute to transformative change in Africa," Akenji said.

According to the European Union's 2022 Knowledge Policy report, there is an urgent need to accelerate African food systems

transformation to drive the agricultural sector to achieve inclusive, equitable, sustainable and resilient growth, while simultaneously responding to multiple crises such as climate change, rising global energy, food, and fertiliser prices, and ever-present food insecurity.

According to a news release by the RUFORUM Network, it meets annually to review progress and share experiences with its members and other education ecosystem actors from

which guidance and new thrusts are drawn. This year's AGM was hosted by the universities of Bamenda, Buea, Dschang, Maroua, and Ngaoundéré – all in Cameroon.

"We have taken a few steps forward, as planned during our 2022 meeting [in Harare, Zimbabwe], to facilitate the training of young scientists in our member universities," said Professor Horace Ngomo, the vice-chancellor of the University of Buea.

Enhance scientific and scholarly communication

Mr. Maina Waruru, Freelance Journalist

Source: University World news -Africa Edition

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) and the West and Central African Research and Education Network (WACREN) have signed a memorandum of understanding (MOU) to enhance scientific and scholarly communication in Africa, according to a post on The RUFORUM Blog.

Under the MOU, the bodies plan to establish an agricultural data repository that will offer researchers in more than 163 RUFORUM member universities and other research organisations free access to data in agriculture and related fields.

The organisations, through WACREN's AfricaConnect3 project, and the Library Support for Embedded NREN Services and E-infrastructure (LIBSENSE) initiative, will also support open-access publishing and open science using state-of-the-art digital services at no

cost to users, according to the blog post.

Data management training They will establish a platform to enable agriculture research data sharing and management, and journal hosting and publishing, leveraging on the LIBSENSE network, which already enables the National Research and Education Network and higher education institutions in Africa librarians to collaborate and interconnect.

As a result, the RUFORUM knowledge repository will be revamped, and components, among others, creation of open educational resources, or OER, to train users in research data management will be initiated.

Established in 2016, LIBSENSE is a pan-African initiative that aims to bring together the research and education networks (RENs) and academic library communities to strengthen open access and open science in Africa.

On the other hand, the AfricaConnect₃ project supports the creation, development and use of advanced, dependable internet connectivity for the teaching, learning, and research communities of Africa. The agreement, which builds on a similar document inked in 2020 that expires in December 2023, will see the allies leverage the capacities of their networks – human, technical, and financial resources, to ensure the successful implementation of the agreement.

Survey findings to be discussed *"This is an African relationship to strengthen research among our agriculture community, and we expect the collaboration to be ongoing,"* Dr Boubakar Barry, CEO of WACREN, said just before the initial agreement was signed.

In preparation for the new agreement, that will be valid from 2024 to 2027, the partners have conducted a two-year needs assessment survey, besides

piloting the expiring document with select RUFORUM network members.

“Following the completion of the needs assessment survey, RUFORUM and WACREN presented these findings in a joint workshop scheduled for 1 November 2023, as part of the RUFORUM AGM 2023 in Yaoundé, Cameroon,” according to the blog post.

In addition, the workshop introduced key principles of research data management (RDM), to raise awareness among participants about the need for appropriate RDM policies, showcase state-of-the-art international standards of RDM practices, and discuss the survey outcomes.

Enhanced learning experiences

The collaboration is a step in the direction that will help agriculture researchers engage in scientific discovery. The networking will also enable universities to train researchers and students, through innovative and creative ICT-enabled techniques that deliver and enhance the student learning experience.

“Therefore, RUFORUM and WACREN seek advocacy from RUFORUM governance, partners and stakeholders to

support the development of the repository to ensure its functionality, effectiveness and efficiency,” the policy brief reads. The draft binds the parties to exchange knowledge and experiences and find opportunities that are of common interest to the two parties and the end-users in general.

Open repositories used

The needs assessment survey done among potential users in Kenya, Uganda, Ethiopia, and Nigeria – most of whom hold masters or doctoral degrees, showed that, while they largely collected primary data, 41% of them sourced secondary data from open-data repositories, while only 11% of them sourced for the same from commercial ones, Dr Pamela Abbott, LIBSENSE research lead, and Nada Musa, technical specialist: knowledge management at RUFORUM, reported during the UbuntuNet Connect 2023 conference that took place in Kampala, Uganda, from 26-27 October 2023.

On the other hand, 29% of the respondents obtained their secondary data from shared repositories while 52% obtained it from “outputs from collaborative projects with researchers and students” At

the same time, 66% capture data manually and digitise it later, while 54% capture it in digital format, with only 29% storing their data in a repository, whether online or offline, Abbott and Musa reported.

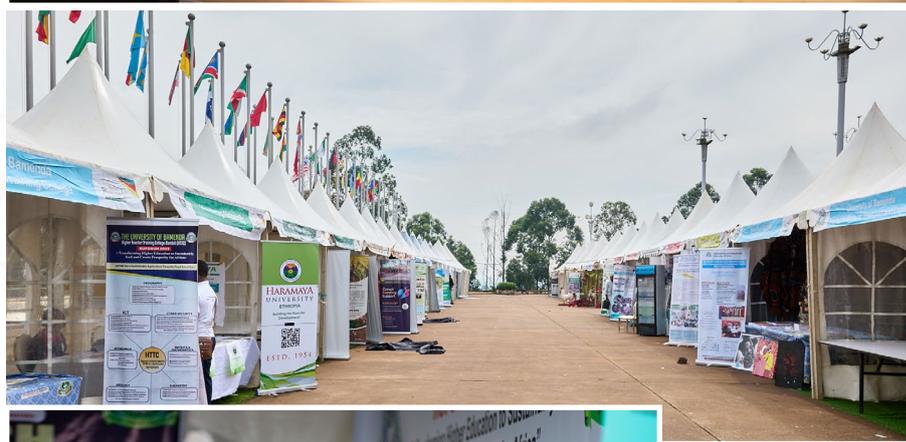
Some 56% of the respondents do not share data with users outside of their own institutions, although as many as 73% would wish to do so, while 44% do share data with others outside their own institutions, “but, of these, 57% said they do not follow data sharing guidelines,” the survey revealed.

Need for safe data storage

Most of the respondents said they would prefer to use an open agricultural data repository to promote and implement the FAIR data principles (findable, accessible, interoperable, and reusable), and to meet the requirements of publishers and funders who may want to provide open access to data sets.

They also reported that they would use such a repository to store agricultural research publications and data safely and securely once they are through with a project and to have access to data from past projects.





19TH Annual General Meeting

28 Oct.- 02 Nov. 2023

Cameroon

The RUFORUM Annual General Meeting
Host, Organiser and Co-Organisers



Makerere University at 100



Makerere University transforms the Agricultural Sector



Prof. Barnabas Nawangwe, Vice Chancellor Makerere University, commissioning the Solar powered cooker designed by Makerere staff with support from the Government of Uganda through MakRIF

Makerere University plays a critical role in societal transformation. Through the College of Agricultural and Environmental Sciences and research centres, Makerere University prioritises agriculture and leverages the potential of research and innovations to contribute to improving livelihoods and poverty eradication.

Agriculture is very central to the existence of the human race and society. Makerere University research and innovations are aligned to Uganda's National Development Plan III that focuses on societal transformation through the agricultural sector. The various research teams at the University have underscored the importance of agriculture, agricultural productivity, food security, value addition and the environment to societal

transformation.

Makerere University conducts basic, strategic and applied research and development in the broader areas of agriculture, food technology and nutrition, forest management and environment and natural resources management.

The focus has mainly been on enhancing farmer-centered approaches, climate smart



Refractance Window Drying Technology (RWDT) for production of high-quality bio-products

agricultural systems, value chain improvement for the achievement of food and nutritional security, livelihood improvement and overall rural development. The University has pioneered R&D in biotechnology, integrated pest and disease management, linking producers to markets as well as incubation of innovation for market products, and informing policy with respect to climate change, disaster risk management and environmental management.

Makerere University through its College of Agricultural and Environmental Sciences (CAES) is engaged in intensive research that has resulted into a number of innovations aimed at improving livelihoods. These include:

- Makerere University Soil Test

Kit that provides rapid soil assessment which informs soil requirements to improve soil management, crop yields and incomes for farmers.

- Disease, pest and climate stress tolerant cowpeas, and sorghum under the Makerere University Regional Centre for Crop Improvement (MaRCCI).
- Drought, disease and high yielding varieties with short maturity periods. These include Mak Soybeans = Maksoy 1N, Maksoy 2N, Maksoy 3N and Namsoy 4M 4N, and 5N and 6N providing an affordable source of protein under the Makerere University Centre for Soybean Improvement and Development (MAKCSID) crop breeding programmes.
- The bio-fertilizer formulations to unlock crop productivity for

improved food security.

- Production and promotion of protocols for Banana Tissue Culture for quick multiplication and disease control to improve yields.
- Value addition on Sweet Potato-Sorghum enterprises for improved livelihoods in Uganda.
- Pig artificial insemination and elite genetics to improve farmers' income.
- Provision of alternative sources of protein for poultry and fish feeds through rearing blue flies, maggots, and earthworms to supplement silver fish.
- Production of a livestock milk booster from sugarcane industrial wastes to mitigate malnutrition, extreme hunger and poverty through improved milk production, nutrition and improved daily cash flow among farmers.
- Promotion and utilisation of the mobile fruit factory for juice extraction and value addition.
- Automated the Communal Hand Water Pumps to Eliminate COVID-19 Transmission (MakNai).
- Developed Green Low-Cost Touch-less Hand wash Technology (TW-20 Kit) for public shared spaces.
- Refractance Window Drying Technology (RWDT) for production of high-quality bio-products. Adapted to common fruits, vegetables and herbs, for example mangoes, pineapple, jackfruit, carrots



- and moringa.
- Designed and developed an automated spray drier for egg powder production for use in bakery industries of Uganda.
 - Testing the KeBERA ICT based solution to detect inorganic contaminants as well as mycotoxins in food.
 - Involvement of students in the production of yoghurts, value addition to produce snacks from sweet potatoes, bananas and sorghum etc.
 - Established a Botanical Garden covering 30 acres at Makerere University Agricultural Institute (MUARIK). This is one of the College initiatives geared towards the protection, conservation and recreation of ecosystems. The gardens are also used for teaching and research.
 - Introduced 24 new sweet potato varieties on the Ugandan Market.
 - Involved in improving health service delivery in remote areas of Africa through provision of electricity to health facilities, preservation of medicine, water purification and improvement of hospital room temperatures in remote areas under the Sustainable Off-grid solutions for Pharmacies and Hospitals in Africa (SophiA) Project.
 - Implementation of selective breeding of the Black Soldier Fly (BSF) for improved livestock feed availability in Kenya and Uganda by generating new knowledge of insect genetics, genomics and phenomics under the FLYGene Project –in partnership with AARHUS University, ICIPE, University of Nairobi, and Marula Proteen Limited, funded by the Danish Ministry of Foreign Affairs.
 - Developed a solar-powered cooker - The MakSol Cooker- that will greatly increase access to modern zero-emission cooking for off-grid communities. With a battery life of 5 years and 20 years for the solar panels, the cooker comes with seven unique benefits; zero emissions, zero recurring cooking costs, clean cooking, minimal fire outbreak, easy to clean, minimal heat loss to the surrounding and a cool kitchen.
 - Engaged in the promotion of consumption of Amaranth (dodo porridge and vegetables) in schools for nutritional security.
 - Developed Nutrient-Dense Recipes and Products from Underutilized Crops to Alleviate Malnutrition among HIV/AIDS Infected Persons
 - Strengthening the resilience and visibility of peri-urban poultry farmers in Wakiso for better marketing and profitability through feeding, post-harvest handling, value addition and resources recovery.
 - Developed a Safe and Efficacious Anti-malarial drug from Traditional medicine.
 - CAES is also taking lead in promoting climate smart agriculture as a measure to boost food security.



Former Uganda Investment Authority Director also Chairperson Makerere Endowment Fund touring some of the research outputs at the School of Food Technology and Nutrition at College of Agricultural and Environmental Sciences (CAES)



Prof. Gorette Nabanoga, Principal, College of Agricultural and Environmental Sciences (CAES), touring Soybean gene bank at MUARIK

ACE II AF empowering agriculture excellence in Eastern and Southern Africa

Prof. Gaspard Banyakimbona, Executive Secretary, Inter-University Council for East Africa



The ACE II AF project is financing agriculture Africa Centers of Excellence in Malawi and Mozambique to strengthen agriculture higher education and research in the region. The ACE II AF is designed to scale-up the successful Africa Centers of Excellence (ACE) model to further build the region's capacity in providing high quality postgraduate training and applied research in the field of agriculture. ACE II AF will strengthen six competitively selected Centers of Excellence, five (5) in Malawi and one (1) in Mozambique with both countries receiving US\$30 million each.

The main objective of the ACE II AF is to strengthen linkages between universities in the participating countries and regional agricultural sector needs through strengthening:

- (i) agri-food related education and training enhanced with trans-disciplinary approaches and applied research;

- (ii) university linkages to the regional agricultural sector - its priorities, needs and stakeholders; and

- (iii) university partnership with private and public entities related to agri-food both within and outside the region.

Six key regional gap areas have been identified and prioritized for this project:

- (i) agribusiness and entrepreneurship;
- (ii) agri-food systems and nutrition;
- (iii) agricultural policy analysis;
- (iv) agricultural risk management and climate change;
- (v) rural innovations and agricultural extension; and
- (vi) statistical analysis, forecast and data management.

Given its regional nature, the Inter-University Council for East Africa (IUCEA) and the World Bank signed a grant agreement in July 2022 to support coordination and regional activities as a Regional Facilitating Unit. As RFU since 2015, IUCEA has built adequate systems to effectively support implementation, monitor performance and verify results.

Under ACE II AF, IUCEA is supporting the ACEs to ensure fiduciary and safeguards compliance, and coordinate technical support and training. IUCEA has already selected and awarded scholarships to 60 female regional students to

pursue masters in agricultural fields at different Centers of Excellence in Eastern and Southern Africa. This brought the total of beneficiaries of the ACE female scholarship to 120.

IUCEA has since March 2023 conducted capacity building for the new ACEs in Communication, Monitoring and Evaluation, Environmental and Social Safeguards, Procurement and Internal Audit to ensure effective project implementation.

The RFU also facilitates knowledge-sharing and networking events, compiles and aggregates M&E data from all the ACEs and verifies achieved results.

The parent project, ACE II, due to close on December 31, 2023 supports the governments of eight participating countries – Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda and Zambia to deliver quality post-graduate education and build collaborative research capacity in five regional priority areas namely– industry, agriculture, health, education and applied statistics.

Each of the 24 competitively selected Centers of Excellence was addressing a specific challenge in one of the five priority areas in the region. The ACE II project's higher-level objective is to meet the labour market demands for skills within specific areas where there are skill shortages.

As of May 2023, the project had reached a total of 20,134 beneficiaries including 7,231 MSc and PhD students and the exchange of 3,184 faculty and PhD students. The project has published 3,692 research articles in internationally recognised journals, accredited 242 postgraduate programs, signed 362 partnership MoUs and generated more than 43 million dollars of revenue from grants and fees from students and consultancy services.

Highlights of Progress (2016-2023)

Indicators	Baseline 2016	End Target	Achieved
PDO-level indicator			
TOTAL (national and regional students) enrolled in master's and PhD programs.	779	3,676	7,231
Female (national and regional students) enrolled in master's and PhD programs.	214	1,210	2,558
Regional students enrolled in master's and PhD programs.	88	955	1,389
Regional Female students enrolled in master's and PhD programs.	25	325	547
Partnership MoUs signed by ACE for collaboration in applied research and training.	66	306	362
Accredited education programs offered by the ACEs.	59	170	242
Internationally accredited academic programs.	0	One per ACE	31
Direct Project Beneficiaries.	779	3,676	20,134
Female beneficiaries (%)			35%
Component 1: Strengthening Africa Centers of Excellence (ACEs) in Regional Priority Areas			
Faculty and student exchanges.	64	762	3,184
Female faculty and student exchanges.	16	198	1,020
Amount of externally generated revenue (US\$, million).	6,100,000	29,700,000	43,398,118
Internationally recognized research publications.	194	1,454	3,692
Internationally recognized research publications with regional co-authors.	15	316	1,273
Institutions hosting ACEs participating in PASET benchmarking exercise.	0	24	24
Collaboration activities without a formal MoU.	0	1,410	572
Component 2: Capacity Building Support to ACEs through Regional Interventions			
Events that foster partnerships between ACEs and private sector/industry.	0	5	6
Female students who receive scholarships	0	120	120
Incubation Centers supported with seed funds.	0	8	4
Component 3: Facilitation, Coordination and Administration of ACE II Implementation			
Knowledge-sharing events.	0	10	15
Reporting by ACEs on beneficiary satisfaction.	0	120	62
Biannual reporting on M&E of the ACEs.	0	240	262

AGRINATURA, the driver of research and innovation in Africa and Europe

Dr Stephen Onakuse, President of the European Alliance on Agriculture knowledge for Development (AGRINATURA) and senior lecturer in the Department of Food Business and Development, Cork University Business School, University College Cork, Ireland.



In 1988, AGRINATURA, Europe's foremost alliance working in agricultural and nutritional research and development, including education, training and capacity strengthening, was formed. The common interest of the alliance was and still is to support agricultural development in a sustainable manner to improve people's lives, health, and well-being.

In addition, the alliance has focused on agricultural research for development (ARD) advocacy activities and support to science-policy dialogue. AGRINATURA includes 35 members drawn from the major European research and development institutions, universities and other organisations working in agriculture, natural resources management, food, and nutrition, coming from 16 European countries. Many non-European organisations partner with the AGRINATURA networks across Africa – RUFORUM, FARA - African Union, CGIAR, YPARD and many others.

AGRINATURA, an alliance of knowledge and innovation continue to envision a world where farmers could learn, innovate, and collaborate - a blend of "agriculture" and "nurturing the future." To bring AGRINATURA vision to life, the alliance continues to share the dream of creating an agricultural education, research, and development, that recognises the potential benefits of agricultural development for the entire world. While climatic events, geopolitical and conflicts are impacting on food system's resilience across the globe, AGRINATURA has also intensified its advocacy, research, projects and communication frequency and intensity to develop mitigations, which have positive consequences on crops, livestock, fisheries, aquaculture, and forestry, agroecology, as well as human, social, economic, and the environment. Research, education, and policy development have remained the lifeblood of AGRINATURA.

Over the years, AGRINATURA has supported through research, capacity building, developing partnership through bilateral arrangements, conducting educational programmes which are designed to equip the next generation of agriculturists with the skills needed to respond to emerging challenges and opportunities; and seeking to influence policy by documenting and disseminating relevant evidence from research. The research and innovation spear-headed by AGRINATURA, with projects such as the Sustainable

Agri-Food Systems Intelligence - Science-Policy Interface" (SASI-SPI), Leveraging the DeSIRA (Development Smart Innovation through Research in Agriculture) Initiative for Agri-Food Systems Transformation (DeSIRA-LIFT), the Value Chain Analysis for Development (VCA4D), "Nutrition Research Facility" (NRF), and others, have in many ways served as a source of excellence in education, research, and capacity building dedicated to sustainable practices.

AGRINATURA was born out of the vision of some wise and forward-thinking academics and researchers who have spent their entire life cultivating, enabling, and developing capacities, which play vital roles for agriculture prosperity and people's well-being. AGRINATURA continues to focus on researching challenges that farmers face, from unpredictable weather patterns to declining soil fertility, value chain analysis for development, and limited access to modern farming techniques.

With unwavering funding support from the European Commission, like-minded researchers, including educators, scientists, and experienced farmers, AGRINATURA continues to build on the foundation of a food secured world with a cutting-edge food systems transformation pathway for all. AGRINATURA treasure partnership, because without partners involvement, most of our research project and knowledge sharing platforms will be limited.

As the years passed by, AGRINATURA's research efforts have continued to bore sustainable food systems dividends. Scientists and agricultural experts have collaborated on projects aimed at capacity building, improving farming systems, increasing the resilience of crops to climate change, and developing sustainable farming practices etc. These innovations not

only benefit the local farmers but also caught the attention of national and international organizations, leading to grants and partnerships that further expanded AGRINATURA's reach.

AGRINATURA believes that research and innovation have a central role to play in highlighting and effectively supporting agricultural transformations: by providing robust evidence

and knowledge as well as a multidisciplinary, comprehensive, and holistic view of food systems. AGRINATURA's research outputs consolidate and explore new ideas, identify, and help form scientific consensus in providing solutions to agricultural problems, and ultimately support dialogues, advocacy, and political decision-making.

ARUA and the guild create 20 Africa-Europe clusters of research excellence (CoRE) to pioneer equitable partnership

Since 2018, the African Research Universities Alliance (ARUA) and The Guild of European Research-Intensive Universities have established a close partnership, at the heart of which has been a joint appreciation that they can – and must – address global challenges affecting the African and European continent by developing new, long-term partnerships based on equity. Both networks have agreed that they need to strengthen the long-term capacities of African science. This requires new modes of science collaboration that go beyond short-term collaboration, investment in academic careers at all stages and investment in research infrastructure.

In line with this vision, the two networks have launched the Africa-Europe Clusters of Research Excellence (CoRE) aimed at transforming the nature of North-South collaborative research. Currently, there are 20 clusters that align with the priority themes of the AU-EU Innovation Agenda on *Public Health, Green*

Transition, Innovation and Technology and Capacities for Science. The CoRE's initiative is a direct response to the [AU-EU Innovation Agenda](#), which acknowledges the importance of research and education – including the social sciences and humanities – for achieving the [EU's Global Gateway strategy](#) and the [AU's Agenda 2063](#)

The Clusters bring together over 250 researchers from 60 universities and research institutes in Africa and Europe.

The Clusters were formed within the context of [clear and unequivocal support in the R&I sector, in Europe and Africa](#), to develop sustainable and equitable science collaborations, as well as meet the urgent need for funders like the European Union to develop a more integrated approach that focuses on excellence and capacity-building. To this end, the CoRE provides an opportunity to open up new dialogues with policy-makers and funders on both continents (Africa and Europe) to identify ground-

breaking solutions and create opportunities for investment in societal transformation. Each CoRE addresses a key societal challenge, framed by the Global Gateway's AU-EU Innovation Agenda, with local context perspectives deeply rooted to ensure maximum scientific and societal impact.

The Africa-Europe CoRE will develop new research paradigms and transform joint capacities to overcome major health challenges, address the causes and effects of climate change, strengthen our technological transformations, and sustain our societies facing conflict and change. They will help to ensure that a common research agenda that advances efforts towards the transformation of Africa into a knowledge-based society, as envisioned in the African Union's Africa 2063, is pursued. The CoRE will also strengthen the capacity of R&I to make significant contributions to each priority under the European Union's Global Gateway.

The Africa-Europe CoRE

Public Health	Green Transition
<ol style="list-style-type: none"> 1. Advanced Infectious Diseases Research and Training 2. Food Environment Actions for the Promotion of Health 3. Genomics for Health in Africa 4. Health, Gender, and Sexualities 5. Migration and Health 6. Multimorbidity 7. Non-Communicable Diseases and Multimorbidity 8. Preparedness and Response to Pandemics and Shocks 9. Translational Research in Infection, Immunity, and Inflammation 	<ol style="list-style-type: none"> 10. Nature-Based Solutions for Climate Change Adaptation and Mitigation 11. Renewable Energy 12. Sustainable Water and Land Resource Management for Human Well-Being 13. Water Resources Management for a Sustainable and Just Future
Innovation and Technology	Capacities for Science
<ol style="list-style-type: none"> 14. Addressing Global and African Challenges Through Methods from Artificial Intelligence, Data Science, and Theoretical and Computational Thinking 15. Sustainable Food Systems 16. Engineering for the Future 17. Creative Economies: Cultures, Innovation and Sustainability 	<ol style="list-style-type: none"> 18. The Politics of Sustainable Development: Squaring the Circle of Science and Democracy 19. Building Capacities for Interdisciplinary Peace Research: Exploring Conflict, Environment, Technology, Inequality, and Identity in Africa 20. Promoting Impactful Research and Education on Inequalities, Poverty, and Deprivation Across Africa

Ernest Aryeetey, Secretary-General of ARUA, said: *“The prevailing obstacles to effective and equitable partnerships between African and European researchers will diminish in significance as the Africa-Europe Clusters of Excellence do what they are expected to do. The Clusters have been developed on the basis of trust and shared values between African and European researchers, and this is going to be the reason for their success in the years ahead. I am very optimistic that we will see a significant improvement in the quality of research and in the number of high-quality and impactful graduate students coming out of our universities.”* Jan Palmowski, Secretary-General of The Guild, said: *“The Leaders of the African*

Union and the European Union have identified research and education as a key part of the strategic relationship between both continents.

The Africa-Europe Clusters of Research Excellence will make a major contribution to this vision

becoming a reality. We hope they will act as an inspiration to other researchers and institutions, just as they inspired our researchers, to address our pressing societal challenges collaboratively and equitably in a deeply unequal world.”



Group photo: Leaders from the Africa-Europe Clusters of Research Excellence (CoRE) pose for a picture.

Building capacity of National Agricultural Research Systems to innovate and address current challenges

Dr. Enock Warinda, Executive Director of the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA)



The demand for Institutions of Higher Learning to produce knowledge and skills that empower societies to pursue sustainable livelihoods in the entire Agricultural Research for Development domain is higher today than ever before. As guided by its Strategy and Results Framework (ASRF: 2019-2028), ASARECA has strategically positioned itself to address this demand with a focus on strengthening capacities of its stakeholders at all levels including individual, organizational and systemic levels. The strategic priorities articulated in our strategy inform how we engage with our key education partners under their umbrella body, Regional Universities Forum (RUFORUM) to address some of the teething challenges.

The great minds that established ASARECA in 1994 were cognizant of the reality that

Agricultural Innovation Systems devoid of strong elements of education and training aimed at strengthening capacities and supplying needed human resources would deny the innovation systems 'oxygen' to function effectively. To this end, all ASARECA's strategies and policy documents have integrated strong components of capacity strengthening at all levels to nature partnerships to support capacity strengthening of the national innovation systems to deliver agricultural Innovation Systems targets.

Capacity Gap Assessments (CGAs) conducted by ASARECA in the recent past reveal that most of the National Agricultural Research Systems (NARS) in Eastern and Central Africa (ECA) sub-region do not have adequate research scientists with postgraduate academic qualifications as well as the required disciplinary mix to implement holistic AR4D mandates. There is also the issue of aging research scientists who are retiring with either no replacement or are being replaced with young undergraduates with no research experience. Discussions are ongoing with the Management University of Africa to support specific management-oriented issues.

Success cases
ASARECA in 2008 identified RUFORUM as a key partner

in building capacity of the weaker National Agricultural Research Systems (NARS) at the time to drive agricultural research. Through the project, *Strengthening Capacity for Agricultural Research and Development in Eastern and Central Africa (SCARDA-ECA)*, ASARECA teamed up with RUFORUM to undertake institutional assessment of NARS to gain understanding of their capacities to fulfil their respective AR4D mandates. The study indicated that inadequate human resource capacities was a major weakness in delivering research outputs to meet the needs of the poor smallholder farmers. With recommendations from this study, ASARECA in collaboration with RUFORUM supported the training of 34 young scientists from the National Agricultural Research Institutes (NARIs) of Burundi, Rwanda and Sudan in 2008 to undertake Masters Degrees in select universities in East Africa in priority fields such as Plant Breeding, Soil Science, Agricultural Information and Communication Management, Rangeland Management, Agricultural Extension, and Animal Science. Upon completing their studies, the Scientists were deployed in strategic positions in their countries to help achieve the food security visions. With the foundation laid by ASARECA in building their academic careers, most of these scientists later acquired PhD degrees in their respective fields of expertise.



Researchers from Eastern and Central Africa receive field exposure on hydroponics at AgroMax Uganda limited, a private agri-business company providing innovative, sustainable solutions and services in agriculture and agribusiness

Besides, ASARECA coordinated initiatives with the NARIs of Uganda, Kenya, Tanzania, and Ethiopia to support 44 scientists to undertake PhD studies and another 105 researchers to do their master's degrees in selected priority fields under the World Bank-funded, ASARECA-coordinated Eastern Africa Agricultural Productivity Programme (EAAPP).

Between 2021 and 2022, ASARECA organized benchmarking exercises, where 88 stakeholders, mainly young scientists, farmer leaders and private sector actors from 14 ASARECA member countries were engaged in learning tours at the National Agricultural Research Organization (NARO)

- Uganda, and the Tanzania Agricultural Research Institute (TARI) – Tanzania. The visits were aimed at enhancing the skill of the researchers in member countries through peer-to-peer learning as well as promote knowledge sharing and exchange of innovations.

These are just a few examples to illustrate partnerships that can make a difference in skilling the young generation to take charge of the global agriculture. The irony is that whilst ASARECA in partnership with RUFORUM has supported many such interventions over the years, stakeholders continue to ask us to show the real people-impacts of such work. Perhaps, the reason for this is that

while universities continue to churn out technical graduates, stakeholders are curious to know what else partners in AR4D and higher education institutions are doing to increase productivity, boost value addition, address the effects of climate change, and break through the complexities associated with market access.

In order to meet the current human resource requirement for AR4D with the right expertise in the ECA sub-region, there is an urgent need for ASARECA to work together with NARIs, Universities, RUFORUM and other relevant stakeholders to have the correct perspectives in education programmes. Some of the stakeholders that must be brought on board to inform our

content include Agriculture line ministries; National Agricultural Research Institutes; Farmers' Associations; National and sub-regional organisations for extension, training, and education; Associations of processors of agricultural products; Associations of consumers; organized interest groups; Non-governmental organisations; International agricultural research centres; Investors and development partners. The list is elastic.

As we join RUFORUM in sourcing robust recommendations for transforming the role of higher education in the AR4D landscape, I would like to propose some specific areas of focus from the ASARECA perspective that participants in the forthcoming RUFORUM AGM should consider, sharpen and return to the floor for further deliberation:

- Promotion of innovative ways for on-boarding women and youth to tap into business

opportunities including digital solutions.

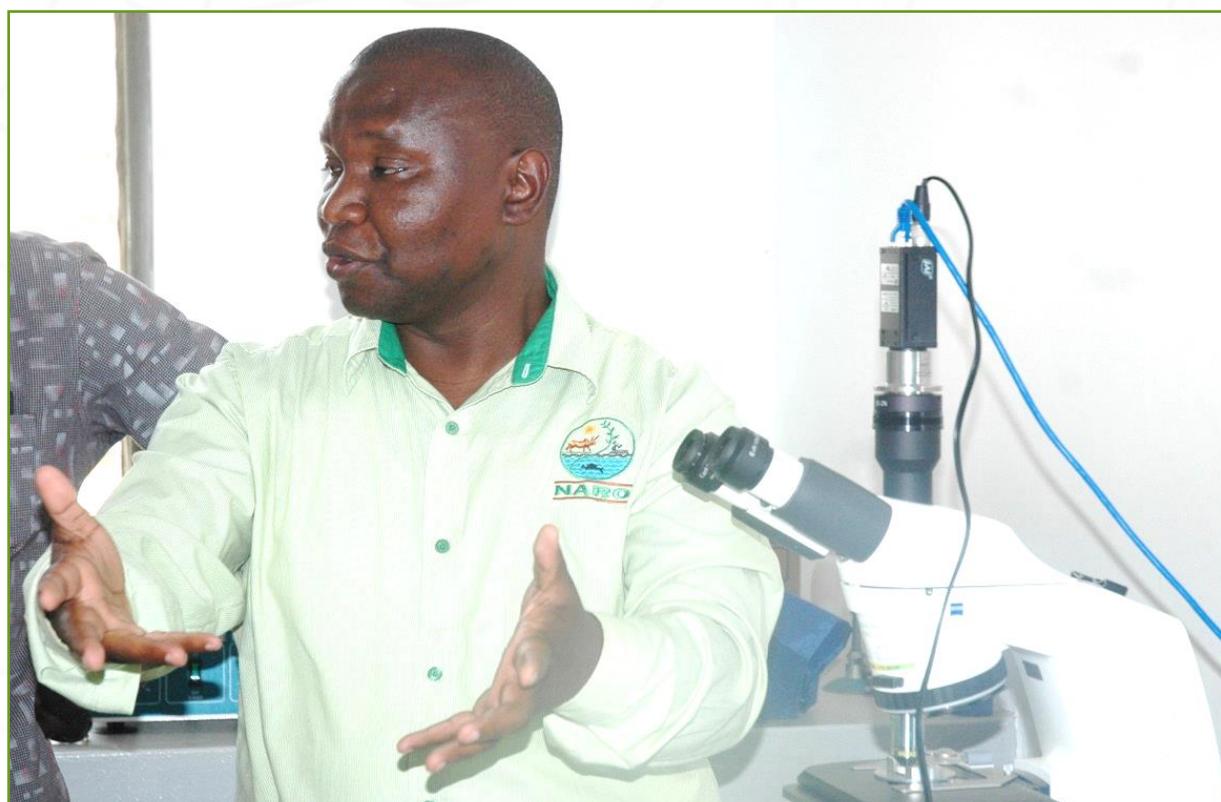
- Promotion of innovations aimed at tapping into current influences such as globalization and urbanization to increase employment opportunities.
- Creation of modern-day solutions to deal with traditional land tenure systems characterized by small, fragmented holdings versus the need to mechanize.
- Re-inventing the agricultural extension system to cope with current trends.
- Creation of innovations and models that make the private sector work in AR4D.
- Addressing the issue of low numbers of women in scientific/research positions through increased opportunities for women in higher education.

ASARECA's Strategy

ASARECA pledges to work with RUFORUM to jointly mobilise resources to facilitate

the development and operationalization of key priority areas such as:

- Appropriate long-term programmes to train researchers in select NARIs in ECA, which are in dire need of skills improvement in areas such as agricultural biotechnologies and a wide range of biosciences.
- Addressing issues of low numbers of women in AR4D, including in leadership and management.
- Appropriate short-term capacity development programmes for research scientists to enable them acquire new knowledge, skills and methods aimed at improving their competencies, productivity, job satisfaction, motivation, and leadership abilities.
- Developing suitable capacity development modules and other training materials for various categories of stakeholders.



Researchers from ASARECA member countries are taken through procedures at the state-of-the-art semen-handling unit at the National Livestock Resources Research Institute, NARO-Uganda

Enabling the upscaling of agricultural knowledge, technologies and innovations to the last mile through developing institutional and individual agricultural extension capacities by the AFAAS network

Dr. Silim M. Nahdy, Executive Director, African Forum for Agricultural Advisory Services



The African Forum for Agricultural Advisory Services (AFAAS) exists to promote knowledge and information management and exchange and

professionalism, and add value to national agricultural extension and advisory service systems, and visualizes an Agricultural Extension and advisory services (AEAS) that effectively contribute to sustained productivity, profitability and resilience in agriculture for inclusive wealth creation in Africa. AFAAS intervenes in the African food systems to ensure accessibility of knowledge and experiences to agricultural extension and advisory services for effective dissemination of agricultural technologies, innovations and management practices in Africa and worldwide.

The AFAAS is a multi-stakeholder Network that

consists of 5382 members (4852 individual members, 460 Civil Society Organizations, 32 academic institutions, 15 media organizations; 22 private companies and 3743 frontline AEAS providers). This network reaches approximately 233,423,000 value chain actors including farmers and farmers organisation. The 15 mass media organizations have a listenership of approximately 18,243,000 people, and the 46 online platforms reaching over 125,500 value chain actors. For a more effective outreach, the AFAAS network also uses physical exhibitions and engagements reaching over 340,000 value chain actors including farmers.



DC Fridah Irungu, sharing experiences at Gathinja Organic Farmers to the farmers from Vihiga county on Agroecology

The AFAAS Network has continuously supported the lifelong Capacity Development of AEAS systems and individual providers. In strengthening the AEAS system, a number of AEAS actors strengthened their skills to foresight by participating in the African Foresight Academy. They use the skills to influence national agricultural policies. As examples, five (5) national policy dialogues were organized in Kenya, Uganda and Malawi, and over 30 policy makers were engaged. In Kenya, the policy makers that were engaged included the Governor and Deputy Governor in Muranga county and the Executive Committee members of the Department of Agriculture in the county. In Uganda, the policy makers engaged include the District Production and Marketing Officers (DPMOs) and local politicians from Bugiri and Luwero Districts..

The AFAAS works through a multi-stakeholder and pluralistic

platform called country fora. Some of the activities in Kenya chapter (KeFAAS) include an analysis of Agricultural policies and strategies, and how they embrace the gender in Agricultural production; while in Cameroun (CAMFAAS) undertook a campaign lobbying for a cocoa free deforestation. As a result of the policy and advocacy activities, various issues were addressed including: In Kenya - i) Muranga county in Kenya committed to train 82 more youths and women as Digital Agripreneurs and the country created a revolving fund for the Digital Agripreneurs (DCs) to sustain the access of cheaper financial services.

In strengthening individual AEAS capacities; the AFAAS Network has continued to provide trainings in various thematic areas including: program planning, monitoring and evaluation; use and management of technical knowledge & skills, approaches for generating and

exchanging AEAS information. The trainings included rolling out the different topics of the New Extensionist Learning Kit (NELK) in the different countries. For example, in Malawi, the AFAAS country chapter (MaFAAS): trained 15 extension workers on case study/ success story documentation (11 women, 5 youths and 6 men), Knowledge management; and over 300 students of Agricultural colleges have joined the college chapters of the country forum to benefit from the skills enhancement. In Cameroon, CAMFAAS trained 35 AEAS actors on Knowledge Management and the concepts of innovation platform. Other training topics included digitalization of agriculture, and local food processing, local biopesticide preparation. In Kenya, KeFAAS conducted trainings of AEAS actors on the concepts of experience capitalization and the production of short videos for knowledge dissemination.

Enhancing capacities to design and implement equitable agrifood policies in Africa

Policies play an important role in enabling or stifling women's contributions to the agricultural sector. Women make up about 46 percent of agricultural employment in sub-Saharan Africa, yet they often face discriminatory national policies especially at when implementing policies. There is growing momentum for gender-responsive research and evidence-based policies to foster agricultural-driven development and economic growth in Africa. The African Development

Bank's Feed Africa Strategy for Agricultural Transformation on the continent, for instance, emphasizes the need for Africa to pursue policies that will enable the continent to transform its agricultural production. Similarly, the guidelines for country implementation of the Comprehensive Africa Agriculture Development Programme (CAADP) Framework under the Malabo declaration highlights the need for agricultural policies that will facilitate inclusive, equitable agricultural growth.

Sustaining this momentum calls for careful attention to the policy processes, from decisions to actions, and how they can enable African countries to prioritize resilient agri-food systems in the face of shocks such as pandemics, climate change, and wars.

Well-designed and implemented agricultural policies can help close the gender gap in agriculture and rural labor markets, generate gains in agricultural output, increase food

security, and foster economic growth.

[African Women in Agricultural Research and Development \(AWARD\)](#) is investing in the policy space by equipping policy practitioners with tools, skills and networks to design and implement gender-responsive agri-food policies. Through its [Gender Responsive Agriculture Systems Policy \(GRASP\) Fellowship](#), AWARD has identified and is supporting African women in the policy field to foster policy change across regional, sub-regional and national levels for gender equality and women's empowerment.

The GRASP Fellowship has participants from 12 African countries including Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Senegal, Uganda and Zambia.

The fellowship is a career accelerator program that targets mid-career African women in the policy field to catalyze the design and implementation of gender-responsive agricultural policies across Africa.

Stemming from the need to plug the leaky pipeline in women in leadership and gaps in agri-food systems in Africa, AWARD implements this initiative, funded by the United States Agency for International Development (USAID), to foster policy change across institutions and national governance systems for women's empowerment.

Customized leadership journey for women policy practitioners GRASP Fellowship's mission is to equip women policy

practitioners to become exceptional policy leaders for improved policy process that will result in equitable agrifood policies. The non-residential Fellowship includes virtual and in-person activities spread over two years for each cohort.

A critical component that ensures the success of the fellowship is the [design and delivery of adequate training](#) for the participants along with peer, mentor, and coaching support to unlock their full potential.

Fellows in the GRASP Fellowship get customized training in leadership, negotiations, and gender in policy to sharpen their skills on how to analyze policies from a gender perspective, foster innovative policy-oriented projects, and lead and navigate policy processes.

The GRASP Fellowship model fosters peer and intergenerational learning through a carefully designed mentoring model that pairs Fellows with mentors and mentees. They also receive access to networks to enable them to lead policy processes that integrate gender for agricultural transformation in Africa.

Innovatively integrating gender in policies

The Policy Fellows are supported to form coalitions to work on Policy Innovation Projects (PIPs), designed as interventions that will provide hands-on practical experience in leading and collaborating toward gender-responsive policy development in the agricultural sector. Each PIP receives modest catalytic funding to incubate the proposed

idea, supporting an inclusive policy-making approach within the African agricultural context.

Through the PIPs, the Policy Fellows internalize their enhanced leadership skills and deploy the knowledge acquired from the training on gender in policy to integrate gender in their policy focus.

The PIPs are playing a huge role in providing unique opportunities to build the confidence of the women policy practitioners and illuminating their role as influential policy leaders.

Some of the AWARD Policy Fellows have conceptualized innovative PIPs addressing pressing challenges in our agrifood systems. For instance, Dr. Romana Mbinya, a lecturer at the Jaramogi Oginga Odinga University of Science and Technology in Kenya, is working to address the gender gaps in the country's National Agricultural Extension Policy to promote equitable access to advisory services among smallholders.

In Nigeria, Dr. Clara Chinwoke Ifeanyi-obi, a senior lecturer at the University of Port Harcourt, Rivers State is developing a gender-responsive SMART framework with measurable indicators to track and monitor the implementation of gender commitments in existing climate change policies.

Through the GRASP Fellowship, AWARD hopes to accelerate the involvement of women in policy processes and foster equitable agri-food policies that can transform agricultural-driven development in Africa.

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