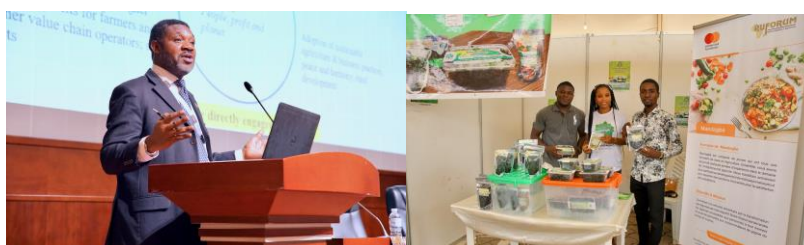


# RUFORUM TRIENNIAL CONFERENCE PROCEEDINGS 2021



## **Abstract**

The overall objective of the Conference was to accelerate agricultural transformation. The conference focused on university-science, technology and innovation for agricultural transformation.



**Proceedings of the Seventh African Higher  
Education Week and RUFORUM Triennial  
Conference, 2021**

**06-10 December, 2021**  
**Palais des Congres de Cotonou, Benin**

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## SUMMARY CONFERENCE REPORT

### 1.0 BACKGROUND

- 1.1 A growing and inclusive economy is critical for delivering income and employment to all people regardless of gender, ethnicity and race, among others. Quality jobs are an important facet and enabler for affording basic needs, as well as building wealth. Africa, under the recently launched African Continental Free Trade Area (AfCFTA), exposes a GDP of \$3.4 trillion benefiting an estimated 1 billion people. For Africa and its people to benefit from the opportunities the AfCFTA brings in this decade, innovation, skills, entrepreneurship, and responsiveness of institutions will be critical.
- 1.2 Africa's agriculture requires urgent and significant transformation in order to take advantage and utilize available resources on the continent. Unfortunately, Africa is still very low on its human capital index to support the required transformation of the agricultural sector. Since the African continent is getting younger, the need to prepare the young people to transform agriculture remains.
- 1.3 Higher education and particularly universities are at the forefront of shaping and delivering innovations, skills, and entrepreneurial graduates. However, universities in Africa need to do more to rapidly achieve technology integration and human capital investments that are essential for enhancing productivity and economic performance.
- 1.4 African universities under the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) network recognized the inherent contribution of universities to development. In appreciating the gaps within the higher education sector that need to be addressed to support the continent's development needs, the universities adopted the African Higher Education, Science, Technology and Innovation strategy (AHESTI) as a guiding framework for strengthening universities' contribution to Africa's development.
- 1.5 The Seventh African Higher Education Week and RUFORUM Triennial Conference (hereafter 'the Conference') was organized from the 06-10 December 2021 at Centre International de Conférences et Palais des Congres in Cotonou, Benin. The Conference, set under the theme: *"Operationalizing Higher Education for Innovation, Industrialization, Inclusion and Sustainable Economic Development in Africa: A call for action"* responded to the urgent needs for the African governments, development partners, private sector and citizenry to take actions to invest in higher education. The Triennial Conference was convened to: catalyse investment in higher education for human capital development in Africa; promote international linkages and partnerships for excellence in higher education; strengthen collaboration and mutual learning to spur innovation and industrialization for economic transformation in Africa; promote youth employment and skills acquisition for development; and, strengthen university-private sector business linkages.
- 1.6 The Government of Benin through its Ministry of Higher Education and Scientific Research and three RUFORUM member universities in Benin were the lead organizers of the Conference.

### 2.0 INTRODUCTION

- 2.1 A total of 2401 higher education stakeholders participated in the blended (physical and virtual) Conference including 14 ministers responsible for education, science and technology from 12 African countries, 33 senior government officials and experts, 41 Vice Chancellors, 66 Principals and Deans, 98 students, and representatives of farmer organizations/cooperatives, the private sector/ industry and civil society.
- 2.2 The Conference was officially opened by Hon. Abdoulaye Bio Tchane, Minister of State in charge of Development and Coordination of Government Action, Republic of Benin. The Vice President, Republic of Benin, Her Excellence Madame Chabi Talata and Her Excellency, Prof Ameenah Gurib, former President of the Republic of Mauritius were keynote speakers during the four-day Conference.

2.3 The Minister for Science Technology and Innovation, Government of Uganda, Hon Monica Masanza Musenero as Minister from the Secretariat host country, committed to take on the responsibility to support RUFORUM to fast-track any pending activities that RUFORUM needs to champion the economic transformation through science, technology & innovation (ST&I).

2.4 Twenty three (23) Pre-conference events were convened from 13<sup>th</sup> August 2021 to 26<sup>th</sup> November 2021. These included, Scientific data management for post-graduate students using R programming language; social media training; interdisciplinary training for early career scientists; measuring food insecurity in the sustainable development goals era; TVET engagement and dissemination of evidence from TAGDev; Alumni side event; Foresight and scenario training,

RUFORUM Audit Committee meeting; Problem-Based Learning-BioAfrica training, Subcommittee (Deans and Principals) meeting, capacity building on e-learning content development, greenhouse gas emissions; renewable energy side event; Board Executive Committee meeting; entrepreneurship through agri-engage; high level dissemination of the FAO social protection studies; full committee (Deans and Principals) meeting;

SENTINEL skills training on biodiversity surveys & data analysis using R; and, transforming higher education with GCHERA, EARTH University and American University of Beirut.



### 3.0 GOVERNMENT REPRESENTATIVES AND DEVELOPMENT PARTNERS VIEW POINT ON THE AGRICULTURAL SECTOR, INCLUSIVITY AND THE 21<sup>ST</sup> CENTURY UNIVERSITY IN AFRICA

3.1 The ministerial meeting held 07<sup>th</sup> December 2021 at Golden Tulip Hôtel was a call to action for the previously recommended and agreed initiatives endorsed by the 2019 Ministerial Round table during the 15<sup>th</sup> Annual General Meeting in Cape Coast, Ghana. The meeting was attended by representatives of the Governments of Benin, Cameroon, DRC, Ghana, eSwatini, Liberia, Mali, Mozambique, Namibia, Senegal, Sierra Leone, Somalia, South Sudan, Uganda and Zimbabwe. The meeting established pathways for operationalisation of the initiatives to realize the intended outcomes towards Africa's economic development. See [Action Plan](#)

- 3.2 The COVID 19 pandemic called for repositioning education and scientific research at the universities to develop sustainable solutions to address poverty and disease. The pandemic had destabilized the agricultural sector and this created tensions in access to food and other agricultural inputs and products. However, this provided opportunity for research to enable the agricultural system be more productive. The Government of Benin was fully cognizant of the role of universities in development, and new reforms were introduced in the governance of Universities in Benin for better efficiency and results.
- 3.3 The Triennial Conference was fundamental in enabling the follow-up, monitoring and implementation of previous recommendations by the Government of Benin. This also offered opportunity for a re-examination into the limited numbers of Women in research and Innovation as well as the limited female leaders on the Continent. The Government of the Republic of Benin undertook several measures to address Youth Entrepreneurship and amongst these included the implementation of several reforms such as revisiting the service offering in the Benin Higher Education sector.
- 3.4 Ending poverty and boosting shared prosperity requires inclusive, equitable sustainable economic growth; fostering resilience against climate change and pandemics and ensuring social protection; and, boosting investment in people with focus on health, food security and education. In all these, there is need to: integrate technology to enable African nations progress with greater opportunities for women especially scientists; and, accelerate enrolment of girls in Science Technology Engineering and Mathematics (STEM) courses. To foster science technology and innovations, African Governments need to facilitate the adoption of policies conducive to the development of science, technology and innovation (ST&I) to ensure that talented Women Scientists are inspired and recognized.
- 3.5 Africa's development is a collective responsibility of citizens across the Continent that warrants the need to make higher education institutions fit-for-purpose and empowered to play an effective role in development. For Africa to develop, science, technology & innovations have a significant role to play, requiring the need to involve, align and ensure coherence amongst the different actors and sectors. Ministers and policy makers need to promote ST&I in the respective countries by making use of the platform provided by RUFORUM to link with universities in the Continent.
- 3.6 Higher education and scientific research institutions are indispensable in preparing and qualifying youth for the labour market's needs. In terms of the operations of BADEA in Africa, the organization has financed more than 34 projects in the field of higher education in many sub-Saharan African countries with a total funding of US \$288 millions by the end of 2020. Further, BADEA in cooperation with RUFORUM are preparing a study on "Youth Employability and Entrepreneurship Development in Agriculture Sector in Uganda". The study focuses on relevant policies and regulatory framework; entrepreneurship education and programs within the higher education system; assessment, evaluation and presentation of successful initiatives; presentation of best experiences in Africa regarding youth employability and entrepreneurship development in agriculture sector design contents and responsiveness; agribusiness incubation; TVETs; and, capacity building to universities.
- 3.7 The first technological advancement changed the pattern of interaction in Africa where more than 60% of the population are youth. This warrants that measures be undertaken to prepare youth for the global economy. However, reflection needs to be undertaken on the level of preparedness of higher education systems to address challenges to prepare young people for the job market and the world of work.
- 3.8 African countries have the capability to address their problems to transform respective nations by exploiting science technology and innovation that play a fundamental role in wealth creation, improving the quality of life and the real economic transformation in society. Cognizant of the large gap that exists between innovations that emerge from the universities and the marketability of the innovations, focused programmes need to be developed to ensure that innovations emerging from the universities translate into economic development and jobs. To realize the benefits emerging from science technology and innovation, mind-set change needs to be fostered as well as prioritizing investment towards the development of fully and well-coordinated ST&I ecosystem that links the research taking place in the

academic institutions and the human capital development to spur industry and investment. The key is for science to develop products, patents that translation into businesses.

#### **4.0 OPERATIONALIZING HIGHER EDUCATION FOR INNOVATION, INDUSTRIALIZATION, INCLUSION AND SUSTAINABLE ECONOMIC DEVELOPMENT IN AFRICA: A CALL FOR ACTION” KEY MESSAGES**

##### **4.1 Promote youth employment and skills acquisition for development**

- 4.1.1 Given the dominance of subsistence agriculture on the continent, characterized with utilization of the hand hoe, it is extremely difficult to convince African Youth that agriculture is indeed their future. Yet the Youth can play a key role and contribute to economic development. Universities are stakeholders for change and Youth can be trained to love agriculture and take this up as an opportunity.
- 4.1.2 The Triennial Conference identified measures for creating a new vision for African agriculture by RUFORUM and member universities. In this call to action, the youth have to be promoted and empowered to appreciate their contribution to development as much as strengthen collaboration and university-private sector. The barriers to youth agripreneurship include: youth pessimistic perception about the ability of agriculture to improve their living standards, inadequacy between programmes and structural issues underpinning youth participation in the economy, skills mismatch and limited access to skilled labour, raw materials and financial resources.
- 4.1.3 Academic institutions have the potential to bring about the change we want to see in the world because they train leaders. They can induce the fastest change and shape the kind of society the world wishes to have. Unfortunately, the current pedagogical model in higher education is ‘professor’ dominant, removing the student from the centre and lacking the required aspects of experiential, exploratory and participatory learning. Using the EARTH University Model, in which the professor is a facilitator of student learning and the training is grounded in conflict resolution, social & environmental awareness, good values and ethics, has a good balance of e-learning by doing, entrepreneurship, student field attachments, student extension models, internships, and university-industry linkages, the much needed transformation in academic institutions, in the agricultural sector and in the world could be achieved.
- 4.1.4 Young people can only be successful if they like what they are doing, receive mentorship and have role models. The only way to create prosperity is through entrepreneurship and this needs skills development & change in curriculum, policies that promote innovation, productive youth to be proactive and to bring their creativity & energy to the sector.
- 4.1.5 Promoting factors for youth Agripreneurship include: youth agriculture empowerment programmes, training in agriculture combined with entrepreneurship, availability of immediate resources to fulfil basic needs, and inheritance or support from parents and other benefactors.
- 4.1.6 African governments have to create a conducive environment for agripreneurship, the need to decolonize universities, and support skills oriented training to enable universities serve as catalysts in the development process needs urgent attention.
- 4.1.7 In order to interest youth in agriculture, there is need to: host youth focused outreach and agri-business incubation centres in universities; adopt modified attachments which allow students to have longer periods of attachment to industry after the final year of their studies; internationalize academic programmes in Universities; and, developing & maintaining strong linkages with industries and other sectors of the economy for co-creation of knowledge and job creation. Using the model of China, and Korea universities in Africa could endeavour to shift disciplines from mono- to multi-disciplinary programmes and transform to human value orientation.



- 4.1.8 Creating opportunities and making agriculture attractive for the youth requires Government commitment in the form of policies that support entrepreneurship, projects related to agriculture in different value chains, digital technology, incentives for start-up and creating a business mind-set.
  - 4.1.9 Whilst advocating for increased investment in Youth, the fourth industrial revolution needs to be considered by ensuring that the Youth have the right digital skills to guarantee that they fit in the world of work; and further embrace climate-smart strategies and green recovery, global health crisis, and the sustainable development goals.
  - 4.1.10 Rebranding of the TVET sector needs to be undertaken to improve Youth perception of TVETs, taking on the example of the African Development Bank working on skills development within an industrial park model to identify skills that industries within the park need, and establishing how Governments can support the parks to quickly reskill/skill the youth who should be employed in the established industries.
  - 4.1.11 Attractiveness of technical training centers towards the Youth need to be enhanced through bolstering the infrastructural capacity, hiring qualified trainers and instituting a formal timetable with which the Youth can engage. This will ensure that youth attain the skills that they are interested and committed to realize success.
  - 4.1.12 In order to improve the livelihoods of vulnerable communities, well-designed and inclusive social protection programmes are required. Social protection programmes should be coherent, simple, flexible, and facilitate market participation. As such, social protection programmes should be well aligned with the attributes of holistic development which does not disaggregate between, gender, education, race or socio economic background. It is with this spirit that most social protection programs should have a special focus on women, out of school youths and TVETs for agri-food systems development. Young people have to be included in the agricultural transformation process.
- 4.2 Strengthen collaboration and mutual learning to spur innovation and industrialization for economic transformation in Africa**
- 4.2.1 Universities' research agenda and processes should focus on solving sector specific problems and ensure that farmers are actively engaged in the research process to help define their futures. Further, investment in research is required to better support the entrepreneurship processes especially in the agricultural sector.
  - 4.2.2 South-south partnerships and south-north partnerships and business growth opportunities have to be strengthened to promote knowledge, increase capacity, enable resourcing of initiatives, and assist in the creation of entrepreneurial eco-systems within and across the African food system.
  - 4.2.3 Entrepreneurs need to develop winning strategies including the skill and art of 'acting local and thinking global'. This is crucial, entrepreneurs should be aware of the challenges that face the communities of which they are a part, food insecurity, changing climate, gender inequality and poverty, seek to create businesses that create a good future for themselves, but also support their communities as an integral part of their business model, while at the same time, seeing the connections and potential for their businesses on a much larger scale.
  - 4.2.4 The power of connectivity needs to be strengthened and exploited. Relationships need to be developed and enhanced to shift them from 'silo thinking' and promote the potential of developing multi-disciplinary approaches, bringing strengths from different sectors to create the answers needed to address fundamental issues affecting entrepreneurship growth and business success.



#### **4.3 Strengthen university-private sector business linkages**

- 4.3.1 Youth employment opportunities cannot be increased without working with the private sector. Private sector and education & skilling institutions need to be interconnected given the fact that Private sector entities have the employment opportunities whereas education & skilling is key in supplying human resource. Private sector need to be engaged in developing the curriculum and deliver it to the young people with the right skills to enable them access dignifying and fulfilling employment.
- 4.3.2 Private sector seeks to see universities become more practical with greater public-private sector engagement and partnerships. This will define the future of entrepreneurship within the universities, incubators and/or in the private sector.
- 4.3.3 Mapping of skills sets demanded by the private sector needs to be undertaken whilst considering the needs and interests of the Youth. The private sector can be invited to the institutions to deliver career talks, provide mentorship, internships, job placement and create an interaction environment where the education and skilling is not working in silos but working directly with the employers. This will significantly reduce the transition to work period for the Youth and further enable Youth attain meaningful employment rather than engaging in remedial jobs.
- 4.3.4 Universities should design new curricula based on market needs and recent technology and adopt learning by doing approach in curriculum delivery including supporting incubation programmes to turn ideas into start-ups for products and services generation.
- 4.3.5 Universities need to ensure that Intellectual Property goes beyond peer reviewed publications and by increasing private sector partnerships. Deliberate efforts need to be made to ensure collaboration between governments and the private sector to support fund research at the universities. Universities further have to strengthen collaborations with the private sector.

#### **4.4 Partnerships, policy engagement and promotion of international linkages for excellence in higher education**

- 4.4.1 Partnerships among policy makers and academia, within and outside the African continent are critical for achieving continental and national targets in higher education, science, technology and innovation. Currently, Africa is struggling with a weak policy environment and low funding. The policy environment could be strengthened by having a set of guidelines for regular engagement of academia with policy while adapting context specific approaches.
- 4.4.2 Building on the already existing bilateral meetings with policy makers during RUFORUM events, we should build a relation with government through a structured consultative dialogue that meets yearly or every two years – with invitation of other Value chain actors to discuss priorities of governments/ universities/ farmers/ private sector – agreeing on a road map but also to give relevance to the role of RUFORUM. In Europe, universities back-stop policy makers and policy negotiations such as WTO and RUFORUM can support cross-learning with involved universities.
- 4.4.3 Intra-Africa collaboration needs to be boosted for the success of e-Learning in higher education across Africa. There was also need for curriculum review and harmonization of partnership which identifies mutual benefit for a sustainable collaboration
- 4.4.4 Several global and continental partnerships such as the EU-AU research and Innovation partnership on Food and Nutrition Security and Sustainable Agriculture (FNSSA), international research consortium in FNSSA, among others, provide opportunities for funding under calls such as the HORIZON Europe.
- 4.4.5 Commitments of Development Partners such as the Mastercard Foundation to enable marginalized communities obtain dignified work through financial inclusion; and to find

opportunities for young people have been fundamental. Programmes such as the RUFORUM-implemented Transforming Agriculture Growth for Development (TAGDev), that are motivated by the need to transform agriculture, to reach out to the huge youth population by teaching them entrepreneurship and leadership, and to help youth find opportunities have proved effective and could be ripe for scaling-up.

- 4.4.6 For sustainability, the interconnectedness of rural development and social protection requires a multi-sectoral and cross-cutting approach. The linkage with all players provides an opportunity for policy makers at the highest level, together with academia, farmers, civil society and development partners to reflect on social protection interventions and their influence on all undertakings or policy decisions for rural development. Regional and national programmes could take advantage of the tool for integrating social protection in annual projects currently under development by the African Development Bank.
- 4.4.7 Given that different countries and institutions are at different levels with respect to ICT application in education, online content needs to be developed for sharing across universities and other institutions including TVETs. In different countries, there are islands of success that are worthy sharing for greater impact across the Continent.
- 4.4.8 To enable student enrolment with TVET institutions, scholarship opportunities need to be provided to TVET students given the limited opportunities currently available. This will further enhance interactive working relationships between university and TVET students.
- 4.4.9 Emphasis on gender equality needs to serve as a guide-post for collective efforts to achieve gender equality in all human activities and social advancement.

#### **4.5 Catalyse investment in higher education for human capital development in Africa**

- 4.5.1 To foster science technology and innovations, African Governments need to be the facilitators in the adoption of policies conducive to the development of ST&I to ensure that talented Women Scientists are inspired and recognized. Africa further needs to be active in the generation of knowledge at the global level rather than being entirely consumers of knowledge, as this will be key in generating development solutions tailored to the African Continent
- 4.5.2 In order for universities to transform, Government support, through grants, is critical. Additionally, universities will not transform in the absence of transformational leadership in which a leader inspires, is a role model and drives followers to the vision, while maintaining good chemistry and having good professional networks.
- 4.5.3 Because rural agricultural development and social protection are strongly linked, there is an urgent need to invest in agriculture and to link investments to social protection programmes. Specifically, there is a need to invest in agricultural inputs and finance for farmers in rural areas in order to reduce poverty. This calls for the adoption of innovative financing models and dedicated budget lines to fund social protection programmes.

### **5.0 MEETING CONCLUSIONS AND RECOMMENDATIONS**

- 5.1 Given the dominance of subsistence agriculture on the continent, characterized with utilization of the hand hoe, it is extremely difficult to convince African Youth that agriculture is indeed their future. Measures of creating a new vision for African agriculture by RUFORUM and member universities needs to be undertaken.
- 5.2 Global challenges are unpredictable and thus the RUFORUM of 2004 will not be able to deliver in 2030. The RUFORUM of 2030 needs to focus on becoming the leading repository of information and knowledge on best practices and partnerships' promoting and facilitating exchange among members of the Network; the strong voice for transformation and positive

change in the education and agricultural sectors; and, the most highly sought after Network on Agricultural Education.

- 5.3 RUFORUM has a role to play in strengthening research in the countries, networking and assisting universities in searching for funding for research. Together, the African Youth, African Women and African Universities can achieve the much-needed transformation. There is need to enforce transdisciplinary research in order to ensure generation of cadres that are development oriented for enhanced agricultural productivity.
- 5.4 Youth can play a key role and contribute to economic development, warranting the need to train Youth through a competence-based approach where students are the focus whilst embracing agribusiness incubation and acceleration.
- 5.5 The COVID 19 pandemic proved that Africa has the potential to develop home-grown solutions to tackle several challenges that may emerge. The Youth only need a conducive environment in order to bring up the difference. This however requires support from member governments with respect to funding as well as the need for universities to undertake research.
- 5.6 New actions to deliver on the Africa we Want include: envisioning a new Africa (decolonized mind-set, value for what is African and active player for better Africa) involving all stakeholders; envisioning a new education (industry-focused, technology-enabled, market-driven and inclusive) involving several actors including academia, private sector, civil society and development agencies; and, envisioning a new agriculture (commercial, sustainable, industrialised, highly productive, profitable, competitive and market-oriented) involving several actors including academia, private sector, civil society and development agencies.

*The Conference further recommended that:*

- 5.7 Global partnerships be fostered to develop more sustainable, inclusive and resilient food systems that consider the needs of smallholder farmers, the youth and women.
- 5.8 The RUFORUM Charter be endorsed through the respective country procedures to engage RUFORUM as technical advisory agency in the design and implementation of Higher Agricultural Education, Science, Technology and Innovation Initiatives; and, support the strengthening of TVET systems and educational value chains in Africa.
- 5.9 Investment in youth programs be undertaken to advance requisite technical skills, entrepreneurship and uptake of digital solutions to expand innovation and employability
- 5.10 Production fundamentals including research and innovation and foresight capacity be strengthened to direct how resources are leveraged production resources, generate relevant technologies, test and incubate, and transfer and protect the Intellectual Property Rights (IPR) of these technologies and the work of academia
- 5.11 Deliberate efforts be undertaken to ensure collaboration between governments and the private sector to fund research at the universities. Universities further have to strengthen collaborations with the private sector
- 5.12 Research needed to be focused on areas of priority as delineated by governments
- 5.13 Agricultural programmes taught at the universities needed to consider the new reality of job creation
- 5.14 Given the youth bulge that is expected at 40% by 2030, there was need to heavily invest in African higher education infrastructure
- 5.15 RUFORUM needed to consolidate and accelerate its growth as it matures through decentralized coordination and management of operations considering the African Union regions.
- 5.16 There was need for accelerated teaching, learning and research through making use of: academic, research and innovation stables supported by adjunct professors and co-

appointments; cost-leveraging (with regional and or “themed” centres of leadership); and, digital acceleration for research, outreach, teaching and learning

- 5.17 Teaching, learning and research be accelerated through making use of: academic, research and innovation supported by adjunct professors and co-appointments; cost-leveraging (with regional and or “themed” centres of leadership); and, digital acceleration for research, outreach, teaching and learning
- 5.18 Climate change proofing be ensured through adaptive agriculture to feed Africa and expanding energy for development with focus on renewable energy; undertaking policy research for thought leadership in topical futures and strategic areas; and, developing home-grown solutions with focus on a more integrated R4D agenda-one world one health; and, a balanced R4D agenda (strategic to applied research agendas)
- 5.19 Mind-set change and prioritizing investment towards the development of fully and well-coordinated ST&I ecosystem be fostered to link research taking place in the academic institutions and the human capital development which are linked to industry and investment.
- 5.20 Focused programmes be developed to ensure that innovations emerging from universities translate into economic development and jobs. This is due to the apparent large gap that exists between innovations that emerge from the universities and the transition to commercially viable products on the market.

## CONFERENCE PROCEEDINGS

### Background

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a pan African organization of 147 universities in 38 African countries. It is an impact oriented network of universities that seeks to strengthen the capacities of universities to foster innovations that are responsive to demands of smallholder farmers. This is achieved through training of high quality researchers, impact oriented research and collaborative working relations among researchers, private sector, farmers, national agricultural research institutions and governments. Over the last 18 years, RUFORUM has demonstrated significant contribution to Africa's development agenda as espoused in the Comprehensive Africa Agriculture Development Programme (CAADP), Science, Technology and Innovation Strategy for Africa (STISA 2024), Science Agenda for Agriculture in Africa (S3A) among others. Since the declaration of the Agenda 2063 in 2015 during the 24<sup>th</sup> Ordinary Session of the African Union Assembly in Addis Ababa, Ethiopia; the RUFORUM network has taken bold steps towards an integrated, prosperous and peaceful continent whose citizenry are critical players and active global players. As such, RUFORUM network supports Africa's transformation agenda and continues to strive towards an accelerated attainment of the Agenda 2063. Cognizant of the unique role that the Higher Education Sector in particular universities play in achievement of both national, regional and global development aspirations, the Seventh African Higher Education Week and RUFORUM Triennial Conference was held 6-10 December 2021 in Cotonou, Benin. The conference held under the theme *Operationalising Higher Education for Innovation, Industrialisation, Inclusion and Sustainable Economic Development in Africa: A Call for Action*", brought together 2401 participants from 46 countries with 901 physical (40% female) and 1,500 virtual participants. Participants were drawn from diverse sectors including universities, Civil Society Organizations- CSOs, national and international research organizations, development partners, and governments, continental and regional organizations.

### Introduction

Africa has seen tremendous growth in the last decade. However, living standards continue to remain low for many people, especially in Sub-Saharan Africa. Further, a widening inequality that is leading to erosion of social cohesion in many countries is on increasing trend. This calls for a more inclusive and sustainable model of growth and development. The Sustainable Development Goals are crafted with a fundamental principle of leaving no one behind. Realizing this principle requires that poverty eradication is accelerated, and that fairer income distribution and social progress over the next ten years are sustained. This also requires that decent employment is generated through advancement of innovations and the transformation of production, export structures and services in Africa. Education has a catalytic function in increasing form, function and competitiveness of economies by driving innovation, skills and productivity, leading to expanded employment and opportunities. Further, education is one of the most important denominators for reducing poverty, as it provides an equalizer and inclusion opportunities across individuals, communities and countries.

A growing and inclusive economy is critical for delivering income and employment to all people regardless of gender, ethnicity and race, among others. Quality jobs are an important facet and enabler for affording basic needs, as well as building wealth. Africa, under the recently launched African Continental Free Trade Area (AfCFTA), exposes a GDP of \$3.4 trillion benefiting an estimated 1 billion people. For Africa and its people to benefit from the opportunities the AfCFTA brings in this decade, innovation, skills, entrepreneurship, and responsiveness of institutions will be critical for success to happen. Higher education and particularly universities are at the forefront of shaping and delivering innovations, skills, and entrepreneurial graduates. However, universities in Africa need to do more to rapidly achieve technology integration and human capital investments that are essential for enhancing productivity and economic performance.

African universities under the Regional Universities Forum for Capacity Building in Africa (RUFORUM) network, recognised the inherent contribution universities play in development and appreciate the gaps within the higher education sector that need to be addressed to support the

continent's development needs. Accordingly, in 2018, the African universities adopted the African Higher Education, Science, Technology and Innovation Strategy (AHESTI) as a guiding framework for strengthening universities' contribution to Africa's development. The 2018 Ministerial meeting held at the Sixth Africa Higher Education Week and RUFORUM Biennial Conference challenged African Universities to develop regional investment programmes for enhancing human capital development. African universities responded to this call with five continental initiatives notably (i) the Strengthening Higher Agricultural Education in Africa (SHAEA); (ii) Building Africa's Science, Technology and Innovation Capacity (BASTIC); (iii) Strengthening Africa's Innovation and Entrepreneurship Capacity (SASTIE); (iv) Regional Initiative to Strengthen Staff Capacity and Increase the Pool of Women Scientists in Africa (RISSCAW); and (v) the African Digital Agricultural Platform (AfriDAP). While these initiatives respond to the requisite human capital needs, skills and innovations required for Africa's economic development, they must be operationalized to realize the intended outcomes.

### **The seventh Africa Higher Education Week & RUFORUM Triennial Conference, 2021**

The Seventh Africa Higher Education and RUFORUM Triennial Conference was set under the theme *"Operationalizing Higher Education for Innovation, Industrialization, Inclusion and Sustainable Economic Development in Africa: A call for action"* that responded to the urgent needs for the African governments, development partners, private sector and citizenry to take actions to invest in higher education. The Triennial conference was convened with the following objectives:

1. Catalyse investment in Higher Education for human capital development in Africa;
2. Promote international linkages and partnerships for excellence in Higher Education;
3. Strengthen collaboration and mutual learning to spur innovation and industrialization for economic transformation in Africa; and,
4. Promote youth employment and skills acquisition for development  
Strengthen University-Private sector business linkages

### **Triennial conference approach**

The First RUFORUM Triennial Conference and Seventh African Higher Education Week was held in the Republic of Benin at *Centre International de Conférences et Palais des Congrès de Cotonou, Benin* from 6-10 December 2021. The five-day conference brought together policy makers including Ministers and Technical Experts, Higher Education Leaders in Africa, development partners, private sector leaders, researchers, innovators, students, and farmer organisations, among others. The Conference attracted 2401 participants from 46 countries with 901 physical (40% female) and 1,500 virtual participants; 23 pre-conference meetings and side events; and, eight (8) meetings of the RUFORUM statutory organs. The details of the side events and plenary sessions are as indicated in the next session.

### **Conference themes for high level distinguished plenary sessions**

1. Mapping Progress in Agriculture in Africa
2. Building Africa's Science, Technology and Innovation Capacity

### **Conference Sub-Themes for Posters & Parallel Scientific Sessions**

1. Transforming Research and Community Connected-ness to Enhance Rural Agricultural Transformation
2. Enhancing Sustainable Agri-food Systems Productivity
3. Improving Value Addition and Post-harvest Management Practices to Strengthen Agri-food Systems and
4. Enhancing Natural Resource Sustainability and Environment Health
5. Harnessing Digital Technologies for Teaching, Research and Agricultural Extension Delivery
6. Strengthening Entrepreneurship for Youth Employability and Agribusiness Development

### **Conference Sub-Themes for Technical Sessions**

1. Interdisciplinary Training for Postgraduate Students
2. Scientific Writing and Presentation Skills for Postgraduate students
3. Entrepreneurship and community, curriculum review and development through Agri-engage
4. Content review and development of eLearning course modules
5. Symposium: Global Partnership for Higher Education in Africa
6. Meeting of Governments' Technical Experts
7. Enhancing the knowledge economy through University-Private Sector Engagement
8. Side event: Virginia Tech: Launch of the Global Agriculture Productivity (GAP) Report
9. Positive youth development
10. Problem Based Learning interaction with the Principals and Deans
11. Role of Private Sector, Policy and Farmer Organizations in the proposed EU-Africa International Research Consortium on FNSSA
12. Country / Policy dialogues
13. Reflections on Promoting inclusivity in R&D in Africa
14. Evaluating the Impact of Entrepreneurship in Agribusiness Training

### **Conference organization**

With the recognition that the previous RUFORUM conferences have mainly been hosted in Southern and Eastern Africa, the 2021 Africa Higher Education Week and RUFORUM Triennial Conference was held in the Republic of Benin, West Africa. The Triennial conference and related events were co-hosted by the Government of Benin through the Ministry of Higher Education and Scientific Research, University of Abomey-Calavi, the University of Parakou, National University of Agriculture and RUFORUM Network. Hon. Abdoulaye Bio Tchane, Minister of State in charge of Development and Coordination of Government Action, Benin graced the conference.

### **Conference organizers**

#### **Ministry of Higher Education and Scientific Research-Republic of Benin**

The Ministry of Higher Education and Scientific Research (<https://enseignementsuperieur.gouv.bj/>) is one of the 24 ministries of the current government of the Republic of Benin. It plays the overarching role of leadership, guidance and quality assurance to higher education and research related entities in Benin, such as the four interdisciplinary and thematic universities in Benin, the General Directorate of Higher Education, Benin Agency for valorization of research outputs and innovations, the National Funds for Scientific Research, Technology and Innovation, among others.

#### **University of Abomey Calavi**

University of Abomey Calavi (in French: Université d'Abomey Calavi; <https://uac.bj/>) was established in 1970 as "University of Dahomey", which became the National University of Benin in 1975, with a vision to promote equality and equity and produce quality human resources and research outputs adapted to the needs of development of the country and nations. Currently, the University of Abomey-Calavi has 32 training establishments and 86,694 registered students. It is a multi-disciplinary institution, which provides training leading to officially recognised higher education degrees such as certificates and diplomas, bachelor degrees, master degrees, doctorate degree in various disciplines such as health, agricultural sciences, arts and humanities, law, economics and business. It has considerable Africa-wide and international partnership projects that contribute into the realization of its mission and vision

#### **National University of Agriculture**

National University of Agriculture (<http://www.una.bj/>) is a thematic university recently established by the Government of Benin to provide training in Agriculture from undergraduate to postgraduate level. It has a General Agronomy Cycle and 10 schools, notably, (i) school of science and techniques for food preservation and processing; (ii) School of plant and seeds production; (iii) school of animal husbandry systems; (iv) school of agricultural engineering; (v) school of tropical forestry; (vi) school of horticulture and management of green spaces; (vii) school of aquaculture; (viii) school of



agribusiness and agricultural policy; (ix) school of rural sociology and agricultural extension; (x) doctoral school of agronomic sciences and water. The mission of the UNA is to ensure the adequacy between research, training and employment in the agricultural field and the development needs. It aims to stimulate and support the development of a strong agricultural economy and is committed to creating a new generation of scientists and technicians capable of promoting technological innovations.

### **University of Parakou**

The University of Parakou (<http://www.univ-parakou.bj/>) is a multi-disciplinary university in the Republic of Benin, with the following missions: (i) produce specialized executives for the needs of the economic, social, intellectual and cultural development of the Nation; (ii) participate in the development of scientific, fundamental and applied research; (iii) provide training that meets the needs of the job market and that takes into account the constraints and context of globalization; (iv) link teaching and research to productive work; (v) promote and strengthen the adequacy of the training of students to the requirements of development and professional life; and (vi) ensure continuous scientific, technical and technological development of the nation through active cooperation between training and research establishments and companies, both at national and international levels.

### **Regional Universities Forum for Capacity Building in Agriculture**

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a network of 147 universities in 38 African countries. It was established in 2004 to (i) foster integration of African universities into the national agricultural innovation systems; (ii) provide a platform for training quality graduates to support development processes in Africa; (iii) rationalize resource use and enhance economies of scale and scope; and (iv) provide a platform for networking, resource mobilization and advocacy for agricultural higher education in Africa. RUFORUM envisions ‘vibrant, transformative universities to catalyze sustainable, inclusive agricultural development to feed and create prosperity for Africa’. The RUFORUM Network has been making significant contribution towards Africa’s development through its transformative agenda for Agricultural Higher Education, Science, Technology and Innovation, in line with Agenda 2063, the Comprehensive Africa Agriculture Development Programme (CAADP), the Science, Technology and Innovation Strategy for Africa (STISA 2024) and Science Agenda for Agriculture in Africa (S3A).

**Day one: Sunday 28<sup>th</sup> November, 2021**

**Session 1: Proposal Development: Responding to the French call**

**Venue: UAC- Houdegbe**

## **Background**

Since 2017, the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) has been implementing the Community Action Research Programme (CARP+) and Field Attachment Awards (FAPA) with support from the Mastercard Foundation, the Bill and Melinda Gates Foundation, Food and Agricultural Organisation of the United Nations and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) among other development partners. The CARP+ projects were developed to move universities to work more closely with rural communities through multi-disciplinary and multi-institutional partnerships involving research, extension and development agencies, policy-makers, the private sector and Tertiary, Vocation Education and Training (TVET) institutions. The ultimate expected result is the co-creation of innovations that solve rural and national development challenges without another process of technology transfer. The Field Attachment Awards (FAPA) programme was developed to immerse fresh graduates into communities to disseminate their research findings and provide a platform for them to appreciate the rural community challenges and work with the community to develop solutions.

After three years of project implementation, a review of the implementation of CARP+ and FAPA identified lessons that need to be considered if these two programmes are to achieve their intended objectives of transforming African agricultural universities to contribute to rural and national development. For CARP+, it emerged that institutionalisation of this approach to research is necessary. While Directorates of Research and Graduate Training and Research Strategies exist, a deliberate effort is necessary to ensure that this is accepted as a tested approach to innovation at university level. This will require sensitisation and training of researchers and university leaders to adopt this new approach to research. From FAPAs, it emerged that for sustainability, the dissemination needs to be integrated into the curricula and all students supported to undertake it if innovative, entrepreneurial change makers with passion for job creation and community transformation are to be produced. For sustainability within institutions which have implemented CARPs and FAPAs, resource mobilisation is important for institutionalisation of these programmes and training other staff and university leaders to adopt the same. For scaling out, RUFORUM has focused on dissemination of lessons learnt, best practices and challenges through online print media, social media, publications and physical conferences that bring together its members. While this works to get the information out, it leaves it to discretion and availability of resources at the recipient institutions. For more concrete results, RUFORUM adopted the approach of identifying funding opportunities, sharing the lessons learnt from the Programmes and facilitating the non-direct funds recipients of the programme to develop projects that deploy the lessons learnt in other institutions. Such funding opportunity identified is Erasmus+ Capacity Building in Higher Education funded by the European Commission's Education, Audio-visual and Culture Executive Agency

## **Context of the training course**

Being in an early stage of career, it was time to explore the possibilities of applying the skills acquired through training and the first research projects undertaken. Whereas a classical career in research would encompass deepening in a field of specialisation — often the one of the PhD training or the one of the first employer — in order to become a subject-matter specialist, the correlation with other specialisations, other domains and current or future societal needs is often neglected or suppressed in a twilight zone. Apart from curiosity-driven research, research can also be founded on demands from a wide and varied spectrum of stakeholders across society.

Today's demands for scientific and technological solutions are piling up, ranging from understanding the effects of climate changes and knowing how to control or adapt to these changes, exploring ways

to maximise yields with as little (in)organic inputs as possible, diversifying agricultural produces for economic and health reasons, to genetic engineering and automatised processes along agricultural value chains. Solutions requiring scientific support are put on the political agenda because of their emergency nature at various levels in society or of concerns about the planetary health. The third decade of this century is characterised by a hunt on evidence-based solutions in a high gear with the accompanying request for quick delivery.

A 21<sup>st</sup> century researcher must be equipped with more skills than those received during training at tertiary education institutes. Responding adequately to societal needs means upgrading of the specialisation glasses to a 360° multi-layered lens with zooming in/out features. But though the demand for science-based solutions was high, the availability of research funds to identify solutions was limited and fragmented, resulting in tough competition among scientists. To survive in this research desert required adaptive skills, networking and systems thinking. Not surprisingly, the world is talking nowadays in terms of Sustainable Development Goals (SDGs), food systems and agricultural transformation processes. Hence, it was time to adapt to the evolving policy environment.

### **Aims and objectives of the training course**

The overall aim of the training course for Early-Career Scientists (PhDs and Postdocs) was to enhance their skills in developing project proposals for academic purposes and responding to calls for grant proposals issued by national or international donors. The training presented an opportunity for participants to leave their comfort zone, zooming in and out on their area of expertise, exchange ideas with peers from various disciplines and team up to produce proposal deliverables within a condensed timeframe.

### **Approach and methodology**

The 5-day virtual training was a facilitator-led meeting and in order to allow for active engagement, the facilitator used plenary sessions, group work (in- and outside training hours) and peer review. The use of visual aids including PowerPoint presentations and videos enabled revisit to the training materials.

All invited participants fully engaged in the 5-day virtual training course which was subdivided into the following sessions:

- i. The first day was used to introduce the participants and the concept of project cycle management, research cycle management and society-wide thinking, followed by the analysis of an ongoing Call for research proposals (Fund for Innovation and Development, FID). Groups were identified to form project-proposal-partnerships (PPPs) around agreed research themes.
- ii. The second day, the analytical tools ‘Situation analysis’, ‘Needs assessment’ and ‘Stakeholder analysis’ was introduced, after which the PPPs applied these tools on their research project. The day was completed with a peer review session on the produced deliverables of a selected number of PPPs.
- iii. The third day, the analytical tool ‘Problem analysis’ was introduced, after which the PPPs applied this tool on their research project. The day was completed with a peer review session on the produced deliverables of a selected number of PPPs. As homework, the PPPs determined the problems to be tackled in their research project.
- iv. The fourth day, the research problems and related questions of a selected number of PPPs was formulated and plenary discussed. Hereafter, the concept of the ‘Logical Framework’ was introduced, after which the PPPs applied this design tool on their research project. As homework, the PPPs completed the Logical Framework of their research project.
- v. The fifth day commenced with a peer review session on the produced Logical Frameworks of a selected number of PPPs. Hereafter, the participants were challenged to discuss on common project management language and the role they play as a project member within the project, and on sustainability, risk analysis and time management. At the end of the day, a roadmap was made whereby the PPPs completed the Logical Framework of their research project, as well as the full application form within an agreed time frame. Instructions to complete the application form were provided too.

After the training course, the PPPs elaborated on the full proposal and drafts of the full proposals were to be sent to RUFORUM and the trainer for comments. Hereafter the proposers were to submit their proposals to FID.

For participants from Benin, there was an opportunity to finalise their project proposals and hold peer review sessions on proposal drafts during 4 days at RUFORUM's triennial conference in December 2021 in Cotonou.

The exchange of experiences and ideas, and the various interactions were very useful for the improvement of understanding the various angles of a research project from the point of view of a donor, a researcher and beneficiaries in the sphere of societal relevance with the ultimate goal to satisfy societal needs and to contribute to inclusive and sustainable development.

## Outputs/ outcomes

### Summary

RUFORUM choose the French *Fund for Innovation and Development (FID)* – Open Call for Proposals (no submission deadlines) to focus the training workshop on. Two training workshops were planned, a virtual one in November 2021 (see facilitation report of 14 November 2021) and a second physical one at the University of Abomey-Calavi in Cotonou, Benin.

The programme of the Cotonou workshop was organised around plenary presentations by the facilitator, group work, individual group support by the facilitator and plenary peer review sessions. The preparation by the participants prior to the workshop was meagre: they had only a rough idea about a proposal topic. However, very few of the participants had studied the call documents, but none had grasped the meaning of the innovation stage of a project. All proposal ideas did not align with any of the stages dictated by the donor. Attention was paid to aligning the proposal ideas with the Call requirements, understanding the contents of the application form, assuring the quality and completeness of information provided, focusing on the uniqueness of the proposal and its partnership, and above all, to producing a sound structure of the project to serve as a basis to populate the several parts of the application form, as well as to implement the project itself. Several tools to assist in the building of the project were presented and these were highly appreciated.

For all participants, this workshop was seen as a great assistance in developing a proposal for the FID Call. Some of the participants also had (partially) participated in the previous virtual training workshop, but that workshop did not allow them to learn enough or work productively in the break-out groups. The physical workshop was experienced as much better and more impactful to them.

The analysis of the Call made the participants aware of the importance of both the Call documentation and the eligibility requirements for the applicants and partners. The expectation from the beginning of the week as to have the proposals at a fairly advanced stage by the end of the week was not met. As the Call does not have a specific deadline for the submission of proposals, and with the information generated and the gaps in background information identified during the workshop, the participants were equipped to further prepare and populate the application form.

It is unclear to assess whether the attendants have improved their skills in developing an (innovation) project proposal. The deliverables have been of a limited quality. The engagement level of the attendees was much higher than at the previous virtual workshop.

As part of the follow-up of the workshop, RUFORUM has stimulated the proposal teams to further develop their proposal. To date, not a single proposal was submitted to the facilitator for reviewing purposes.

### Context of the training workshop

#### Background

The facilitator was invited by the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) to facilitate / moderate a 'write-shop' (28 November – 1 December 2021; see Annex 1)

to draft proposals for submission in the French Fund for Innovation in Development (*Fonds d'Innovation pour le Développement*; FID) Call for Proposals. This training workshop was part of RUFORUM's Triennial Conference site events. Although the training was destined for the French-speaking participants, in particular those from Benin, there were also participants from Uganda. The principle language used was French.

The overall aim of the training course for Early-Career Scientists (PhDs and Postdocs) was to enhance their skills in developing project proposals for academic purposes and responding to calls for grant proposals issued by national or international donors. The training presented an opportunity for participants to leave their comfort zone, zooming in and out on their area of expertise, exchange ideas with peers from various disciplines and team up to produce proposal deliverables within a condensed timeframe.

The FID was a perfect opportunity to support scaling out and sustaining best practices and lessons learnt from CARP+ and FAPA because their aspirations fit into FID's objectives:

- i. To encourage and facilitate innovation, from wherever it might come.
- ii. To accelerate global innovation in the fight against poverty and inequality.
- iii. To rigorously evaluate new ideas through collaboration with the research community.
- iv. To support the scale and widespread deployment of the best solutions.

FID accepts applications:

- i. For innovations in any sector, but applications for innovations in Education, Health, Climate change, and Gender equality are specifically encouraged. The other sectors are: Agriculture, Democracy and Governance, Energy, Humanitarian Assistance, and Other.
- ii. For innovations in all low- and middle-income countries, and specifically encourages applications from the priority countries for French aid in Sub-Saharan Africa: Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, DRC, Djibouti, Ethiopia, Gambia, Guinea, Liberia, Madagascar, Mali, Mauritania, Niger, Senegal, Togo.
- iii. from nearly any type of applicant (independently or in partnership with others), including: research institutes and HEIs; governments or public agencies; non-governmental organizations; and private, for-profit companies. FID specifically encourages applications from organizations based in, led by, and significantly staffed by people from low and middle-income countries; people who identify as women; and other marginalized populations. And: applications from consortia of multiple organizations are specifically encouraged.

Proposals for innovation projects from various stages with different grant sizes are eligible: preparing a proposal, piloting innovations, testing innovation for scaling, scaling innovation, and transforming public policies. The higher stage one chooses means also that the applicant must show a convincing track record of the previous stages.

Applicants were to choose from one of the following types of grants:

Stage type	Grant type		Grant (EUR)
<b>Stage 0 - Prepare</b>	These grants support small projects in the development of proposals for Stage 1, 2 or 3 grants for promising applicants who otherwise would have less opportunity to obtain funding from a competitive fund.		≤ 50,000
<b>Stage 1 - Pilot</b>	These grants support the piloting of innovations that are post-prototype and are ready to be piloted in the real world to refine the basic model and establish the viability of the innovation at small scale, including testing core assumptions around operational, social, and financial viability.		≤ 200,000
<b>Stage 2 - Test and</b>	These grants support further testing and continued growth of innovations to assess the likelihood that they can achieve		200,000 - 1,500,000

Stage type	Grant type		Grant (EUR)
<b>Position for Scale</b>	both impact and viability at a larger scale. Successful applicants will have already conducted successful pilot testing in a real-world setting.		
<b>Stage 3 - Transition to Scale</b>	These grants support the transition of rigorously validated solutions to widespread scaling, such as bringing a tested innovation to national scale or to new contexts, with the goal of eventually achieving widespread adoption in one or more countries. Stage 3 innovations will have a strong track record, including having already demonstrated rigorous evidence of causal impact and made a convincing case based on this evidence that the solution would be cost-effective at scale.		1,500,000 - 4,000,000
<b>Transforming Public Policy</b>	These grants support the institutionalization / accelerated adoption of specific evidence-based innovations with demonstrated cost-effectiveness and scalability into public policies at large scale; as well as proposals strengthening the capacity of low- and middle-income governments to design, test, pilot, and scale evidence-based innovations (e.g., the establishment of an evidence-based innovation lab in government or support for a government effort to collect and process data to evaluate the impact of social policies).		≤ 150,000

FID's core selection criteria are: Rigorous evidence of impact in improving the lives of people living in poverty (or a clear strategy for generating it); Cost-effectiveness of the innovation; Potential for scale, widespread adoption, and sustainability; and Implementation strength of the proposal.

### ***Objectives***

RUFORUM organised the write-shop which focussed on the submission of project proposals within the FID Call for Proposals (no submission deadlines).

The overall aim of the November 2021 workshops was to support project teams invited by RUFORUM to enable them to (improve and) write as well as to learn how to write project proposals in the field of innovation. The workshop would put attention on the funding requirements, as well as on the development of the project structure, the development and fine-tuning of the proposal sections, the compliance with the required contents of the application form, the eligibility of activities-partners-budget, project management, and the submission technicalities. These components would be addressed in individual group sessions, plenary sessions and peer review sessions. At the end of the workshop, it was expected that each proposal should have a well-developed structure and likewise contents enabling them to easily complete the proposal template in the days hereafter in readiness to submit. The workshop was held in both French and English.

### ***Logistics***

RUFORUM organised this workshop in collaboration with the University of Abomey-Calavi (UAC) in Cotonou, Benin through Zoom and invited all the participants. Logistical support was provided by Jolyn Runyararo and Selma Nghituwamhata.

### ***Participants and consortia***

Afew of the participants had studied the FID Call documents, but none in detail. It was remarkable to perceive that none of the proposal ideas fitted with any of the innovation stages dictated by the donor, although various groups thought they were eligible for a specific stage.

Overall, a total of approximately 50 participants coming from some 5 countries attended the workshop covering some 15 proposals. It is also unclear how many persons participated every day, but an average of 40 is estimated.

## **Implementation of the training workshop**

### ***Programme***

The Programme was organised around plenary presentations, group work and individual group support, and plenary peer review sessions. No agenda was given beforehand, but the proposal development items were presented on Day 1 and brought in depending on the pace of progress of the participants as well as on needs perceived in the following way:

#### **Day 1:**

- i. Opening (UAC and RUFORUM)
- ii. Introduction of the training workshop: structure and procedures
- iii. Analysis of project titles (plenary)
- iv. Presentation on writing a project proposal (plenary)
- v. Call analysis: background, objectives, eligibility, evaluation (study and plenary)

#### **Day 2:**

- i. Recap of Day 1
- ii. Situation analysis and Needs assessment: introduction (plenary), production (groups) and peer review (plenary)
- iii. Analysis of reformulated project titles (plenary)
- iv. Stakeholder analysis: introduction (plenary), production (groups) and peer review (plenary)

#### **Day 3:**

- i. Recap of Day 2
- ii. SWOT analysis: introduction (plenary), production (groups) and peer review (plenary)
- iii. Problem analysis: introduction (plenary) and production (groups)
- iv. Revisiting the FID Call for proposals (plenary)
- v. Analysis of reformulated project titles (plenary)

#### **Day 4:**

- i. Recap of Day 3
- ii. Problem trees: production (groups) and peer review (plenary)
- iii. Revisiting the FID Call for proposals (plenary)
- iv. Logical framework: introduction (plenary) and production (groups)

#### **Day 5:**

- i. Recap of Day 4
- ii. Logical framework: production (groups)
- iii. Risk analysis (plenary)
- iv. Evaluation / Closure (UAC and RUFORUM)

In several occasions, a peer review moment was held. The peer review approach aims to help with analysing contextual issues and is useful for strengthening the proposal set-up and contents as well as presenting and defending pertinent arguments, both for the peer-reviewed ones as well as for the peers. More groups wanted to present their deliverables, but because of a lack of time this was, unfortunately, not possible.

In between the plenary sessions and presentations, Gerard continuously passed each project group to guide them through the process of the proposal preparation, to provide clarifications when required and to observe their progress.



### ***Introduction***

Prof. Aliou Saïdou and Prof. Achille Assobadjo (UAC) and Dr. Runyararo Jolyn Rukarwa (RUFORUM) opened the workshop by welcoming everybody and stating the goal of the workshop. The attendees were made aware of the limited time available during the workshop. It was stressed to them to advance during the 5 days at each group's own pace. Each group would have to manage their own agenda and control the quality of their own production.

### ***Project titles***

Project titles were provided during the first day of the workshop and were analysed in a plenary session. It became clear that none of these titles were clear and that none of the topics fitted well in the eligibility criteria of the dictated innovation stages of the donor. Some groups reformulated their titles over the next days.

Because of the high number of proposal groups (c. 20), it was chosen to work with 6 groups during the workshop in order to have groups advanced, share deliverables in a time-controlled manner and have all people lean with the idea that afterwards, the acquired knowledge could then easily be applied at people's own projects.

### ***Presentation on 'Enhancement of proposal development skills for university staff – FID Call 2021'***

Gerard gave a (PowerPoint) presentation on how to write a proposal, focused on the understanding of the background of the FID Call for Proposals. The session was experienced as very useful.

### ***FID Call 2021***

On the basis of the guidelines and application form documentation, the participants were invited to mark with a green highlighter what they reckoned as objectives and expected activities, and with yellow as problems cited by the donor. Hereafter, in a plenary session Gerard presented the main components (objectives, conditions, requirements for participation) and also explained the completion of the application form. As a result, the structure of the Call was made visual and synoptic at a glance. It became evident that almost none of the participants had read the Call guidelines before they arrived at the workshop. Some relevant questions were raised principally with respect to goal-setting, partnership requirements, funding scenario's, eligibility and evaluation procedures. The session resulted in an improved understanding of the Call for proposals and even in modification of proposal topics in order to try to meet the requirements of the funder. The session was experienced as very informative and useful.

### ***Production of the proposals***

#### ***Presentations on the production of proposal development components***

At various intervals during the week, presentations of limited length were given by Gerard (see section 2.1) enabling the participants to focus in sufficient detail on the topics presented which would help them in understanding their importance to project development and their relevance to their proposal, but also in drafting text parts and in understanding their value in both the proposal preparation and project execution stages, as well as in the post-project period. These (PowerPoint) presentations were considered as very instructive and useful, copies of which were handed over to RUFORUM at a daily level for distribution by e-mail to all participants.

#### ***Situation analysis, needs assessment and stakeholder analysis***

After an introduction of the analysis of the current situation around the theme of the proposal, of the needs of the beneficiaries of the project and of stakeholders who are involved in or who can influence the project theme, the 6 groups prepared these analyses on flipcharts or on the computer. The visualisation of these topics helped the participants in getting an overview of the environmental foundations of the proposal which would help them in populating and adapting various sections of the application form.

Peer reviews took place at some groups whereby several shortcomings in the schemes were identified. The details in the schemes, however, were of a restricted level and often incomplete. The necessity of

these tools was understood, but the level of details needed more information gathering back home. The participants were aware that the stakeholder landscape around the project theme is not well known by them, nor are their constraints, needs and influences. However, the target groups the projects have to focus on – in line with the Call requirements - were not always clear to the groups themselves.

### ***Problem tree***

The 6 groups prepared the Problem trees related to their project intervention. The workshop required a lot of discussion time among the group members on what problems do exist around the project theme. All groups started from scratch. It also took considerable time before all of them understood how problems need to be formulated, but also how the trees need to be built up, how problems interrelate, which problems were missing, and how the trees need to be analysed, but once the concept became clear, they appreciated the newly acquired knowledge. They were aware that many problems have not yet been identified, which is certainly related to the fact that they do not know all the stakeholders involved around the project theme and their constraints/needs.

Several teams managed to describe the identified problems appropriately. In other teams, many of the identified problems remained of a (too) general nature. In general, it became apparent that there was a lack of detailed knowledge on the project environment. The groups that advanced less were the two English-speaking groups to whom the facilitator could not provide sufficient attention due to time limitations. Overall, progress was very slow with respect to the formulation of problems and the number of problems identified, partly related to the weakness of knowing the stakeholders involved and their constraints.

The peer review sessions – held with different groups - with discussions were found to be very helpful in properly focusing on the problem formulation and position in the tree.

### ***Objectives analysis***

The areas of intervention could easily be identified from the problem tree and so were the related objectives and activities.

### ***SWOT analysis of the partnership***

The SWOT analysis philosophy was introduced and its relevance within the proposal. It was chosen to produce a SWOT table on the partnership as to understand the internal and external forces that (can) influence the construction of the partnership and the implementation of the project. This would help in describing not only the relevance and quality of the partnership but also of the proposal itself. All groups prepared their SWOT table(s) and performed a more or less critical analysis of the contents. Because they had problems in drafting the diagram, both in completing the correct cells and the type of contents required, they were assisted in the development process and in the development and review of contents. Once the concept became clear, the participants became aware of the presentation and contents requirements. They would further develop the scheme back home in order to be sure that all items are mentioned and presented in the application form.

### ***Logical framework (Logframe)***

The necessity and way of completing the Logical Framework (Logframe) was introduced. Although found very interesting and useful, it took considerable time before the participants who started with this exercise understood the logicity and value of this tool, how a logframe needs to be built up, the level and completeness of detail, and how the cards / items need to be presented. But once the concept became clear, they appreciated the (newly) acquired knowledge.

Although the logframe was not a requirement in the FID call, the philosophy and logicity of the Logframe was explained in detail and how they would fit within the donor suggested 'work package types'. It was also explained how the information on expected results and their indicators need to be formulated, presented and numbered. A peer review session could not be held as at the end of the workshop the groups were not well advanced.

The issue of risk identification and management was introduced. This session was very much appreciated and new to many attendees. The necessity was stressed as to underpin the importance of understanding the project environment as well as of risk management being an integral part of project management. Risks cannot be underestimated and should be embedded in the daily activities of the projects and monitored by all project partners.

### ***Evaluation and closure of the workshop***

At the end of the workshop, the reactions of the participants about the workshop varied from good learning to useful.

The workshop was closed by UAC and RUFORUM. Emphasis was put on the learning aspects, but also on the obligation to finalise the drafting of the proposals and to submit. Those who are interested to have their final drafts screened by RUFORUM and the facilitator will be informed by RUFORUM if such an option is considered feasible.

### **Observations and recommendations**

#### ***Preparation towards the workshop***

The input of the participants and participating groups at the onset of the workshop was almost nihil. No thorough reading was done on eligibility criteria or type of project. Not even from those that also participated in the virtual workshop of November 2021.

#### ***Time management***

Although the days were supposed to start at 08:00h, this was not always the case. Every day, only a few arrived on time, delaying the start of every day. The days finished between 17:00 and 18:00h.

It was stressed that every group should manage its own time and define their own pace taking into account that they should have produced several deliverables by the end of the workshop.

When the groups were working on the various building blocks, they continually asked for the facilitator's support in providing clarifications and reviewing partial and end-products. The facilitator's constant paying of full attention was not possible to all groups for the simple reason that there were too many groups. Some groups patiently waited for the facilitator to be free to assist them. As a result, not all proposal building blocks could be introduced and worked out as planned.

#### ***Involvement***

All attendees were engaged throughout the 5-day training event and eager to listen, learn, discuss, share experiences and participate in the various working sessions. The interactivity and hands-on approach were very much appreciated whereby overall the treated topics were found relevant and interesting. Some participants were initially sceptical as they felt that the workshop building blocks did not really match the sections of the application form, although it was frequently mentioned that these building blocks serve the preparation of the project idea and concept before completing the application form. This training workshop proved that collective learning, sharing of ideas and open discussions are tools that help strengthening the collaborative development of a project proposal.

#### ***Number of participants***

Although the total number of participants was approximately 50, it is estimated that the average presence was around 40. It was decided to concentrate on 4-6 project proposal groups, but this proved to be too ambitious as mainly the French-speaking groups (4) required a lot of attention. Hence, the 2 English-speaking groups were less facilitated.

#### ***Project proposal development skills***

The non-application or unawareness of project proposal development tools such as presented in the workshop gives the impression that the concept of proposal development is weakly developed.

### ***Workshop methodology***

The components of the workshop: introduction, brokerage session, (PowerPoint) presentations, Call analysis, peer review moments, frequent topical presentations, production of proposal development tools, guidance at group level, and follow-up support were well appreciated, as well as the way how to interpret these components and produce proposal parts.

The workshop focused on the technical part of the proposal. For instance, the introduction of the stakeholders overview, problems and the logframe, three of the basic components which form the heart of the proposal, were much appreciated by the groups once they started working on it.

Providing relevant information in the various sub-sections of the grant application form should be done by simply responding to the guidance notes and analysing the produced proposal building blocks, but should also be expanded with the other recommended suggestions provided in the call for proposals' guidelines. This item was stressed in several occasions.

### ***Understanding the Call***

Each Donor and each Call for proposals has a specific focus and a specific language with specific jargon and eligibility and submission criteria. It is of utmost importance to grab these items and distinguish these with own perceptions and project ideas. This appears to be quite challenging for all the workshop participants as the Call documents were not thoroughly analysed.

### ***Workshop deliverables***

Advancements were made with drafting of the proposal sections, but not as much as one would have hoped for. This can only be explained to:

- i. Insufficient study of the Call documents,
- ii. Underestimation of the complexity of the Call.
- iii. Limited availability of time in drafting proposal parts prior to the workshop,
- iv. Late start in the mornings.
- v. Limited experience in analysing problems and the contextual situation around a project theme.
- vi. Limited knowledge of preparing and analysing problems, SWOTs, logframe, ...
- vii. Insufficient knowledge on developing a fully-fledged project.
- viii. Limited knowledge of mounting a proposal structure with a logical set of project activities.
- ix. Too many proposal groups to receive sufficient support from the facilitator.

The groups that advanced less were the two English-speaking groups to whom the facilitator could not provide sufficient attention due to time limitations as the French-speaking groups required considerable attention during the production of the various proposal development building blocks.

On the other hand, the information produced and shared during group discussions could easily be moulded into text parts of the application form.

Reflecting on the observations made throughout this report, the complexity in understanding and providing the required information and the absence of logical project development skills, may well be the causes of the limited production of the application form by the end of the workshop. Attention was primarily focused on producing the project skeleton which would serve the population of the application form. At the end of the week, the combination of group work, individual group reviews and plenary sessions were much appreciated by all participants.

### ***General observations***

This workshop has proven to be encouraging to the participants with respect to thinking about a project and developing relevant and quality components for a proposal.

In relation with all the comments made above, the concept of defining and understanding the interaction with target groups, beneficiaries and suppliers, and focusing on relevant results and

impacts, as well as the concept of mounting a proposal – either starting from scratch or hooking up on an existent idea – can in general be characterised as weakly developed by the workshop participants. The knowledge about and application of the full chain of events (from needs assessment to societal impact) is perceived as an ‘uncultivated’ or only partly ‘cultivated’ domain.

The presence of female participants during the workshop was low (c. 25%).

The acoustics of the workshop venue was poor, but the catering was excellent.

### ***Design of the event***

As the facilitation already starts before a workshop, clear instructive (mandatory?) documents – to be agreed upon by both facilitator and RUFORUM – should be sent to the participants prior to the event. This would already require a good understanding of the Call and its eligibility criteria.

A stricter time management for each proposal building block could be introduced by the facilitator, but this would imply some groups starting a next session ill-prepared if their previous building block was not completed satisfactorily. It has to be stated here that all proposal groups are always eager to finish a building block in reasonable to good shape, and that they always highly appreciate the opinion of the facilitator.

## **Day Two: Thursday 2<sup>nd</sup> December, 2021**

### **Session 1: Benin Higher Education Day**

**Venue:** Salles de conférence des Ministères

#### **Context**

Benin hosted the triennial conference of the Regional Forum of Universities for Capacity Building in Agriculture (RUFORUM) from 25 November to 10 December 2021. This event facilitated the organisation of the first edition of the Higher Education Day on Thursday, December 1, 2021 under the theme: Higher education and employability of graduates in Benin. The day was organized in the context of national reforms in the higher education sector, recognized for its fundamental role in the production, dissemination and assimilation of knowledge. Given the importance of the sector to nation building, it was timely for its stakeholders to consider strategies and ways to mobilize and address the challenges they face.

One of these many challenges that caught enormous attention during the Higher Education Day was the employability of young graduates, understood as their intrinsic ability to find a job at the end of their training, to stay there and to make a career. The low level of employability resulting in high levels of unemployment and underemployment among graduates has been the subject of considerable discussion.

Public and private sector actors, national and international, contributed to the reflection during this activity through communications, panels and debates.

#### **Opening Ceremony**

The Rector of the University of Abomey-Calavi, Prof Félicien Avlessi, expressed gratitude in hosting the event to share knowledge and experience in order to refine the University's vision and strategies for developing learners' employability.

The Executive Secretary, RUFORUM Secretariat, Prof Adipala Ekwamu noted that the conclusions of the discussions will strengthen the practice of dialogue between universities and employers and will build the set of participants from several countries of Africa and the world.

The Minister of Secondary Education, Technical and Vocational Training (MESTFP) of Benin Mr. Yves Chabi Kouaro, recalled the importance of the debates that will take place around the main theme of the event, which are part of the reforms undertaken by Benin in order to reduce the mismatch between university training and the needs of the labour market. The Government of the Republic of Benin therefore intends to support initiatives aimed at creating a sufficiently dynamic labour market to help absorb graduates leaving university and training institutions. In turn, they must contribute by the quality of the training they offer to the production of young professionals with the skills sought by employers. The Minister invited the participants to identify the inadequacies of the higher education sector and to formulate recommendations to the various actors to strengthen the employability of young people.

#### **Communications**

The Higher Education Day was attended by policy-makers, heads of public and private universities, both national and international, lecturers and researchers, business leaders, technical partners and students. The first highlight of the event was thematic communications.

## **Proposals for higher education for graduate employment: private sector perspectives**

Bertille Guedegbe Marcos, a Beninese entrepreneur, founder and CEO of Les Fruits Tillou, spoke on behalf of the private sector on the occasion of Higher Education Day. Recalling her own career as a graduate of the Faculty of Agricultural Sciences (FSA) in the late 1980s, having worked as an agricultural engineer and consultant, before leading several entrepreneurial projects, Bertille Guedegbe Marcos reported on her findings as an employer of university graduates from Benin. She noted shortcomings in academic training and in the placement of students, which mean that they do not always meet the immediate needs of the labour market. These shortcomings relate to courses considered too theoretical and not sufficiently practical, the lack of support for the acquisition of transversal skills useful for integrating a work environment and the lack of consideration for the development of students' entrepreneurial skills. To resolve these shortcomings, Bertille Guedegbe Marcos recommended to:

- i. Focus during the academic training on supporting students in setting up professional and entrepreneurial projects;
- ii. To develop more knowledge on the quality standards and regulations in force in the fields of university education;
- iii. Strengthen the financial education of students, in particular on the financing capacities of a company;
- iv. Promote the acquisition of knowledge about business management by students;
- v. Strengthen the quality of internships and their supervision by teachers and employers;
- vi. Invite representatives of companies to participate in university training.

## **Proposals for higher education for graduate employment: programmes and projects**

Mr Frank Kouyami, Head of the Francophone Employability Centre (CEF) within the National Office of the Agence universitaire de la Francophonie (AUF) in Benin, presented the actions that can be implemented by projects and programmes in support of youth employability. Starting from the observation that the unemployment of young graduates in particular that of young women persists in the majority of African countries, the AUF has addressed the question of adapting the training offers to the needs of the labour market so that it can create dignified and decent jobs for young graduates and that of the orientation and the valorization of the research producing wealth and territorial development service.

To meet these challenges, the AUF promotes youth entrepreneurship as a process of knowledge creation and know-how, and as a factor of occupational integration.

The strengthening of the employability of young people through the integration of entrepreneurial training in the academic path allows the learner to acquire transversal skills, capacity for innovation and openness to opportunities and more opportunities for integration into employment. The entrepreneurial culture also allows for networking, peer learning or collaboration through mentoring. It promotes the development of skills for responsible citizenship, a commitment to the development of society and the proposal of sustainable solutions to local development issues. However, the promotion of entrepreneurial culture at university requires a stimulating and open environment, open to the ecosystem of support for innovative entrepreneurship and socio-professional actors. It must be part of a project of establishment validated and endowed with substantial financial means. Such a project must provide for the creation of coworking spaces and incubation programs for student business projects, the introduction of training modules in social and inclusive entrepreneurship, and freeing up working time for students to devote themselves effectively to setting up and managing their business projects.

In order to make a strong contribution to the development of the entrepreneurial culture in the university environment, the AUF highlights its relevant experience, particularly in the implementation of the project Structuring and Accompanying Student Entrepreneurship in the Maghreb (SALEEM) and its other variants in Morocco, Tunisia and Lebanon. This project enabled the adoption of a



national status of the student-entrepreneur granted by the Ministry of Higher Education, which demonstrated the importance of recognition in the academic background of the student's business creation project.

In Benin, as part of its new strategy 2021-2025, the AUF through its CEF, will lead the creation and promotion of the national status of the student-entrepreneur, but also the support for the professional integration of students, the development of university-business collaboration, as well as increased support for research to create innovations for development.

### **Success and failure factors in higher education development programmes**

Professor Sylvie Adote Hounzangbe, teacher-researcher at the Faculty of Agricultural Sciences (FSA) of the UAC and President of the Presidential Cell for Monitoring the Functioning of Schools and Universities presented the elements of reflection on the factors of success and failure of the programs of development of higher education. In her remarks, she focused on the indicators used to measure the implementation of higher education development strategies. Among these is the rate of supervision of students per teacher, which should be 25 students per teacher. At present, this rate is 80 students per 1 teacher on average over the four public universities in Benin. Another indicator that shows some success in the conduct of university research is the number of publications, which rose from 151 in 2012 to 483 in 2017 and to nearly 1,000 in 2020-21 for the four public universities. However, this indicator does not measure the quality of publications produced by teacher researchers.

The implementation of higher education development programmes is also measured by an indicator of the level of infrastructure that students have in place. Measurement data for this indicator are not yet available.

In this case, the communicator also deplores the variability of the indicators from one year to the next, which makes it difficult to really monitor the performance of the higher education sector. For the communicator, the main success factors of higher education development programmes were related to:

- i. Political will, which promotes the development of reforms and development plans for the sector. However, it is necessary to insist on the appropriation of strategy documents by the various actors responsible for their implementation;
- ii. Resource mobilization, which provides funding for activities in the higher education sector. Despite this capacity to mobilize resources, efforts still need to be made to consume these resources, which remain relatively weak; and,
- iii. Improving the institutional governance of higher education, which is then seen as an element that can promote an increase in the capacity for mobilization and consumption of resources.

As for the failure factors, they were relative to :

- i. Massification, which has not been accompanied by structural reforms to accommodate the flow of students and the improvement of the rate of supervision of students by teachers;
- ii. The lack of autonomy of universities in budgetary management, which makes the decision on the use of resources dependent on external factors;
- iii. Free higher education for new graduates, resulting in massification, and also reducing the capacity of universities to mobilise resources; and,
- iv. The improvement of salary conditions for teachers-researchers, resulting in a reduction in the government's recruitment of new teachers.

Finally, the communicator invited stakeholders in the higher education sector to contribute to ongoing reforms to improve the governance of the sector and enhance the employability of students.

## **Reforms, financing of higher education and employability of graduates**

Dr Cyrille Gougbedji, lecturer and researcher at the Faculty of Law and Political Science of the University of Parakou, Second Deputy Secretary General of the Government and Coordinator of the Committee for the Monitoring of Reforms in Higher Education, Research and Innovation presented a paper to further inform the audience on the reforms underway in the higher education sector. These reforms are justified by the need to make higher education sufficiently suited to promote the employability of young graduates. The presentation of the state of the sector was a way for the communicator to enlighten the opinion on the basis of these reforms. These included, but are not limited to:

- i. Contrast between the number of students and teachers, previously presented around the rate of supervision and massification;
- ii. The quality of training, the content of which may be found in certain contexts that are out of step with the development objectives of Benin, and which has as a corollary the inadequacy of training offers with the needs of the labour market;
- iii. The support system that produces teachers who do not develop professionally and who lack follow-up to advance in grades, and professors of magisterial rank whose admission to retirement creates deficits in the training and research capacity of the university; and,
- iv. The lack of funding for higher education and the lack of use of scarce resources for the implementation of genuine higher education development programmes, including the construction of infrastructure, laboratory equipment or continuing training of trainers.

Based on these findings, proposals for reforms in higher education in Benin have been formulated to promote the achievement of two objectives: ensuring quality higher education and putting higher education and scientific research at the service of national development. To promote the achievement of these objectives, the main points of government action focus on the improvement of teaching human resources, the improvement of the framework, Streamlining and guiding the funding of higher education with:

- i. The pre-qualification to practise the profession of teacher of the higher education; recruitment in higher education;
- ii. Internal evaluation;
- iii. Collaboration with foreign teachers;
- iv. The control mechanism in higher education; the continued employment of certain teachers entitled to exercise their pension rights; and
- v. The legal framework for higher education.

This presentation of the general framework of ongoing reforms in higher education in Benin was an indication of future actions to strengthen the employability of graduates. Indeed, the improvement of the institutional framework of universities, student leadership skills and funding of the higher education sector will help to reduce the deficiencies noted and to provide content and training conditions conducive to the development of graduates' professional skills.

## **Round Table**

The theme of the Higher Education Day afternoon roundtable was “The Need for Higher Education to Produce More Jobs”. The following panelists were present:

- i. Professor Brice Augustin Sinsin, Honorary Rector of the University of Abomey-Calavi and Director of the Laboratory of Applied Ecology (LEA) of the Faculty of Agricultural Sciences (FSA);
- ii. Professor Nelly Carine Kelome, Vice-Rector in charge of Interuniversity Cooperation, Partnerships and Professional Integration of the University of Abomey-Calavi;
- iii. Professor Anne Floquet, Research Teacher at the FSA and Director General of the Centre Universitaire d'Enseignement Professionnel at the Ministry of Higher Education and Scientific Research (MESRS);
- iv. Professor Wilfrid Expédit Vissin, Director of the High School of Hospitality and Tourism (HEHT) of the University of Abomey-Calavi;

- v. Serge Abihona, Executive Director of the incubator UAC Start-up Valley of the Abomey-Calavi University Foundation.

The round table discussions covered topics such as the financing of higher education and research, the professionalization of training provision, improving the performance of the sector, university cooperation as a lever for the development of higher education and entrepreneurship to increase the youth employment rate. It was important to remember that UAC graduates who take the path of university research were able to integrate either into teaching or into research projects and programmes at national and international level. However, the small number of those who follow this path necessitates carrying out actions to offer support to those who follow the classical or general courses and who may have difficulties of integration into employment. An action to be carried out in this direction consists in the proposal of so-called vocational training offers, allowing the graduate to learn as much in theory as in practice.

The example of the Hotel and Tourism sector was highlighted thanks to its high rate of insertion into employment after graduation. It is reassuring if there is still a need to offer training opportunities which can meet the needs of the labour market. Thus, if the labour market in Benin seems to be governed by small individual farms, the University should be able to help train young people capable of contributing to this market through new approaches to operation and production.

The essential condition for achieving this will then be to make available training offers the technical and technological support necessary for learners to acquire during their training the skills necessary for an easy adaptation to the market requirements. Another action consists in the introduction of training and support for the development of soft skills. These can relate to professional behaviour, adaptability, communication and resilience, which enable young graduates to integrate despite holding so-called general degrees.

Alongside the so-called traditional courses, the University will then have to focus more on individual support or in small groups to follow the trajectory of learners, help them to build a professional project in response to an identified need on the labour market and to carry out experiments according to their professional objectives. A better framing of the work placement will then have to make this tool a means of acquiring knowledge and know-how useful to the professional development of the student. In this regard, it was recalled that the University's vocation was not to find or create a job for all the graduates it delivers on the market. This would require a sufficiently dynamic economic fabric to absorb this mass of workers.

It was for this purpose that a third approach, that of entrepreneurship, was presented to the public. It offers two interests, that of fostering the creation of enterprises capable of employing university graduates, and that of preparing young people to be, if not good entrepreneurs, at least knowledgeable employees capable of supporting business leaders in achieving their business objectives. By setting up university incubators, higher education institutions can thus make a considerable contribution to increasing the survival rate of enterprises created by young people and at the same time the capacity of graduates to absorb them into the labour market.

University cooperation has been presented in this regard as a means to create opportunities through support for projects and programmes and the development of innovation frameworks for capacity building of young learners. The UAC Startup Valley incubator was one of the fruits of this cooperation, as was the Mastercard Foundation Scholarship Program at the University of Abomey-Calavi. Through its project to support the transition to employment of young fellows, the Centre develops individual and collective services and support for the preparation and support for the professional integration of learners at the University of Abomey-Calavi

## **Conclusion**

The Higher Education Day allowed speakers, panellists, discussants and other participants to ask themselves the urgent questions for a harmonious development of higher education for the employability of graduates. These issues can be summarized as follows:

- i. Does the exemption of tuition fees for new graduates leading to massification contribute to a good training of students?

- ii. Can the University produce immediately employable graduates?
- iii. Does the economic fabric of Benin present enough companies capable of absorbing the mass of university graduates?
- iv. Can the University reform itself to the point of offering other services in addition to training and research to facilitate the employability of young people?
- v. The answers to these questions can be found in several respects in this report and in the statement on the role of higher education in improving the employability of graduates in Benin. They can also be developed through practice, thanks to reforms in the higher education sector and the leadership of the governing bodies that will decide to position the University as a true actor of the socio-economic development of Benin.

***Statement on the role of higher education in improving the employability of graduates in Benin, Professor Félicien Avlessi, Rector, University of Abomey-Calavi***

On the occasion of the triennial conference of the Regional Forum of Universities for Capacity Building in Agriculture (RUFORUM) held in Benin from 25 November to 10 December 2021, The National Universities of Benin organized the Higher Education Day on the theme “Higher Education and Employability of Graduates in Benin”.

Because of the essential role they play in the production, dissemination and assimilation of knowledge, know-how, universities are at the forefront of nation-building by bringing thousands of graduates into the job market each year.

The question of the employability of these graduates, which covered all the debates on the occasion of the day of higher education, tackles the intrinsic capacity of these graduates to obtain a job, to evolve autonomously in the labour market, keep a job and pursue a career. Essentially, the employability of a graduate is therefore assessed as one of his or her abilities to integrate and progress in a professional situation.

However, independently of the State’s duty to provide consistent support to training and research institutions, It is useful to note the responsibility of higher education institutions for creating the conditions conducive to the development of skills for the employability of graduates. In this regard, the National Universities of Benin recognize that it is their duty to provide in their policies and strategic plans, actions aimed at promoting the professional integration of their learners.

The National Universities of Benin agree to base these actions for the development of skills for the employability of graduates on:

- i. The alignment of training provision and development priorities in Benin, taking into account the real needs of the labour market;
- ii. The involvement of employer representatives in academic training;
- iii. The integration of training modules on the personal development and professional skills of learners;
- iv. The importance of the orientation of learners from secondary school to university and to job-creating sectors;
- v. Offering professional skills certification services;
- vi. Support in obtaining and supervising academic and professional internships;
- vii. The creation of pathways for alternance training, validation of prior learning and continuing training;
- viii. The development of learners' entrepreneurial skills;
- ix. The support to the ideation and the assembly of the projects of enterprises of the learners; and,
- x. The exploitation of research results for the creation of professional opportunities.

Convinced of the need to carry out these actions in a concerted approach, the National Universities of Benin call for the support of the Government and the Parliament for the development of the legislative and regulatory framework for multi-disciplinary collaboration actors and multi-sectors in support of the achievement of the objectives of vocational integration of graduates and the reduction of youth unemployment. In this context, they openly welcome the reforms underway in the higher education sub-sector and commit themselves to taking action to make them operational in order to improve the

governance, funding capacity of training and research, the recruitment of high-performance teachers to increase student supervision, the promotion of teachers and the monitoring of ethics within universities. They also encourage and express their willingness to collaborate with technical and financial partners, both national and international, for the implementation of projects and programmes that contribute to the achievement of results in favour of the employability of graduates.

## **Day Three: Friday 3<sup>rd</sup> December, 2021**

### **Session 1: Interdisciplinary Training for Postgraduate Students**

**Venue:** UAC- Houdegbe

#### **Background**

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a network of 147 universities in 37 African countries spanning the African continent. RUFORUM was established to promote the integration of member universities into Africa's development processes, particularly within the Comprehensive Africa Agriculture Development Programme (CAADP); provide a platform for networking, resource mobilization and advocacy to transform universities for relevance towards inclusive sustainable development; and to rationalize resource use and enhance economies of scale and scope. The RUFORUM Network is mandated to strengthen the quality and relevance of postgraduate training and research in African universities. Especially in agriculture, science, technology, and innovation—through activities designed to improve the capacity of African universities and research centres to generate knowledge relevant to Africa's development challenges.

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) in partnership with RUFORUM member universities in Benin organised a 5-day training on Research project management and development of interdisciplinary skills.

#### **Context of the training course**

Being in an early stage of career, it was time to explore the possibilities of applying the skills acquired through training and the first research projects undertaken. Whereas a classical career in research would encompass deepening in a field of specialisation — often the one of the PhD training or the one of the first employer — in order to become a subject-matter specialist, the correlation with other specialisations, other domains and current or future societal needs is often neglected or suppressed in a twilight zone. Apart from curiosity-driven research, research can also be founded on demands from a wide and varied spectrum of stakeholders across society.

Today's demands for scientific and technological solutions are piling up, ranging from understanding the effects of climate changes and knowing how to control or adapt to these changes, exploring ways to maximise yields with as little (in)organic inputs as possible, diversifying agricultural produces for economic and health reasons, to genetic engineering and automatising of processes along agricultural value chains. Solutions requiring scientific support are put on the political agenda because of their emergency nature at various levels in society or of concerns about the planetary health. The third decade of this century is characterised by a hunt on evidence-based solutions in a high gear with the accompanying request for quick delivery.

A 21<sup>st</sup> century researcher must be equipped with more skills than those received during training at tertiary education institutes. Responding adequately to societal needs means upgrading of the specialisation glasses to a 360° multi-layered lens with zooming in/out features. But though the demand for science-based solutions is high, the availability of research funds to identify solutions is limited and fragmented, resulting in tough competition among scientists. To survive in this research desert require adaptive skills, networking and systems thinking. Not surprisingly, the world is talking nowadays in terms of Sustainable Development Goals (SDGs), food systems and agricultural transformation processes. Hence, it is time to adapt to the evolving policy environment.

Whereas classical project management is about controlling time and budget, the aspects of people-centeredness and result-centeredness are also key ingredients in delivering a successful project, both content-wise and usage-wise. Working together across institutions, borders and cultures and with a variety of stakeholders from different disciplines and socio-economic sectors is a challenge which requires symbiosis between project members, but also coaching and mentoring from a project leader. Only when they all work in unison, they will be in a position to achieve the project's objectives and

take credit of positive impacts. Similarly, the relations with the target groups, donor community and other stakeholders need to be symbiotic too. Surviving in this project inner and outer space, *id est*, the project environment, requires a full understanding of the various project management components as communication, project structure, strengths and weaknesses, leadership, intercultural collaboration, cross-sectoral collaboration, systems thinking, monitoring and evaluation, assumption control, risk management, and time, people and budget management.

### **Aims and objectives of the training course**

The overall aim of the training course was to enable Early-Career Scientists (Postdocs, GTAs, CARP and PARI doctoral students) improve their research project management skills and steer their project, project members and other stakeholders towards jointly achieved results. The meeting presented opportunity for scientists to learn from each other and how to interact in an ever evolving project environment.

### **Approach and methodology**

The 5-day virtual training course was held in English and a facilitator-led meeting and in order to allow for active engagement, the facilitator used plenary sessions, group work, role play and peer review. The use of visual aids including wall cards, flip-over charts, videos and PowerPoint presentations enabled capture of contributions and ideas from individuals and groups.

All invited participants willingly engaged in the 5-day virtual training course which was subdivided into the following sessions:

- i. The first day was used to introduce the concept of project cycle management, research cycle management, project management terminology and project environment. Participants were challenged to discuss common project management language and the role they play as a project member within a project.
- ii. The second day, participants mapped and analysed the stakeholders present in the project environment and the stakeholders' needs. A project and stakeholder meeting was held on progress and risks and failure analysis. This was followed by reflection and group work, for which virtual groups were created. Critical interventions by different groups highlighted the strengths and weaknesses of approaches applied by the various ad hoc installed project teams.
- iii. The third day, a project meeting was held on annual financial monitoring and unforeseen events. This was followed by reflection and group work. Critical interventions by different groups highlighted the strengths and weaknesses of approaches applied by the various ad hoc installed project teams. The second half of the third day concentrated on participatory leadership skills with a focus on information exchange methods, collection of information, effective meeting set-ups and people management.
- iv. The fourth day, groups focused on leadership and systems thinking, and on designing and implementing a project communication strategy. The exploration of the needs of target audiences and the ways to service them was looked at from different angles through group work and shared in a plenary session. An introduction was given on speech techniques.
- v. The fifth day was dedicated to communication skills (elevator pitches, influencing skills ...) and monitoring/reporting skills, and closed by an evaluation of the training course.

The exchange of experiences and ideas, and the various interactions was very useful for the improvement of understanding the position of a project and its dynamics and the role a project leader has herein in the sphere of societal relevance with the ultimate goal to satisfy societal needs and to contribute to inclusive and sustainable development.

### **Expected outputs/ outcomes**

The training course was expected deliver the following outputs and outcomes:

- i. An improved understanding of the value of a project within the web of societal stakeholders.
- ii. An insight into participatory leadership methods.
- iii. An improved understanding of internal and external project communication.
- iv. A different view on result-oriented collaboration within a project team.



- v. Participants' experimentation of social skills during the training course and utilization of their newly acquired social skills in their working environment.

### **Session outcomes**

The training consisted of the following blocks:

- i. Introduction project (cycle) management
- ii. Project language
- iii. Project presentation
- iv. Stakeholder analysis
- v. Risk management
- vi. Financial management
- vii. Leadership
- viii. System thinking

The training was given in French and attracted a total number of c.40 participants (Annex 3), all students from universities from Benin.

The training process included introductory plenary presentations, interactive sessions with practical assignments, drama and group work, and evaluation of these sessions (Annex 4)

### **Selected topics**

#### ***Introduction project (cycle) management***

An introduction was given on project phases, project methods, planning, communication, collaboration, time management, result-orientation and illustrative presentations of project components. An introduction was also given on project cycle management (PCM) which is being applied by many donors worldwide, but which is also applicable to any type of project within a grant programme mechanism. The importance was stressed to understand the cyclical stages of a project, programme, research or policies and the interrelation between these stages, as well as to recognise in which stage a project is operating. Questions were raised and working groups organised to stimulate discussion around the analysis of a peculiar situation on the basis of a photograph.

#### ***Project language***

After a plenary presentation on project jargon, participants were challenged to think about a common language in their daily project work which is to be understood by all team members, but also by the general public, and which is to be communicable. The working groups were asked to provide a definition of a series of words under the categories 'project management', 'budget', 'technical contents' and 'audience'. The groups presented their commonly agreed definitions of daily project terminology in a Word document. It was clear that the definitions were not complete and that it was not an easy task to agree on a same meaning or definition of project terminology. In addition, time was too short to tackle all the required words. This exercise is what communicating in the same language is about. Even with assumed understanding of common project jargon, the process of agreeing on the meaning of terminology used may be challenging or perhaps frustrating as there are language barriers and latent use of accepted terms without fully knowing what they stand for. The exercise was evaluated and various attendees mentioned the usefulness of continuing discussing about their project language back home to smoothen communication and avoid misunderstandings.

#### ***Stakeholder analysis***

To be able to run a project with a clear idea where it is heading at, how it should be run, how it should be perceived within and outside the project team, and what kind of results (outputs, outcomes, impacts) are foreseen but also how these should be achieved and made usable, it is highly recommendable to produce a so-called 'Project Management Plan' - based on the project proposal that has been awarded – at the onset of a project and endorsed during a kick-off meeting. One of the components of such a plan is the understanding of the actors involved in the project preparation and implementation phases as well as in the post-project phase. A presentation was given on the

importance of 'stakeholder analysis' after which the working groups set together to define and diagnose the various groups of stakeholders / actors in the project environment of an imaginary project on livestock suggested by the facilitator, and prepare a 'Force field analysis', 'Stakeholder analysis matrix', 'Stakeholder interaction graph' and 'Power/Interest grid'. These analytical tools are helpful in stakeholder management which is critical to the success of every project as they will lead to a correct engaging of the right people in the right way during the lifetime of a project. The groups had difficulties in identifying all the various groups of stakeholders / actors in the project environment, but also in providing the precise names of them once a group was identified. It was stressed that this knowledge gap must be further analysed and bridged accordingly to be able to better steer their projects in a client- and result-oriented direction.

A video was shown on perceiving attitudes of donors – an important stakeholder in projects – and discussed.

### ***Risk management***

For a role play volunteers were asked to play in the setting of a project meeting. Based on the agenda of this meeting '*Project risks in the reduction of viral Transboundary Animal Diseases in the Niger river basin*', the project members would have to analyse these and come with measures to avoid / prevent them. The meeting would take 30 minutes and the audience would not interfere: their role was to observe the meeting and take note of specific items they would think were of interest. The meeting was poorly led and it has not been possible to identify potential project risks. During the evaluation of the play, the audience commented on the meeting dynamics and the role each of the project members was performing. Little comments were made as to the outputs of the meeting, but people recognised such meetings in their own environment. Surprisingly, several attendees found the meeting well held and productive. This calls for a reflection on meaningful meeting management techniques.

An introduction of risk analysis and management was given which included the usage of various terminology used herein, for instance, those applied in the Logical Framework Approach (LFA) and in Failure Mode and Effect Analysis (FMEA). Where the first approach is mandatory by many donors worldwide, the latter is not used in agricultural research and development projects, but interesting to understand and even to apply. It is a reliability study useful to be constantly applied throughout the lifetime of a project in a structured and systematic manner: it includes reviewing as many components, activities, and sub-activities as possible to identify failure modes and their causes and effects in order to come with prevention / mitigation measures. This approach supports the result-orientation of the project. A video on failure in project design was shown and discussed afterwards.

### ***Financial management***

A role play was held for which volunteers were asked to play in the setting of a project meeting. The agenda of this meeting '*Financial Update*' was based on a letter that the project leader had received from the donor who commented on many shortcomings in the annual financial reporting and who gave a deadline for submitting a list itemising the type of supporting documents per cost claim. Each member of the meeting was given an instructive card indicating the 'character' they had to play during the meeting. The meeting would take 30 minutes and the audience would not interfere: their role was to observe the meeting and take note of specific items they would think were of interest.

The meeting was chaotic and all members played their character role well. The meeting was fairly led and the agenda was almost totally ignored, hence no outputs were realised. During the evaluation of the play, the audience commented on the meeting dynamics and the role each of the project members had been performing. They recognised the characters, but also recognised themselves in their own meetings at their institutions back home. Some felt it as an eye-opener and found it a very meaningful exercise. It was shocking to see how one would put his own concerns on the forefront rather than to pursue a successful meeting or project.

### ***Leadership***

With an introduction on styles of collaboration and leadership, the concept of chaos and order was explained – including a game – and where the area could be recognised for stimulating research ideas and innovations. A video on leadership in Africa was shown and discussed. Various styles of leadership were presented and tested with the participants. Relations were made to participatory leadership and system thinking, concepts which require further attention in the management of departments and research projects.

Working groups were asked to determine leadership styles for the imaginary livestock project (see above) and this was plenary discussed. Part of the presentation by group was to do this in a 2-minute pitch format.

### ***System thinking***

With an introduction on complexities inside and outside a project environment, the concept of system thinking was introduced. Working groups were asked to analyse the full context of a perceived situation on the basis of a photograph and this was plenary discussed.

### **Observations and recommendations**

#### ***Involvement***

All attendees were engaged throughout the 4-day training event and eager to listen, learn, discuss, share experiences and participate in the various working sessions. The interactivity and hands-on approach were very much appreciated whereby the treated topics were found relevant and interesting. As proven even in this short training workshop, the collective learning, sharing of experiences and open discussions are tools that help strengthening the individuals in their collaborative projects and encouraging the implementation of a successful project.

Furthermore, it has been difficult to assess if the provided topics were fully understood by all attendees as they were almost all PhD students. But they expressed the usefulness of the training and would like to receive further training as this training was perceived as something very new with unexpected elements which attracted their full attention.

#### ***Number of participants***

An average of c.30-40 participants was registered each day (of which c.33% female). It was peculiar to note that lecturers (c.5) were only present during the first day.

#### ***Time management***

No time management and slow start at the working group sessions were highlighted and little by little the groups improved in paying attention to these components.

#### ***Project management skills***

The non-application or unawareness of project management tools such as presented in the workshop gives the impression that the concept of project management and the implementation mechanisms is weakly developed. If true, the skills of managing and leading a project needs to be enhanced in its full spectrum if the ambition for projects is to become successful, both in terms of collaboration and leadership as well as in achieving results. On the other hand, the majority of the attendees were PhD students without a lot of professional or team working experience.

#### ***System thinking***

The component of system thinking requires further attention, especially in this era of Covid, climate change, food security challenges and heavy competitiveness in project funding. This is certainly new to attendees, but they are very eager to be better equipped here.

#### ***Further training***

Project management, System thinking, Communication and Leadership trainings deserve further attention by RUFORUM and/or their partner universities. When doing so, the right type of attendees

should be invited, i.e., those that will benefit and potentially apply the newly acquired skills from the training.

## **Session 2: Entrepreneurship and community, curriculum review and development through Agri-engage (AGRI-Engage)**

**Venue: UAC-Batiment Sopko**

### **Background**

Africa is in a jobs crisis, by 2022 the continent should create at least 122 million jobs. Sub-Saharan Africa anticipates to create some 54 million jobs by 2022 but the bulk of these jobs are expected to come from entrepreneurship and growth of small medium enterprises (SMEs). Agricultural sector in Africa offers many opportunities that can be harnessed to move a mass of people out of poverty but only if requisite investment is made to harness the opportunities that exist in the agricultural value chains. The Strengthening Agri-Entrepreneurship and Community Engagement Training in East, West and North Africa (AgriENGAGE) project that builds on the TAGDev programme finds its relevance in the urgent need for agricultural growth and development to enhance food and nutritional security in Sub-Saharan Africa. The development of the agricultural sector will lead to improved livelihoods of over 80% of the population of Sub-Saharan Africa. Investments in agriculture over the years have focused on increasing productivity, but there is a recognition that productivity increase alone had not enabled many farmers to take full advantage of the opportunities and the youth were ‘escaping’ out of agriculture as it did not resonate with their aspirations. Accordingly, there is a shift in focus from productivity increase to agribusiness led farming.

Moreover, in the new agriculture private entrepreneurs, including many smallholders, are linking markets for agricultural commodities. Embracing market-oriented agriculture may help reduce poverty among smallholders in the world. This changing face of agriculture requires smallholder farmers to shift their focus to commercialization of agriculture and hence require special skills and competencies to adapt their farming systems, diversify their production, make efficient use of resources and respond to changes in the agricultural environment. Accordingly, universities that train personnel need to shift from emphasis on provision of technical agricultural production knowledge, to understanding of functioning of markets and how markets can work for the poor as well as linking different stakeholders along the value chain. HEIs are struggling to meet the new demand for skills including in the number of people trained, quality of training programmes, and relevancy of skills offered.

The AgriENGAGE project brings a consortium of universities from East, West, and North Africa with partners in Europe and RUFORUM as a regional network body. The universities that make up the consortium include; Egerton University, Pwani University (Kenya); Uganda Martyrs University, Gulu University (Uganda), University of Abomey Calavi, National University of Agriculture (Benin), Mohammed VI Polytechnic University (UM6P), and Institut Agronomique et Vétérinaire Hassan II (IAV) (Morocco). European partner universities include; University of Pavia (UNIPV) and University of Copenhagen. This project helps the TAGDev Programme to scale-out the innovative teaching and learning methodologies across several universities that are currently not directly implementing TAGDev programme activities.

### **Purpose of the training**

The purpose of this training was to enhance curriculum review/development skills and discuss innovative pedagogy for the Universities in AgriEngage. The three-day training aimed at providing both theory and practice in teaching and learning buttressed in the constructivist approach and principles of adult learning. In particular, the following were the focus of the training:

- i. The curriculum development process and review
- ii. Identify competences for the HEIs programs
- iii. Write balanced learning outcomes for the programs
- iv. Discuss innovative teaching approaches
- v. Discuss authentic assessment approaches

### **Workshop participation and facilitation**

The workshop was facilitated by two resource persons; Dr. Gillian Kasirye, a curriculum specialist from Makerere University (Uganda) and Dr. Nico Carsten, an entrepreneurship specialist from the University of Copenhagen (Denmark). There were 20 participants physically and 7 participants virtually. The academic institutions represented were;

- i. Kenya - Egerton University and Pwani University;
- ii. Uganda- Gulu University and Uganda Martyrs University
- iii. Benin - University of Abomey Calavi and National University of Agriculture
- iv. Denmark - University of Copenhagen

The partners from Morocco- Mohammed VI Polytechnic University (UM6P) and Institut Agronomique et Vétérinaire Hassan II (IAV) joined the workshop virtually owing to travel restrictions that were imposed by their government owing to the surge in covid-19 cases and the outbreak of the Omicron variant.

### **Workshop session proceedings**

#### ***Opening remarks***

The workshop was officially opened by Prof. Aliou Saidou, Deputy Vice-Chancellor Research who noted that youth unemployment is a major challenge for most of the African countries. The AgriEngage project was therefore timely in attempt to provide solutions. Further, the project was vital for creating a network between university and the private sector through the community engagement; an aspect that is key in reducing the skills mismatch between university and industry among the university graduates. Earlier, remarks were provided by Prof. Flora Chadare and Prof. Achille Assogbadjo the workshop hosts at the University of Abomey Calavi (Benin). Prof. Patience Mshenga the overall coordinator of the AgriEngage project and the TAGDev Assistant Coordinator at Egerton University also provided her remarks on the need to tackle youth unemployment and the role of universities in this process through entrepreneurship and community engagement.

### **Workshop proceedings**

#### ***Development process, identification of competences, learning outcomes, domains***

Participants were trained on the curriculum development process was delivered. Some of the key focus areas discussed included; context of curriculum development, needs assessment, backward design, educational philosophy & course description and models of curriculum design. It was also discussed that the education philosophy should have the following features; purpose, discipline/subject/values, nature of the learning environment and approaches to teaching/learning/assessment. Participants also had the opportunity for practical exercises using their respective institutional curricular. Participants had the opportunity to appreciate the learning domains and how to balance the various levels of the learning domains when designing the curriculum. Practically, the participants had the opportunity to revisit how to write curriculum objectives and learning outcomes, a key feature of the curriculum development process.

#### ***Community Engagement Study***

The community engagement training session was facilitated by Prof. Nico Carsten (Denmark) who started the session with a technical paper on community engagement. Participants thereafter had the opportunity for dialogue on the key tenets of community engagement, the how, why and when to engage. In it particular, participants were encouraged to develop a good picture of what is happening and focus on the theory of change in order to have a good idea of what's going on and how to achieve it.

Participants were split into groups and the session and the feedback is as follows: What will be done with the case studies which will be both qualitative and quantitative following the procedure as:

- i. Institutional baseline
- ii. Interviews with co-researchers
- iii. Co-researcher interview with colleagues, management and stakeholders
- iv. Develop theory of change
- v. Develop survey
- vi. Conduct survey in faculty



### ***Teaching and learning***

Considering that most university academics in the African universities are not recruited for their professional teaching background/qualification, most therefore lack the pedagogy background. Accordingly, participants were taken through the process of teaching and learning. It was observed that product learning environment the teacher is the boss while the process or learner centred you think about the learner and how learning takes place to create learning but bring out the fun in the learning.

It was noted that students' especially graduate students should be given an opportunity to use their skills. We need to understand the principles which include;

- i. Goal oriented
- ii. Need respect due to the different capacities they hold and some ways of respecting them is to respect their experiences, respect where they come from
- iii. Autonomous and self-directed
- iv. Rich expectations and knowledge
- v. Relevance oriented
- vi. Practical; they need to work and be busy

Further, it was discussed that in the event of teacher who is learner centred, the following should apply and this includes the actions of the university administration;

- i. Provide resources and the environment that facilitate student centred learning.
- ii. Be passion about his teaching and role
- iii. Teaching involves both sharing knowledge and facilitating learning.
- iv. Appreciate the dynamic nature of knowledge in the present times.
- v. Ensure student empowerment (understand the learners background).
- vi. Teach students how to question issues as part of developing critical thinking skills
- vii. Set class room rules to let students respect each other and also builds students confidence.
- viii. Balance the classroom session and responsibilities among students

### ***Assessment***

Presentation was made on assessment and principles of assessment. Various assessment models and the need for a balance in the assessment process is critical to in particular ensure that what is being assessed is what is intended to help achieve the designed curriculum.

### ***AgriENGAGE case study writing training***

Prof. Nico made a presentation on the AgriENGAGE case study writing training which will be done online. He presented the outline of the training for comments from the partners. The partners made their comments and the programme was updated accordingly. It was agreed that each university will nominated four people and it was expected each person will develop a case study.

### ***Workshop achievements***

- i. Introduction to practical curriculum development. For many participants, it was their first time to attend a curriculum training exercise.
- ii. A flowchart for the curriculum development process was adopted.
- iii. A curriculum review process for courses was initiated.
- iv. Increased collaboration and partnership in curricula development and implementation among the partners was established.
- v. Steps on the way forward which includes updating of curricula and adopting entrepreneurship and community engagement in HEIs programmes.

### **Session 3: Content review and development of eLearning course modules**

**Venue:** Azalai Hotel; Blended (Link: <https://bit.ly/2ZerIkj>)

### ***Introduction and background***

Eight tech consults Limited was contracted by RUFORUM to undertake the training *to build capacity on online content development for RUFORUM Universities staff focusing on elearning pedagogy,*

***content authoring and delivery. This report describes how the assignment was carried out and its impact to the participants.***

### ***Assignment Introduction and Background***

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), is a network of 147 universities in 38 African countries, is implementing Regional E-learning Platform (REP) to facilitate online learning across the RUFORUM Network with support from Arab Bank for Economic Development in Africa (BADEA). This initiative builds on previous efforts by RUFORUM to promote e-learning and use of digital technologies for research, teaching and learning in Africa. The REP initiative seeks to harness the pivotal role of digital technologies in improving online teaching and learning in African Universities. It focuses on the use of digital technologies for teaching and learning as well as sharing of experiences as an approach for improving educational outcomes and enhancing the quality of teaching and learning in participating universities. It also aims at promoting sharing of resources across the network and to link the network to similar initiatives globally. By doing so, beneficiary universities are able to train through innovative and creative technology-enabled techniques that deliver and enhance the learning experience.

### ***Delivery of online training***

In this part of the training, the consultant embarked on delivery of Key steps in training delivery to the trainees. The actual training was practical/ case study and exercise-oriented because of the necessary practice component required. Examples were demonstrated and practical sessions held to ensure each trainee has grasped the skill. The sessions were interactive and the facilitators frequently initiated discussion during the training sessions. Ideas were freely exchanged and participant specific issues addressed. During the training, question and answer sessions were held throughout the entire 5 days. Staged evaluation and review exercises were undertaken to ascertain trainees' acquisition of skills. In order to offer a dedicated and spacious environment that encourages trainer demonstrations for ease of delivery and to ensure every student kept in step with the material, the E-learning environment was designed to aid the above factors. Since the training had numerous participants from across the world, it was conducted as a five-day virtual/ online workshop through Zoom. The training had both theory and practical sessions that were undertaken in and outside of the training sessions. Majorly the participants were able to learn how to prepare for an online class using well known pedagogical aspects, use content authoring tools such as eXe and Hot Potatoes among others.

Being an online workshop, training and resource materials were prepared and shared with the participants via the Eight Learning Institute of Technology & Management learning system (<https://elearning.8learning.org>). The training programme clearly demonstrated what was taught within the 5 days. However below is the summary of what was provided within the training.

- i. Intensive hands on training in different aspects of e-learning including but not limited to: pedagogical perspectives of e-learning (how to facilitate learning in e-learning), content development, student-centered learning, online video conferencing teaching etiquettes, student-teacher interaction, educational technology strategies, etc.
- ii. Participants were facilitated to plan, design and implement an e-learning course for an online classroom session
- iii. The participants were also given an opportunity to look at and evaluate existing elearning courses that they were familiar with or have interacted with before. Case studies were evaluated during the discussion of best practices.
- iv. The workshop had presentations, case studies and practical work for the participants.

### ***Overall assessment of the training***

In terms of the overall assessment, it was evident from the feedback that was being posted in the chatroom that majority of the participants rated the training as having been very good and several comments were given on the facilitators for the training which is worth concluding that the trainers were very knowledgeable to what they were doing.

Some of the comments that were given on the assessment of the training included;

- i. Generally good but I feel we needed more time for practical sessions.

- ii. Resource persons were well equipped; content on pedagogy was loaded; Health
- iii. breaks were useful I would prefer more time to be given to digital development
- iv. The workshop was well organised and necessary for online teaching/training
- v. This was a good training and well organised
- vi. Training approach as excellent

**Table 2: Participants level of satisfaction with the different training sessions**

Session	Very useful	Quite useful	Some aspects were useful
Teaching and Learning with Technology	64.3%	35.7%	0
First Steps to Effective E-Learning	64.3%	35.7%	0
Evaluating E-Learning and Course Development	85.7%	14.3%	0
Effective E-Learning Content Design using the Learning Object Concept.	71.4%	28.6%	0
Content Development (using exe)	78.6%	21.4%	0
Content Development using multimedia(visual design, infographics, animations)	78.6%	14.3%	7.1%
Introduction to digital Assessment (using Hot Potatoes tool)	64.3%	28.6%	7.1%
Practical exercises	64.3%	35.7%	0

The participants indicated that they felt the topics were appropriate and useful for them in terms of E-learning preparation for their learning and use during teaching. The interactions with the participants indicated that they were appreciative of the topics taught to them during the training. However, they also indicated that they were overloaded due to the fact that the time available was little for all content to be grasped. This deduces to the fact that in the future such practical training sessions should be given more time and scheduled during morning sessions.

In terms of the other desired modules to be covered in future trainings, the participants suggested; use of E-learning to conduct lab practical experiments, dangers of E-learning, training about MEAL and data analysis, how institutions can develop their own authoring tools and e-learning for practical based subjects among others.

### ***Relevancy of the training***

Due to the current world break out of covid-19, e-learning was opted as the best way of providing educational service to students therefore majority of the participants 92.9% indicated that the training was very relevant to them (refer to figure 3 below) since it equipped them with the necessary skills to successfully run an online class and develop content for the learners to easily understand.

### ***Observations and conclusions***

After having undertaken the training some observations came into light that need to be shared for future improvement of the training.

- a. The time allocated to the training was really short and needs to be increased in the other training sessions most especially if the training has a practical component.
- b. Some of the staff within the institutions of learning lack the adequate ICT literacy skills to ably use to develop content to use in teaching and learning
- c. Several staff were using institutional ICT during the training and lack personal computers to use to learn better the skills

In conclusion, the training was undertaken very ably by the consultant and participants appreciated very much the methodology used during the training sessions. Participants preferred to have more practical sessions of the trainings and they felt it adds value to the entire training. Use of technology in teaching and learning should be more encouraged in all future training sessions thus improving education service delivery. RUFORUM should make sure that they acquire their own learning management system so that participants can ably access the resources for a longer period of time.



## Day Four: Sunday 05<sup>th</sup> December, 2021

**Session 1: Principals and Deans Meeting (Sub-committee / and country representatives)**

**Venue:** Sun Beach Hôtel; Blended (Link: <https://bit.ly/3qrOvoN> )

### Background

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) is a Network of 147 Africa Universities in 38 African Countries with the vision of *vibrant, transformative universities catalysing sustainable, inclusive agricultural development to feed and create prosperity for Africa*. The Principals and Deans Committee is one of RUFORUM's Governance Organs which consists of all RUFORUM Principals and Deans in participating colleges, faculties and schools and, meets at least once every year. The Committee met on 5<sup>th</sup> December 2021 as part of the Seventh African Higher Education Week and RUFORUM Triennial Conference to: (i) consider efforts and progress made across member universities with respect to integrating use of digital technologies in their operations; (ii) deliberate the actions needed for operationalizing PBL in higher education institutions; and, (iii) review the current RUFORUM Theory of Change and provide input into the ongoing process of envisioning the future of RUFORUM.

The meeting was organized as a face to face meeting and it brought together Principals, Deans, Directors, RUFORUM focal points, other university professors and researchers in the RUFORUM Network. The meeting was organised in four (4) distinct sessions namely: **Session I**, setting the scene which included a Key Note address; **Session II** on promoting eLearning in Africa which highlighted efforts being championed by RUFORUM to promote eLearning across its network and sharing experiences from the pilot initiatives in Benin, Malawi & Uganda; **Session III** on the sensitization of the current RUFORUM Theory of Change and envisioning the future of RUFORUM; and **Session IV** which was the 19<sup>th</sup> RUFORUM Principals and Deans Committee Meeting.

### Meeting outcomes

RUFORUM provided updates on implementation of the Graduate Training Assistance. This resulted into Principals and Deans agreeing on the following as issues affecting the implementation of the GTA initiative and ways to mitigate the challenges:

- i. The change in leadership in member universities delays the endorsement of GTA contracts, the admission process as well as the registration process at the host university;
- ii. Sending universities are reducing the number of their earlier submitted nominees to RUFORUM for training under the GTA arrangement due to the COVID crises;
- iii. Need for the Deans/Principals to reach out to their nominated GTA candidates and request/encourage them to apply for admission at host universities to enable the drafting of their GTA contracts as well as their placements;
- iv. The Deans/Principals to help in fastening the admission and GTA contract endorsement processes at their universities as well as facilitate the registration process of the GTA at their universities;
- v. The Deans/ Principals to link up with their Vice Chancellors in order identify and nominate candidates for the current available GTA positions at member universities to be trained under GTA arrangement at host universities;
- vi. The need to consider establishment of a GTA programme fund to support research, non-tuition related training costs and student emergencies;
- vii. The need for heightened lobbying with the Vice chancellors to train more GTAs in their universities;
- viii. The RUFORUM Principals and Deans to agree on the additional processes for the recruitment and placement of GTAs at host universities, especially for assigning teaching responsibilities;
- ix. Due to the COVID-19 pandemic crisis, most GTAs will not be able finish on time, there is need for the Deans and Principals to reach out to University Administration to allow the staff to have an extension (leave) so that they complete their studies;

- x. There is need to consider the plight of private universities to whom tuition fees are an important source of income; and,
- xi. In some occasions, the Vice Chancellors sign the contracts without involving the Deans of the Faculty, making it difficult for the implementation.

With respect to resource mobilization and accountabilities, RUFORUM Secretariat provided updates on the progress and achievements between August 2021 and October 2021. This was followed by deliberations on the focus areas and activities for 2022 including:

- i. Signing of the RUFORUM Charter by member countries
- ii. Review of the GTA Programme
  - a) Need to carry out an overall survey on GTA implementation
  - b) Conduct a survey, and establish institution that have funds to support the GTA
  - c) Deliberate the proposal to discontinue the current GTA model, as it might not work and develop another model.
  - d) Approach different Banks that have interest in funding the initiative
  - e) After COP 26, Member Universities could tap from funds linked to climate change
- iii. Operationalize the National Forums
  - a) The Secretariat to finalize guidelines on establishing and operationalizing the National Forums
  - b) Mobilize funds at the regional level
  - c) Strengthen University - Industry linkages

### **Key resolutions**

- i. Member Universities were urged to support the establishment and operationalization of National Forums in their respective countries. The RUFORUM Secretariat was finalizing the guidelines on the operationalization of the National Forums.
- ii. The Principals and Deans were requested to encourage Member Universities to participate in training on writing proposals, signing the Charter, and to respond to outstanding financial accountabilities.

### **Session 2: Technical Committee and TAGDev Steering Committee Meeting**

**Venue:** Azalai Hôtel

#### **Key Resolutions**

- i. Permission be granted to students to stay abit longer at the Universities to enable them complete on time. Delays were imposed by the COVID 19 pandemic
- ii. A narrative of emerging outcomes at the national and continental level be developed to justify why the TAGDev Programme needed to go continental
- iii. Egerton university management be engaged to handle the issue of delayed completion
- iv. Outputs emerging from the TAGDev Programme need to be repackaged for the attention of the national governments.

### **Session 3: RUFORUM International Advisory Panel Meeting**

**Venue:** Golden Tulip

#### **Background**

As part of its corporate governance structure, the RUFORUM constitution provides for an International Advisory Panel (IAP). The IAP comprises eight nominated persons from within and from outside Africa. The IAP was established to provide strategic advice to the RUFORUM Board and Secretariat and to assist in the mobilization of international support and partnerships for RUFORUM. The IAP meets virtually several times over the course of each year and has an in-person (during non-Covid times) annual meeting with the RUFORUM Secretariat during the Annual General Meeting.

The last IAP meeting with the RUFORUM Secretariat was held virtually in October, 2020, as a prelude to the RUFORUM Annual General Meeting at the UM6P. The focus of that meeting was on how to deepen engagement with key development partners – in particular, with the European Union and the World Bank (w/r to the WB’s proposed project entitled Strengthening Agricultural Higher Education in Africa (SHAEA)). The meeting also focused on approaches to resource mobilization for RUFORUM. The IAP issued a *Strategic Direction and Resource Mobilization for RUFORUM Discussion-Prompting Note*.

### **The IAP meeting-on 5<sup>th</sup> December 2021**

The IAP meeting was intended to build on the 2020 Resource Mobilization Discussion Prompting Note. The Note acknowledged that RUFORUM has been very proactive, with some success, in pursuing financial and other forms of support for its approved budgeted activities. Notable, in this regard, was the support that RUFORUM secured from BMGF and Mastercard for key programs and from a wide variety of partners for projectized forms of support. All of this made it possible for RUFORUM to grow and to provide leadership, coordination and networking support to 147 agricultural universities across the Continent.

The Note however, pointed out a critical need for a more structured approach to resource mobilization. The IAP called for a reflective meeting on what RUFORUM considers to be the primary objective for the IAP in the realm of resource mobilization, noting that IAP members have valuable experience and that they can play a significant role in the strategy and next steps.

### **Session outcomes**

The IAP held a meeting on 5<sup>th</sup> December 2021 in a blended formal governance meeting. The IAP continued to meet digitally throughout the year to discuss opportunities for resource mobilisation and to identify global trends and issues important to RUFORUM’s Board, Secretariat, and member universities as they adapt and develop learning, research and outreach goals to meet future challenges.

The IAP congratulated RUFORUM and its member universities for their active engagement and implementation achievements in support of the transformation of higher education in Africa over the course of the past year - despite the challenges of COVID-19. In particular, the IAP commended the Secretariat for so actively following through on some of the opportunities identified at the 2020 IAP meeting – especially with regard to strengthening partnerships with the European Union since engagement with regional and international organisations requires understanding and connection into the various political and institutional channels to be able to create traction. In this respect, the IAP also noted the importance of efforts to continue to build relationships with the African Union and the African Development Bank and commended the Secretariat for its outreach to the Middle East.

The ongoing engagement with Ministers and senior technocrats and other policy makers strengthened the recognition of the important role that universities can play in agricultural transformation and economic development. The IAP encouraged Board members to engage with their governments to actively support the RUFORUM Charter. This would help reinforce the African ownership of the network and provides opportunities that support the member universities, their countries and the sustainability of the Secretariat.

The IAP discussed strategies for the way forward for RUFORUM and proposed that it would be strategic for the network to consider development of a *broad thematic programme initiative* as RUFORUM response to the challenges facing Africa. In support of this idea, the IAP would develop a concept note to present to the Board to suggest that RUFORUM develops a thematic programme to build capacity that can assist Africa to strengthen adaptation and mitigation of climate change. This would build on the calls for action from COP26 – and could be presented as part of the way forward at COP27 to be held in Africa. In addition to addressing climate change related issues, the strategic and comprehensive programme envisaged would also include measures for African’s universities to launch to strengthen the infrastructure and capacity that Africa needs to deliver digitally and to take advantage of the Fourth Industrial Revolution. To this end, the proposal would turn to the use of

successful and signature RUFORUM project approaches as vehicles to implement the proposal. It would be necessary to develop key partnerships to drive the effort to tap into the Green Fund and to help ensure that Africa has a strong voice in programmes and implementation of the Climate Change goals and investments. The IAP would share the *concept note* with the Secretariat by *mid- January 2022*.

In addition there were a number of international developments that the IAP drew to the attention of the Board. These included the importance of universities providing much stronger focus on *interdisciplinary collaboration*. This was important not only on being able to deliver relevant innovations to society but also increasingly important for *Artificial Intelligence* and the *4IR*. This means that all PhD programs, even in basic sciences, will need to contribute for Africa to innovate using AI that meets local needs. More focus on indigenous/traditional knowledge, crops and institutions has been highlighted in recent NEPAD discussions and the role that governance structures play to reinforce ownership and intellectual property rights was also highlighted.

In closing, the IAP committed to provide more focus on strengthening partnerships with North America in the next year. If, in due course, the Board approved the development of a thematic programme, this would also be of interest to Asian partners.

## Day Five: Monday 06<sup>th</sup> December, 2021

### Session 1: Symposium: Global Partnership for Higher Education in Africa

**Venue:** Blue Auditorium Palais des Congrès; Blended video conference Blended (link: <https://bit.ly/3ikDGR9> )

#### Background

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) in partnership with global partners in higher agricultural education and scientific research from Asia, Europe, North & South America, and the African Development Bank, Arab Bank for Economic Development in Africa (BADEA), Islamic Development Bank (IsDB) and the African Union Commission have convened four consecutive meetings to discuss entrepreneurship, youth employability, higher agricultural education & industrialization, science, technology and innovation. The first two meetings were physically convened as the *Afro-Arab Partnership* meeting held 28-30<sup>th</sup> September 2019 in Kampala, Uganda, and *Global partnerships for transformation of African higher agricultural education and scientific research* held in Cape Coast, Ghana held on 2<sup>nd</sup> December, 2019 respectively. The third and fourth meetings were convened virtually during the RUFORUM Webinar Series on 7<sup>th</sup> October 2021 and the Pre-United Food Systems Summit independent dialogues on 2<sup>nd</sup> June 2021 respectively. Further, bilateral events between partners have been convened to discuss similar issues. In particular, the Mastercard Foundation through its Program, *Young Africa Works*, is supporting efforts across Africa to address issue of Youth Skill development and Employment.

Participation in these meetings included several higher agricultural education and research partners from Africa including the Forum for Agricultural Research in Africa (FARA) and the Sub-Regional Research Organisations (SROs), University Networks, CGIAR consortium members and not-for-profit research organisations. Global Consortium for Higher Education and Research in Agriculture (GCHERA), Consultative Group for International Agricultural Research (CGIAR), American Public and Land Grant Universities (APLU), Global Forum for Agricultural Research (GFAR), Belt and Road/South-South Cooperation Agricultural Education, Science and Technology Innovation League (BRSSCAL), Association of Indian Agricultural Universities, Association of Caribbean and Pacific Universities, Global Research Alliance on Agricultural Greenhouse Gases (GRA), EARTH University (Costa Rica), Zamorano Institute (Honduras), Global Forum for Rural Advisory Services (GFRAS), The European Alliance on Agricultural Knowledge for Development (AGRINATURA), Seoul National University, Korea, Association of African Universities, among other partners.

Additionally, RUFORUM with the support of the African Development Bank, commissioned a study on the Korean model and contribution of universities to national economic development with recommendations for African higher education. The study was supported through the “Sharing innovations and experiences from Korea for Higher Education Transformation in Africa (SIKET)” Project with funding from the Republic of Korea under the KOAFEC Trust Fund through the African Development Bank. The study recommended that in order to transform higher education in Africa:

- i. African Governments must formulate and implement higher education policies that place emphasis on science, technology & innovation, establishment of more specialized universities in Africa such as for agriculture to address hunger and poverty in the continent and insitutionalisation of entrepreneurship education for better job creation and improvement of economic situation in Africa;
- ii. Increased funding from Governments and Development Partners to support infrastructure development, Research & Development (R&D), intellectual property rights for the academic community, and development of adequate ICT capacity in universities for teaching, learning, research, administration & increased connectedness of African universities; and,
- iii. African Governments, African Union and universities must put emphasis on strengthening higher education leadership, especially strong & committed political leadership, and on the Korean model, the report recommends the following in order to transform higher education in Africa: 1) The need to strengthen the role of the private sector in provision of higher education in Africa through expansion of private universities; and, 2) African universities should strive to strengthen collaboration with Korean Universities through joint projects, learning workshops and conferences.

Emerging from these dialogues and the study, were recommendations on the need for review and redesign of higher agricultural education and scientific research to meet the current human capacity skills demands, making agriculture attractive for the youth, and youth entrepreneurship and employability. Specifically, the following key issues were identified for further consideration and action:

- i. Youth entrepreneurship and employability, skills & sustainable capacity building for job creation, and making agriculture attractive for youth;
- ii. Review of transforming African agricultural Universities to meaningfully contribute to Africa's growth and development;
- iii. Enhanced collaboration between training & research with private sector and policy;
- iv. Transformational institutional leadership in higher agricultural education and training the next generation of ethical and socially responsible leaders in the agricultural sector;
- v. Enhanced Community engagement;
- vi. Online learning and teaching;
- vii. Excellent science for society through the establishment of Centres of Excellence; and,
- viii. Bio-based, climate proof and circular & green economy

As a way forward, it was agreed that Africa could learn from the various models such as the Higher Education model of Korea; the cooperative extension model at the American Public and Land Grant Universities in the USA; participatory action research in Europe; applied environmentally friendly technologies in India; Science and Technology Backyard (STB) and Simple Technology Big Harvest models of China, amongst others. Further the university-research institutes-industry linkages model of Korea has enhanced the competitiveness of its agribusiness sector and Africa could borrow from this. Accordingly, a special session will be held on 6<sup>th</sup> December during the 7<sup>th</sup> Africa Higher Education Week and RUFORUM Triennial Conference slated for 6-10 December 2021 in Cotonou, Republic of Benin, West Africa.

### **Meeting Objectives & Approach:**

The meeting was a one day event on 6<sup>th</sup> December 2021 and organized in four major parts that included: **Session I** for setting the stage for the meeting; **Session II** involved a dialogue on the required collective action for enhancing academia and policy collaboration; **Session III** brought together expert views on how partnerships can be formed and promoted for the development of skills and job opportunities in the agriculture sector, specifically making agriculture attractive and profitable to the youth along the different commodity value chains; and, finally **Session IV** focused on lesson sharing and learning on transformational institutional leadership in higher agricultural education and the required collaborative actions.

The meeting was jointly hosted by the African Development Bank and RUFORUM and brought together actors from within and outside Africa including the RFORUM member universities, policy and private sector, among others. The event was funded by the Republic of Korea under the KOAFEC Trust Fund through the African Development Bank (Grant # G-ZI-IA0-TRN-005).

### **Session outcomes**

#### **Introduction:**

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) in partnership with global partners in higher agricultural education and scientific research from Asia, Europe, and North & South America convened the Global Academia-Policy Partnership meeting during the Seventh African Higher Education Week and RUFORUM Triennial Conference 2021. The event was a follow-up to previous engagements for entrepreneurship, youth employability, higher agricultural education & industrialization, science, technology and innovation and as a consequence of a study on the Korean model and contribution of universities to national economic development with recommendations for African higher education conducted under the "Sharing innovations and



experiences from Korea for Higher Education Transformation in Africa (SIKET)” Project supported by Republic of Korea under the KOAFEC Trust Fund through the African Development Bank. Emerging from both the engagement and the study, recommendations were made to review and redesign higher agricultural education and scientific research to meet the current human capacity skills demands, making agriculture attractive for the youth, and youth entrepreneurship and employability. Specifically, the following key issues were identified for further consideration and action: youth entrepreneurship and employability, skills & sustainable capacity building for job creation, and making agriculture attractive for youth; review of transforming African agricultural Universities to meaningfully contribute to Africa’s growth and development; enhanced collaboration between training & research with private sector and policy; transformational institutional leadership in higher agricultural education and training the next generation of ethical and socially responsible leaders in the agricultural sector; enhanced Community engagement; online learning and teaching; excellent science for society through the establishment of Centres of Excellence; and, bBio-based, climate proof and circular & green economy.

### **Meeting Objectives & Approach:**

The meeting was organized as a one day event on 6<sup>th</sup> December 2021 and in four major parts that included: **Session I** for setting the stage for the meeting; **Session II** involved a dialogue on the required collective action for enhancing academia and policy collaboration; **Session III** brought together expert views on how partnerships could be formed and promoted for the development of skills and job opportunities in the agriculture sector, specifically making agriculture attractive and profitable to the youth along the different commodity value chains; and, finally **Session IV** focused on lesson sharing and learning on transformational institutional leadership in higher agricultural education and the required collaborative actions.

The meeting was jointly hosted by the African Development Bank, Mastercard Foundation, Arab Bank for Economic Development in Africa, RUFORUM and the Government of the Republic of Benin. The meeting brought together actors from all regions of the African Continent in the form of RUFORUM member universities, policy and private sector, among others. The meeting was attended by a total of 154 in person and 18 virtually.

### **Key messages and emerging issues**

#### ***Session 1: Setting the scene***

As part of setting the scene for the high Level Policy Dialogue, Dr. Martha Phiri, Director, Capital, Youth and Skills Development, African Development Bank, Cote d’Ivoire; Hon. Professor Eléonore Ladekan Yayi Minister of Higher Education and Scientific Research, Benin; Prof. Bruno Djossa, Vice Chancellor, National University of Agriculture, Benin; Prof. Adipala Ekwamu, Executive Secretary, RUFORUM; and, Prof Brice Sinsin, Former Rector, University of Abomey-Calavi, Benin, acknowledged the several challenges faced by African institutions and countries, such as the COVID-19 Pandemic, mismatch between job requirements and skills, low investment in higher education and ICT, weak policy environment, low research outputs, among others and emphasized the need to leverage on partnerships.

#### ***Session 2: Enhanced Academia and Policy Collaboration: A Need for Collective Action:***

This Session focused on sharing institutional and country experiences in policy, research & higher education, and guiding principles for model collaborations. The aim was for the dialogue to galvanize collective action for strengthening academia-policy collaboration. This Session was Chaired by **Ms. Hendrina Doroba Chalwe**, Division Manager for Education and Skills Development (AfDB), while Panel Speakers included: Dr. Stephen Onakuse, President of AGRINATURA (**joined virtually**), Hon. Muhindo Nzangi Butondo, Minister of Higher Education and Scientific Research, Democratic Republic of Congo (**joined virtually**); Prof. Taeyoon Kim, Graduate School of International Agricultural Technology, Seoul National University, Korea (**joined virtually**); Prof. Ndeye Coumba Touré, Rector, Université Sine Saloum El hadj Ibrahima NIASS (USSEIN), Senegal; Ms. Marta Iglesias, Senior Policy Officer, European Commission Directorate General for Agriculture and Rural Development (**joined virtually**); and, Dr. Abdou Tenkouano, Executive Director, West and Central

African Council for Agricultural Research and Development. During the Dialogue the following emerged:

- i. Partnerships among policy makers and academia, within and outside the African continent are critical for achieving continental and national targets in higher education, science, technology and innovation. Currently, Africa is struggling with a weak policy environment and low funding. The policy environment could be strengthened by having a set of guidelines for regular engagement of academia with policy while adapting context specific approaches. Such engagements would allow for a stronger influence of knowledge and research evidence on the processes of formulating policies for the sector, and for institutions to do more together. Further, universities and other higher institutions of learning should align their agenda for training and research to the priorities of Government; and,
- ii. Several global and continental partnerships such as the EU-AU R&I partnership on FNSSA, International Research Consortium in FNSSA, among others, provide opportunities for funding under calls such as the HORIZON Europe.

### ***Session 3: Promoting Collaboration for Skills Development & Job Creation in the Agriculture Sector: Making Agriculture Attractive to the Youth***

The Session focused on young people, the youth, especially those in agriculture. The Session was ably chaired by Dr. Codou Diaw, Senior Programme Manager, Mastercard Foundation Scholars Programme. Presentations were made by Prof Philip Cotton, Head of Scholars Program, Mastercard Foundation; Hon John Ntim Fordjour, Deputy Minister of Education, Ghana; Prof Nancy Mungai, Director, Research & TAGDev Program Coordinator, Egerton University, Kenya; Mr. Anthony Ebitimi Owei, Founder & Chief Executive Officer, ePoultry.NG, Nigeria; Ms. Dora Fiani, President, Knowledge Economy Foundation, Egypt; and, Dr. Serge Abihona, University of Abomey-Calavi, Benin. The following emerged as key points and actions for follow-up:

- i. Africa's agriculture requires some urgent and significant transformation in order to take advantage and utilize available resources on the continent. Unfortunately, Africa is still very low on its human capital index to support the required transformation of the agricultural sector. Since the African continent is getting younger, a need remains to prepare the young people to transform agriculture. Low student enrolment coupled with the unattractive agricultural education and training approaches have not favored continent;
- ii. Commitments of Development Partners, such as the Mastercard Foundation, to enable marginalized communities obtain dignified work, through financial inclusion; and to find opportunities for young people, have certainly paid off. Programmes such as the RUFORUM-implemented TAGDev, that are motivated by the need to transform agriculture, to reach out to the huge youth population by teaching them entrepreneurship and leadership, and to help youth find opportunities have proved effective and could be ripe for scaling-up;
- iii. Creating opportunities and making agriculture attractive for the youth requires Government commitment in the form of policies that support entrepreneurship, projects related to agriculture in different value chains, digital technology, incentives for start-up and creating a business mindset. In this regard, models such as the Start-Up Valley of the University of Abomey Calavi Benin and the Village Entrepreneurship Scheme, of Egypt could be scaled-up.
- iv. Young people can only be successful if they like what they are doing, receive mentorship and have role models. The only way to create prosperity is through entrepreneurship, this needs skills development & change in curriculum, and policies that promote innovation. Further, it requires youth to be proactive and to bring their creativity & energy to the sector.

### ***Session 4: Transformational institutional leadership in higher agricultural education***

The Session was motivated by the fact that Higher Educational Institutions play a key role in shaping the present and the future; transforming minds & processes, and nurturing talent. Prof Theresia Akenji, Vice Chancellor University of Bamenda, Cameroon & RUFORUM Deputy Board, presided over the proceedings during which Prof Jose Zaglul, President, Global Consortium of Higher Education and Research for Agriculture & President Emeritus, EARTH University, Costa Rica, Dr. Arturo Condo, President, EARTH University, Costa Rica, Prof Teresa Akenga, Vice Chancellor,



University of Eldoret, Kenya, Prof Luke Mumba, Vice Chancellor, University of Zambia, Dr. Li Li, Associate Professor at the College of International Development and Global Agriculture, China Agricultural University, China and Prof Ki Hee Ryu, Professor, Institute of Green Bioscience & Technology, Seoul National University, South Korea, Prof Francis Petersen, Rector, University of Free State, South Africa, gave insights on transformational institutional leadership in higher education within their own contexts. Emerging issues and actions for collective action included:

- i. Academic institutions have the potential to bring about the change we want to see in the world because they train leaders. They can induce the fastest change and shape the kind of society the world wishes to have. Unfortunately, the current pedagogical model in higher education is ‘professor’ dominant, removing the student from the centre and lacking the required aspects of experiential, exploratory and participatory learning. Using the EARTH University Model, in which the professor is a facilitator of student learning and the training is grounded in conflict resolution, social & environmental awareness, good values and ethics, has a good balance of e-learning by doing, entrepreneurship, student field attachments, student extension models, internships, and university-industry linkages, the much needed transformation in academic institutions, in the agricultural sector and in the world, could be achieved.
- ii. In order to interest youth to agriculture, hosting outreach and agri-business incubation centres in universities, focused on the youth, can be effective. Further, modified attachments which allow students to have longer periods of attachment to industry after the final year of their studies should be adopted. Universities need to internationalize their academic programmes, and to develop & maintain strong linkages with industries and other sectors of the economy for co-creation of knowledge and job creation. Using the model of China, universities in African could endeavor to shift disciplines from mono- to multi-disciplinary programmes and transform to human value orientation.
- iii. In order for universities to transform, Government support, through grants, is critical. Additionally, universities will not transform in the absence of transformational leadership in which a leader inspires, is a role model and drives followers to the vision, while maintaining good chemistry and having good professional networks.

***The future demands transformative change, we therefore must all commit to action and move beyond the rhetoric***

## **Session 2: CARP Principal Investigators Meeting**

**Venue: PDC- S301**

### **Background**

Societies have increasingly come out strong demanding for the relevance of universities in contributing to the improvement of economic and social living conditions of communities. This increased demand for the relevance of universities is now redefining how universities approach their space in national and regional discourse. Increasingly, universities are paying attention to the third role of outreach with a strong articulation for engagement such universities are seen as engaged institutions connecting with communities to address their everyday challenges and development aspiration.

The Regional Universities Forum for Capacity Building (RUFORUM) has been focused on strengthening engaged universities as part of catalysing the role of universities in contributing to rural development. Over the years, RUFORUM has done this through a unique sub-granting mechanism of the Community Action Research Programs (CARPs). The CARPs are designed as innovation platforms that represent spaces for learning and change, bringing diverse actors together to co-design, co-innovate, co-produce and co-implement innovations and solutions responsive to challenges faced by the actors in the agricultural system. Within the context of RUFORUM, the CARPs are implemented along commodity value chains with the aim enhancing production and productivity, value addition and commercialisation.

RUFORUM initiated the CARPs in 2009 as a mechanism for taking to scale the several pilot innovations generated from the Graduate Research Grants (GRGs). The GRGs had generated several technologies, innovations and management practices but were too scattered at pilot level and not significantly engaging communities. It was time to reduce researching on the community to researching with the community and playing an active role in transforming agricultural practice among the smallholder farmers in Africa. But, this required a platform for universities to play this role and this platform was provided by the CARPs.

The initial CARPs; fish (Malawi), Cassava (Uganda), Dairy (Tanzania), and Wheat (Ethiopia) were implemented with funding support from the Bill and Melinda Gates Foundation. The success realised from these initial CARP projects laid the foundation for an expanded approach to utilisation of the CARPs in the RUFORUM programming as ‘scaling laboratories’. With the support from the Mastercard Foundation through the Transforming African Agricultural Universities to meaningfully contribute to Africa's growth and development (TAGDev) program, RUFORUM has extended this model to more countries and value chains. These include: two Cassava projects (Kenya) two Potato projects (Kenya and Kenya), Baobab (Benin), Pineapple (Ghana), Safflower (Botswana), Sheep and wool (South Africa), Rice (Uganda), Piggery (Uganda), cereals, legumes and water harvesting (Zimbabwe), encroacher bushes (Namibia), famine crops (Sudan), vegetables (Sudan), apiary (Sudan) and natural resources management (Sudan). These CARPs seek to:

- i. Support collaborative action research led by universities with participation of graduate students that addresses critical agricultural production and marketing constraints facing smallholder farmers in Africa;
- ii. Provide opportunity for creation of multi-stakeholder ‘platforms’ that support value chain development for the benefit of small-holder farmers and to enhance the impact of university activities;
- iii. Provide action research platforms and opportunities for greater student engagement and experiential learning in supporting smallholder farm development through agribusiness and ensure that lessons are used to facilitate university reflection and learning;
- iv. Support strengthening of TVET institutions through engagement and joint action between universities and TVET institutions to enhance the impact of knowledge on small-holder farms

### **Purpose of the dialogue**

As the international development community strives to ensure that interventions go beyond fragmented and one-off projects to scaling of successful innovations and pilots for maximising impact at scale, the CARPs provide a unique and illustrative platform to serve as ‘scaling laboratories’. The CARPs as ‘scaling laboratories’ provide for a platform for co-creation with a practical orientation in demonstration and learning points to support going beyond a successful pilot. Through this, sustainability of the interventions and development outcomes could be secured. Therefore, the purpose of this dialogue was:

- i) Showcase some of the on-going work in the Community Action Research Programme;
- ii) Building capacity of the CARP+ Principal Investigators on critical thinking and business incubation with their projects;
- iii) Share experiences, lesson and challenges in community action research and collaboration; and
- iv) Collaboratively discuss on the sustainability of CARP initiatives into the future

### **Meeting Proceedings**

#### ***Purpose of CARPs***

The CARPs are designed as university innovation platforms that bring diverse actors together to build capacity and co-design, co-innovate, co-produce and co-implement innovations and solutions responsive to challenges in rural areas. These CARPs are implemented along commodity value chains to enhance productivity, food security, value addition and commercialisation. To ensure that interventions go beyond fragmented the CARPs provide a unique and illustrative platform to serve as

‘scaling laboratories’ that combine action research with students involved in practical implementation. They are university facilitated platforms that engage in multi-disciplinary, multi-sectoral, and multi-agency initiatives that put smallholder farmers and micro-enterprises at the centre. They are interdisciplinary and help to more closely link universities to their societies.

This is a very different approach than that normally employed by university researchers and takes the senior scientists and students outside their comfort zones. Initially it is difficult for them to accept all the additional time and effort required to facilitate engagement and broker relationships. RUFORUM has been closely engaged with these projects to support them to transform their approach and to see the advantages of this more inclusive research and implementation platform.

The sessions held at the Triennial Higher Education Conference in Benin, December 2021, provided an opportunity to engage with the project leaders, discuss their progress and challenges and give them support in charting their way forward. A number of outside experts shared information on enterprise development, the core elements to put in place to encourage sustainability and the new trends and possibilities for supporting rural transformation. The group also discussed their involvement in producing a book documenting the CARP experiences with Megan Lindow who will author the story volume, while they will contribute chapters to the science volume.

### ***Overall Impression on the academic status of the CARPs***

The focus of the meeting was on the broader issues of impact, multiplier effects, maintaining relationships, and the sustainability of their projects. The participants have all undertaken to provide the current status of their academic progress in tables and that analysis will form part of the final report. They were asked to focus their presentations on the impacts and lessons arising from implementing their projects.

On the whole, although all had been affected and delayed by the Covid-19 pandemic lockdown and other disruptions, they are all back on track academically. The CARPs in Uganda, Kenya, and Benin, which were funded earlier, had progressed well and are at the stage of finding ways to strengthen impacts and future engagement. From the information so far presented, some (not all) of the CARPs in Sudan, Ghana, Zimbabwe, Botswana and Namibia have one, or two, students who might be considerably delayed because a different student had to be recruited or other reason. But all assured the meeting that they will still be able to achieve their targets within the budget, although they may have to apply for no-cost extensions. All the CARPs indicated that they had produced scientific papers and created various popular media channels to communicate their results to the communities.

Overall Impression of the impact of the CARPs on transforming the universities’ approach to research and potential role as a fulcrum for catalysing change in local communities

It was most gratifying that participants clearly articulated how excited they were to have been engaged in this approach. The CARPs that had almost completed were most enthusiastic in their presentations of what they had achieved and how these platforms had already triggered meaningful changes. The meeting in Benin further energised all and even the most sceptical scientists now really understand the benefits that came from these platforms: to their own personal careers, those of the students, to the universities as they broaden and deepen their partnerships, and most especially to see that what they are doing, can significantly improve the lives of poor rural farmers. They were excited that they are able to play a role in transforming the lives of the farmers and also to provide opportunities to students and to be better linked with the private sector, local government and even be in a position to influence policy. All three Kenyan CARPs have been directly engaged in new national policy initiatives. The pig and rice CARPs in Uganda have changed local policies and have resulted in new, innovative businesses. The baobab CARP has raised nutrition levels and assisting in supporting biodiversity and reducing negative impacts on naturally occurring trees. The pineapple CARP in Ghana has influenced the extension services and showcased the potential for mobile phones and drones to support small-scale farmers improve production. The CARPs in Sudan and Southern Africa are starting to show their potential for broader impact. It was clear that the CARP platforms are building up relationships of the universities with both private sector and government agencies.

Furthermore these platforms are impacting communities not only with their innovations but also by facilitating closer links with services and markets.

### ***Overall Impression of the impact on the communities***

All the CARPs have already shown strong evidence of improving the lives of the communities they work with. A glimpse of some of the impacts can be seen in the films which have just been produced showing just a few of the positive impacts on the Egerton [potato](#) and [cassava](#) CARPs and on the Gulu [pig](#) and [rice](#) CARPs and the [baobab](#) CARP in Benin. The gains are extensive and even in the newer CARPs, rural livelihoods and the quality of the lives of smallholder farmers have been lifted as can be seen in the film on the [wool](#) CARP. The presentations at the meeting in Benin gave information on the benefits already created in Ghana, Sudan, Zimbabwe, Namibia and Botswana. An example was of the Deputy President of Botswana encouraging one women's group to contact the university and the small farmers already selling safflower seed and medicinal teas, with demand outstripping supply.

### ***Contribution to graduate relevance and potential for employment***

There was evidence presented that in the advanced CARPs most of the students were all gainfully employed – some in other countries with international agencies and there were quite a few who have started businesses related to their CARP innovations. There is also evidence that other students have picked up innovations from the colleagues and taken them back to their home countries (e.g. a TAGDev student, not linked to a CARP, who has started a pig business in Cameroon using some of the innovations trialled in the Gulu pig CARP). The CARP gives the students real insight into the challenges of rural communities and a chance to develop or adapt technologies to meet them. It gives them a chance to hone their communication skills with farmers and with senior government officials or business people. It requires them to be creative and increases their confidence and helps them develop the skills they need to be effective change agents.

### ***Overall Impression of the impact of working with Technical and Vocational Agricultural Colleges***

This has been a remarkable success. Both the TVET members present and the Principal Investigators from the universities gave evidence of much stronger links as a result of the CARPs. In most cases there were no links before and now they are working together to extend information to the farmers, or to produce and sell seed, or to supply equipment and maintenance to the CARP projects. The TVET students are sometimes directly supported through the projects and they often work alongside the university students on particular aspects. In several cases the TVET colleges articulated how they had gained visibility and increased their student numbers and client base. They all agreed that the relationship is expected to be sustained after the project and several are already now cooperating with other university departments.

### ***Building relationships with other stakeholders in agricultural research and rural development***

The presentations given identified a wide range of areas where the CARP platforms had strengthened existing relationships and built new ones. These were with research agencies (almost all), government, NGO and private sector extension/information systems (e.g. pineapple and sesame/water harvesting), large private sector processing and marketing systems (e.g. Namibia meat processors where the contact even travelled to the conference in Benin), established micro-enterprise training and support systems, and strengthened the role of their universities in providing evidence and support to policy-makers.

### ***Other benefits***

The other benefits associated with the implementation of the CARPs included a range of unintended benefits where the farmers, or the TVETs, or the universities have gained other unrelated benefits because of the establishment of the platforms e.g. the improved social cohesion arising out of farmers working together on the projects, or linking of the university more closely with international agencies (e.g. Sudan with the Institute of Desertification Studies, Baraka TVET, Kenya with the International Potato Centre). By supporting TVET enrolment of students from very remote project farmers in Zimbabwe, the participants highlighted benefits from other skills and technologies brought home, creating an even stronger relationship between farmers and university. The demands of the CARP

would often require the PI to find alternative ways to achieve their objectives, so building their own ability to adapt and find solutions. Sometimes these would include learning from each other (e.g. Ghana learning from Kenya on pineapple multiplication when tissue culture too expensive).

The CARPs are directly contributing to a much greater appreciation for the importance of interdisciplinary approaches to address issues faced by the farmers – and also when developing Applications and other 4IR technologies. In various ways the projects identified the challenges but also the significant benefits of working in multi-disciplinary teams. All the CARP projects have raised the visibility of their institutions and of the Principal Investigators and enhanced their own, and their student, career paths. They are also making a significant contribution to global knowledge by working in remote areas on relatively under-researched commodities that are important to local livelihoods and nutrition.

### ***Sustainability of the CARPs***

The sustainability of the CARPs does need investment of time and the continued strengthening of relationships. It was rewarding to hear some of the initiatives already underway that will contribute to sustaining individual innovations and enterprises established. It was even more rewarding to hear of efforts to institutionalise and strengthen the relationships established through the platform (e.g. developing a Root Crop Centre of Excellence at Egerton by working with the government agencies and other stakeholders involved in the CARPs). The issue of sustainability was discussed in some depth with ideas shared on the key elements to try to put in place to ensure that the innovations and platforms are sustained in the communities and at the university. There was also some discussion of the potential for developing or supporting larger enterprises and it was recognised that attention will need to be given to patents and also to how to structure these if they are to be closely linked to the universities or the TVET colleges. The participants were exposed to some examples of how the early CARP projects have evolved showing that they are not expected to necessarily retain the same profile. The CARP projects are catalysts and should be adaptable to changing circumstances.

### **Conclusion**

This two day dialogue provided CARP PIs with opportunity to discuss some of their challenges and share how these had been overcome, they gained from ideas on how to institutionalise and help to sustain the activities triggered by the CARPs and all participants felt that they had gained from traveling to Benin, despite the challenges of travel during Covid-19. They are clearly excited by what they are achieving and are keen to be able to take the CARPs forward and to continue the momentum. Some of the Principal Investigators at the Meeting

### **Session 3: Meeting of Governments' Technical Experts**

**Venue:** Golden Tulip Hôtel

### **Background**

In 2018, Universities in Africa under the Regional Universities Forum for Capacity Building in Africa (RUFORUM) network, adopted the African Higher Education, Science, Technology and Innovation Strategy (AHESTI)/ Vision 2030 as a guiding framework for strengthening universities' contribution to Africa's development. This was premised on the realisation that universities and their constituents have a significant role towards sustainable development to meet the Agenda 2063 and SDG targets. Knowledge brokerage, science, technology and innovations will drive these Agenda if Africa is to realise any tangible benefits.

RUFORUM was established by Vice Chancellors to meet three basic objectives:

- i. Provide a platform for networking, resource mobilization and advocacy to transform universities for relevance towards inclusive sustainable development
- ii. Rationalize resource use and enhance economies of scale and scope
- iii. Provide a platform for training quality graduates to support development processes in Africa

In fulfilment of these objectives and in line with the governance structures that were instituted, RUFORUM has organised convenings that bring together diverse stakeholders to deliberate, the



contribution of universities to the development agenda, university-policy engagement has brought evidence-based decision making at the forefront; and the exploration of university- public, private and informal sectors linkages as the future of transition to the world of work for graduates.

Against this background, the 2016 Cape Town Annual General Meeting and Biennial Conference hosted a Ministerial Round table that recommended a more structured approach to the initiatives that support higher education. The 2018 Ministerial meeting held during the Sixth Africa Higher Education Week and RUFORUM Biennial Conference in Nairobi challenged African Universities to develop regional investment programmes for enhancing human capital development. Five continental initiatives notably, (i) the Strengthening Higher Agricultural Education in Africa (SHAEA); (ii) Building Africa's Science, Technology and Innovation Capacity (BASTIC); (iii) Strengthening Africa's Innovation and Entrepreneurship Capacity (SASTIE); (iv) Regional Initiative to Strengthen Staff Capacity and Increase the Pool of Women Scientists in Africa (RISSCAW); and (v) the African Digital Agricultural Platform (AfriDAP) were endorsed by the 2019 Ministerial Round table during the 15th Annual General Meeting in Cape Coast Ghana that was organised under the Delivering on Africa's Universities Agenda for Higher Agricultural Education, Science, Technology and Innovation (AHESTI): What will it take?" theme.

While there has been some progress since the December 2019 Cape Coast Ghana AGM, there have also been challenges notably the disruptions caused by the COVID-19 pandemic. It is important to review these initiatives and establish pathways for operationalisation if the intended outcomes towards Africa's economic development are to be realised.

### **Objectives of the Technocrats Round-Table Meeting**

The technical Experts' roundtable was one of the meetings held during the 2021 African Higher Education Week and RUFORUM Triennial Conference to be hosted by the Government of Benin, 6<sup>th</sup> December 2021. The overall objective on the round table was to review progress and map out a pathway for the operationalisation of the Cape Coast and other continental initiatives for universities to contribute to the regional and global agendas. This was a technical review that fed into the proposed ministerial meeting. Specifically, the Technocrats Round Table Dialogue aimed at:

- i. Reviewing commitments made by the Cape Coast Ghana Ministerial Meeting and agree on key action points for the development of agriculture, science, technology and innovations in Africa;
- ii. Considering priorities and constraints to adoption and adaptation of the recommendations made by the Lilongwe Declaration of the United Nations Food Systems Summit (UNFSS) Heads of State University-policy dialogue for strengthening resilience;
- iii. Reviewing progress on the Strengthening Higher Agricultural Education in Africa (SHAEA) initiative and the systemic implications on Higher Agricultural Education (HAE) on the continent; and,
- iv. Receiving update on RUFORUM implementation of the tasks assigned to it under the Committee of Ten Heads of State Championing Education, Science, Technology and Innovation in Africa (C10) Lilongwe 2018 Summit Action Plan.

### **Approach**

The technocrats meeting was designed to provide an in-depth analysis and discussions on the status of agriculture, science, technology and innovations in Africa. The round table attracted participants from Ministries of Agriculture, Higher Education and or Science and technology in dialogue with development partners for the realisation of the science and technology agenda for Africa.

The round table had a keynote address on the human capital investment in the knowledge driven economy. The key note address was expected to stimulate engagement and discussion as well as facilitate dialogue amongst policy makers, higher education practitioners and development partners. The second session was reserved for reviewing the progress in Implementation and the operationalisation of the five key continental initiatives, with special focus on 4:

- i. Strengthening Higher Agricultural Education in Africa (SHAEA)

- ii. Strengthening Africa's Innovation and Entrepreneurship Capacity for Economic Development (SASTIE) and the Pilot Feasibility Study for Youth Employment and Entrepreneurship in the Agricultural Sector undertaken in Uganda
- iii. Proposal on a Joint Initiative to strengthen Staff capacities in African Universities and increase the pool of Women scientists (RISSCAW)
- iv. The African Digital Agricultural Platform (AfriDAP)

The meeting provided technical evidence on the country specific needs, gaps and required strategic actions for effectively harnessing ST&I regional cooperation for economic development through the five initiatives. While noting that operationalisation required partnerships with a multi stakeholder focus at national and continental level the meeting included technical experts and other stakeholders. The final output was expected to be an Action Plan to be presented to the Ministerial Round Table scheduled for Tuesday 07<sup>th</sup> December 2021.

### Session outcomes

Universities in Africa under the Regional Universities Forum for Capacity Building in Africa (RUFORUM) network, adopted the African Higher Education, Science, Technology and Innovation Strategy (AHESTI)/ Vision 2030 as a guiding framework for strengthening universities' contribution to Africa's development. This was premised on the realisation that universities and their constituents have a significant role towards sustainable development to meet the Agenda 2063 and SDG targets. In exploring the potential pathways for engagement, and realisation of this mandate, RUFORUM has undertaken studies, hosted ministerial round tables and dialogues. Emerging from these discussion were five (5) fundamental opportunities that should drive the 'Call to Action' that was put forward as the focus during the 7th Higher Education Week and Triennial Conference in Cotonou Benin:

- i. Put **higher education at the service** of the development of Africa through adoption of strategies for evaluating the capacities of teaching resources, developing training offers and curricula that meet the needs of national employment markets
- ii. A deliberate effort for **investment in home grown institutions** to provide local solutions with more appropriate application to local contexts; Make a substantial contribution to development of at least 2% of GDP, and other higher education
- iii. **Science solutions for growth**: Need for significant investments in key productivity enhancing innovations including, harnessing competitive advantage, improving markets and eliminating trade and non-trade barriers; For Africa to realize its full agricultural potential to bolster its food systems, there is need for significant investments in key productivity enhancing innovations to harness science-based solutions for growth-
- iv. **Improving the labour productivity through** skilling and STI solutions to meet local to global skills and food demand. Labour productivity coupled with agri-innovations will create opportunity to increase rural incomes and participation in the cash economy; ensure that the labour force has a development mind set, develop the midlevel management systems,
- v. **Making agriculture attractive to the youth** to ensure the sustainability of the agricultural sector and strengthening the capacities of the smallholder producers and SMEs to generate effective demand for science, technology, and innovation. Science technology and innovation should be relevant to the small holder farmer to emphasise the symbiotic relationship between higher education and development.
- vi. **Partnerships**, co-developing, co-ownership and joint implementation initiatives to promote quality STI food systems which must be inclusive and provide equitable opportunities for all will drive the development process. New divide between private sector and academia-Attachments in industry to take advantage of the existing infrastructure. Science parks for commercialization to pick research output to the market. Government Innovation fund in partnership with the private sector so that new products can be taken to the market.
- vii. **Knowledge sharing and academic mobility** across the continent and across the different levels of education, between universities & research institutions and university & private sector

**NOTING that:**

- i. Africa is home to diverse agricultural value chains and countries have competitive advantage in the production of agricultural products.
- ii. Vibrant Agri-food-systems and institutions engaged in the agricultural value chain, from food production to food consumption, are key to delivery of the continent's development Agenda 2063, *The Africa We Want*, and to meet the UN Sustainable Development Goals (SDGs).
- iii. The African Union Commission has a designated [Committee of 10 \(C10\)](#) with mandate to champion higher education on the continent: The C10 Action plan has been in operation since 2018 and the RUFORUM is among the institutions designated to operationalise the provisions of the [Action Plan](#).

The actions points by focus area and commitment from previous engagements to be considered during the technical experts meeting on 6<sup>th</sup> December 2021 derive from the issues raised above are highlighted below. The output from the dialogue was taken to the Ministers Meeting on 7<sup>th</sup> December 2021

**Actions points by focus area and commitment from previous engagements**

Focus Area	Commitment	Target Ministry	Approach
<b>Strengthen Linkages Within And Across The Education Sector and other sectors</b>	Invest strongly in the education value chain, across universities and vocational colleges, to leverage secondary and primary education to upgrade the skill levels of young people entering the labour force	Ministry Responsible for Higher Education	<ul style="list-style-type: none"> <li>• National Plan articulation/document ation and adoption</li> <li>• Institute technical universities</li> <li>• Science enrollment at the lower levels of education</li> </ul>
	Work collaboratively with African Universities and other actors, in and outside Africa, to marshal the needed capacity to strengthen Africa's Food Systems and to scale up best practices, including for, but not limited to: increased value addition, and reduction in high post-harvest losses	Ministry of Higher Education, Science, Technology and Innovation Ministry of Agriculture – provide a framework for engagement	<ul style="list-style-type: none"> <li>• Policy Brief</li> <li>• Task universities to identify entry points and areas of intervention</li> <li>• Convene Meeting between Universities and responsible ministries</li> <li>• Identify potential Partners</li> </ul>
	Pursue the requisite partnerships to the Strengthening Africa's Science Technology Innovation and Entrepreneurship Capacity for Agricultural and Economic Development (SASTIE); and for Building Africa's Science, Technology and	Ministry responsible for Science Technology and Innovations to review the most appropriate initiative for the countries represented. Work with the Ministries of Finance	Interested countries to develop targeted concept notes and proposals to take forward the chosen initiative



Focus Area	Commitment	Target Ministry	Approach
	Innovation Capacity (BASTIC) as encapsulated in the African Ministers Communiqué of 5 <sup>th</sup> December 2019 in Cape Coast Ghana.		
	Facilitate African universities to intensify their contribution to national and continental development agenda (take research work to the market). and boost private sector engagement to support agricultural sector development	Ministry of Education, Science and technology	<ul style="list-style-type: none"> <li>• Develop and/or adopt existing policies for university- private sector engagement. Within a framework of Intellectual property.</li> <li>• Resource mobilization and Explore opportunities for setting up Incubation hubs and technology parks that link universities to the private sector and the market</li> </ul>
	Advocate to the AU Committee of Ten to commit a special fund to facilitate the training of female university members of staff and women in general to PhD level to support of Agenda 2063 vision of quality education and gender equality	Ministry of Higher Education, Science, Technology and Innovation	<ul style="list-style-type: none"> <li>• Participation in Agenda AU HRST agenda setting for               <ol style="list-style-type: none"> <li>1. Increased academic mobility schemes across the network</li> <li>2. Increased staff capacity development</li> </ol> </li> </ul>
<b>Partnerships For Strengthening Higher Agricultural Education And Food And Nutrition Security</b>	Actively engage in: the European Union-African Union Partnership on Food, Nutrition Security and Sustainable Agriculture Initiative; the Africa Union-European Union Research and Innovation Partnership on Climate Change, Green Circular Economy and Sustainable Energy; the Global Research Alliance on Agriculture Greenhouse Gases (GRA); and other continental and global initiatives;	Country specific based on priority focus	<ul style="list-style-type: none"> <li>• Government of Benin to take leadership to link with the African Union</li> <li>• Sharing lessons of engagement</li> </ul>

Focus Area	Commitment	Target Ministry	Approach
	Leveraging partnerships to mitigate the effects of COVID -19 , and on the learning Promoting e-learning and mitigating the effects	Ministry Responsible for Higher Education	Enhance Knowledge Sharing. Communication and advocacy  AfriDAP program an important avenue for RUFORUM and other African universities
<b>High level policy commitment by African Ministers, Heads of State and Government to Strengthen Agri-Food Systems</b>	Strengthen production fundamentals, such as research and innovation, foresight capacity to direct how we leverage our production resources, generate relevant technologies, test and incubate, and transfer and protect the Intellectual Property Rights (IPR) of these technologies and the work of academia;	Ministry responsible for Science Technology and Innovations	Advocate for investment and resource allocation at the AUC including under the joint Africa-EU Strategy Encourage private sector engagement  Technology solutions should be visible to the users.  <b>Working paper with programs to</b> <ul style="list-style-type: none"><li>• Develop research chairs</li><li>• Increase academic mobility schemes across the network</li><li>• Increase staff capacity development</li></ul>
	Invest in youth programs that advance requisite technical skills, entrepreneurship and uptake of digital solutions to expand innovation and employability	Ministry responsible for Higher Education	Concept Note targeting partnership and support for youth and employability programmes
	Foster global partnerships to develop more sustainable, inclusive and resilient food systems that consider the needs of smallholder farmers, the youth and women	Ministry Responsible for Agriculture	Capitalize of existing frameworks such as CAADP and the Biennial CAADP Review framework
	Work towards harnessing competitive advantage, improving markets and eliminating trade and non-trade barriers for agri -food products on the continent.	Ministry Responsible for Agriculture to Ministry of Regional Cooperation	Documentation and adoption to ensure integration with broader national and regional framework
<b>RUFORUM Charter</b>	Endorse the RUFORUM Charter through the	Ministry responsible for Higher Education	<ul style="list-style-type: none"> <li>• Initiate documentation at national level</li> </ul>

Focus Area	Commitment	Target Ministry	Approach
	<p>respective country procedures to engage RUFORUM as technical advisory agency in the design and implementation of Higher Agricultural Education, Science, Technology and Innovation Initiatives; and, support the strengthening of TVET systems and educational value chains in Africa</p>		<ul style="list-style-type: none"> <li>• Awareness creation, knowledge sharing, communication and advocacy.</li> <li>• Framework for Improving communication between universities and policy makers</li> </ul>

## Day Six: Tuesday 07<sup>th</sup> December, 2021

### Session 1: RUFORUM Board Meeting

**Venue:** Blue Auditorium Palais des Congrès; Blended (Link: <https://bit.ly/3reIsVj> )

#### Background

The RUFORUM Board of Trustees (the Board) and Annual General Meeting constitute the supreme policy decision-making organs of the RUFORUM Network. The Board comprises Vice-Chancellors of all member Universities and other stakeholders who represent the non-University Board members. Every year, the Board meets once to conduct its business and all Board Members facilitate their participation in such meetings. The Board makes resolutions that are presented to the Annual General Meeting for ratification. The 20<sup>th</sup> RUFORUM Board Meeting is scheduled to take place on 7<sup>th</sup> December, 2021 as a blended session at University of Abomey Calavi, Benin. Since the last Board meeting held virtually on 11<sup>th</sup> November, 2020 several new developments transpired in the RUFORUM Network that warranted the need to have the Board updated on these new developments. The Board Executive Committee (BEC) met on 13<sup>th</sup> August 2021 on behalf of the Board of Trustees to oversee Secretariat operations, and take decisions on behalf of the full Board as needed. The Board Executive Committee reported on actions taken on behalf of the Board.

#### Purpose and Objectives of the 18th RUFORUM BOARD Meeting

The 20<sup>th</sup> RUFORUM Board Meeting conducted formal business and among others, received and considered the report of the Board Executive Committee. The meeting was further expected to consider and make recommendations to the Annual General meeting that was held on 10<sup>th</sup> December, 2021 on the following key issues, among others:

- i. Consider minutes and actions from the 19th RUFORUM Board meeting;
- ii. Receive report from the Board Executive Committee on activities and actions on behalf of the Board since the November 2020 Board Meeting virtually hosted by Mohammed VI Polytechnic University, Morocco
- iii. Receive and consider Secretariat report for the Activity Year July 2020 – June 2021 and proposed Annual Work plan and Budget for the Activity Year July 2020 – June 2021;
- iv. Consider requests for membership from universities that wish to be part of the RUFORUM network;
- v. Review the 2020/2021 External Audit Report; and,
- vi. Elect a new RUFORUM Board Chair;

#### Approach and Methodology

The Board of Trustees Meeting was presided over by the Board Chairperson and was organized by RUFORUM Secretariat as a Session prior to the Annual General Meeting that was held at Palais des Congrès, University of Abomey Calavi, Benin on 10<sup>th</sup> December, 2021. The Board of Trustees Meeting was held as a blended event on 7<sup>th</sup> December, 2021 from 14:00hrs to 17:00hrs. The meeting was attended by all the Board Members/Vice Chancellors, International Advisory Panel (IAP) Members, Technical Committee members and other invited guests who will participate as Observers.

#### Session outcomes

Issues and Actions from the 20 <sup>th</sup> Board meeting held at Blue Auditorium Palais des Congrès, Benin Ghana on 7 <sup>th</sup> December, 2021	
Minute	Action
<b>Min</b> <b>7/RUF/07/December/2021:</b> Minutes and Actions from the 19 <sup>th</sup> RUFORUM Board Meeting held virtually and	RUFORUM reshared the soft copies of the Minutes

<b>Issues and Actions from the 20<sup>th</sup> Board meeting held at Blue Auditorium Palais des Congrès, Benin Ghana on 7<sup>th</sup> December, 2021</b>	
hosted by Mohammed VI Polytechnic University, Morocco	
<b>Min 9/RUF/07/December/2021:</b> Review of the 2020/2021 Financial report and budget proposal for 2021/2022	A mechanism be developed to assist member universities pay the membership subscription
	RUFORUM Secretariat sends invoice for Membership Subscription payments to member universities
	Follow up be undertaken with universities having outstanding accountabilities
<b>Min 11/RUF/07/December/2021:</b> Update on the implementation of the Graduate Teaching Assistantship (GTA) Programme	Deans devise measures of increasing GTA completion rate given that so far only 25 have graduated out of the 325.
	Measures of refocusing the GTA in case pandemics are experienced needed to be developed.
	The Board established a committee to devise measures of ensuring that scholarships are managed to ensure that Young people take advantage of them
	A rethink GTA research support component be undertaken
	GTA fellows fulfilled the admission criteria into Universities
	The reasons behind the low GTA outcomes need to be devised given that GTA students are paid salary, though this varies by country.
	A marketing strategy for the GTA be devised to render the GTA as a priority by students. There was a tendency for students to consider GTA as a last resort
	GTA implementation modalities amongst Ethiopian universities needed to be developed due the salary levels as well as challenges to hard currency. Consultations needed to be undertaken with the Ministries of Finance and Education
	Vice Chancellors be requested to champion the operationalization of the GTA MoU
	RUFORUM shared the status of GTA with respective University Deans for follow up. This would enable the Deans to report objectively to the higher levels of authority
	RUFORUM harmonized the focal point of GTA within member universities given that the GTA focuses beyond agriculture and other faculties have been engaged
<b>Min 11/RUF/07/December/2021:</b>  Report from the International Advisory Panel	Patenting culture be strengthened amongst member universities
	RUFORUM considered engagement in the COP 27 to be held in Egypt
	The RUFORUM Board reviewed the full acronym of RUFORUM to consider: “Regional Universities Forum for Capacity Building in Africa.”

## **Session 2: Ministerial Round Table**

**Venue:** Golden Tulip Hôtel

### **Background**

In 2018, Universities in Africa under the Regional Universities Forum for Capacity Building in Africa (RUFORUM) network, adopted the African Higher Education, Science, Technology and Innovation Strategy (AHISTI)/ [Vision 2030](#) as a guiding framework for strengthening universities’ contribution to Africa’s development. This was premised on the realisation that universities and their constituents

have a significant role towards sustainable development to meet the Agenda 2063 and the SDG targets. Knowledge brokerage, science, technology and innovations will drive these Agenda if Africa is to realise any tangible benefits.

RUFORUM was established by Vice Chancellors to meet three basic objectives:

1. Provide a platform for **networking, resource mobilization and advocacy** to transform universities for relevance towards inclusive sustainable development
2. **Rationalize resource** use and enhance economies of scale and scope
3. Provide **a platform for training quality graduates** to support development processes in Africa

In fulfilment of these objectives and in line with the governance structures that were instituted, RUFORUM has organized convenings that bring together diverse stakeholders to deliberate, the contribution of universities to the development agenda, university-policy engagement has brought evidence-based decision making at the forefront; and the exploration of university- public, private and informal sectors linkages as the future of transition to the world of work for graduates.

Against this background, the [2016 Cape Town Annual General Meeting and Biennial Conference](#) hosted a Ministerial Round table that recommended a more structured approach to the initiatives that support higher education. The [2018 Ministerial meeting](#) held during the Sixth Africa Higher Education Week and RUFORUM Biennial Conference in Nairobi challenged African Universities to develop regional investment programmes for enhancing human capital development. Five continental initiatives notably, (i) the Strengthening Higher Agricultural Education in Africa (SHAEA); (ii) Building Africa's Science, Technology and Innovation Capacity (BASTIC); (iii) Strengthening Africa's Innovation and Entrepreneurship Capacity (SASTIE); (iv) Regional Initiative to Strengthen Staff Capacity and Increase the Pool of Women Scientists in Africa (RISSCAW); and (v) the African Digital Agricultural Platform (AfriDAP) were endorsed by the 2019 [Ministerial Round table during the 15th Annual General Meeting](#) in Cape Coast Ghana that was organised under the Delivering on Africa's Universities Agenda for Higher Agricultural Education, Science, Technology and Innovation (AHESTI): "What will it take?" theme.

While there has been some progress since the December 2019 Cape Coast Ghana AGM, there have also been challenges notably the disruptions caused by the COVID-19 pandemic. It is important to review these initiatives and establish pathways for operationalisation if the intended outcomes towards Africa's economic development are to be realised.

## Session outcomes

### Ministerial Communiqué

#### **Operationalising Higher Education for Innovation, Industrialisation, Inclusion and Sustainable Economic Development in Africa: A Call for Action 7th December 2021- Golden Tulip Hotel Cotonou Benin**

During the 2016 Cape Town Annual General Meeting and Biennial Conference, The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) hosted a Ministerial Round table that recommended a more structured approach to the initiatives that support higher education in Africa. The 2018 Ministerial meeting held during the Sixth Africa Higher Education Week and RUFORUM Biennial Conference in Nairobi challenged African Universities to develop regional investment programmes for enhancing human capital development. Five continental initiatives were endorsed by the 2019 Ministerial Round table during the 15th Annual General Meeting in Cape Coast Ghana that was organised for what it will take to deliver on Africa's Universities Agenda for Higher Agricultural Education, Science, Technology and Innovation (AHESTI).

The 2021 Seventh African Higher Education Week and RUFORUM Triennial Conference was **a call to action** for the previously recommended and agreed initiatives. The meeting was attended by representatives of the Governments of Benin, Cameroon, DRC, Ghana, eSwatini, Liberia, Mali, Mozambique, Namibia, Senegal, Sierra Leone, Somalia, South Sudan, Uganda and Zimbabwe.

**The objectives of the Ministerial Round Table were to:**

1. Receive a proposed Action Plan for operationalisation of the five continental initiatives agreed upon in Cape Coast Ghana
2. Build on the commitments made by the Cape Coast Ghana Ministerial Meeting and to identify and or confirm the action points for the development of agriculture, science, technology and innovations in Africa;
3. To consider priorities and constraints to adoption and adaptation of the recommendations made by the [Lilongwe Declaration](#) of the UNFSS Heads of State University-policy dialogue for strengthening resilience; and,
4. To review progress on the SHAEA initiative and the systemic implications on Higher Agricultural Education on the continent.

We, the Ministers and Senior Leaders of Higher Education, Agriculture, Science, Technology and Innovations assembled at the Ministerial Round Table on Higher Agricultural Education, Science, Technology and Innovation held at Golden Tulip Hotel Cotonou –Benin from 6<sup>th</sup> - 7<sup>th</sup> December 2021:

1. **NOTING that:**
  - a. the opportunities for strengthening the higher agricultural education sector in Africa as identified by the 2019 Cape Coast Ghana challenges, notably : (i) increased importance of **human capital** as a basis for strong knowledge based economies; (ii) **Youth** and the demographic dividend requires an urgent and sustained intervention from a multiplicity of stakeholders ( public, private, community and partners) to be able to harness their full potential, (iii) **Technical Skills** at various levels will be a key pathway to accelerating innovation and expanding employment opportunities, iv) **Entrepreneurship** holds the promise for translating the diverse natural resource and tapping into youth potential to develop products that create wealth and solve societal needs; and v) The **Fourth Industrial Revolution** is shaping advances in artificial intelligence and deployment of digital tools for agricultural transformation are still pertinent;
2. **RECOGNISING** that COVID-19 has:
  - a. Generated a framework for higher education and science, technology and innovation in Africa to rethink service delivery and how innovations could be fit for purpose.
  - b. Enabled national governments to acknowledge that universities have a significant role in research, science, technology and innovation for national development
  - c. Provided a clear opportunity for partnership and sharing resources and ideas for development through research across the continent.
3. **NOTING** that
  - a. Research leading to patents is critical for Africa's competitiveness;
  - b. Africa has to build human, financial and infrastructure capacity to mitigate natural and man-made disasters, including pandemics, locusts, floods, drought, and other climate change and related risks that contribute to the fragility of agri-food systems.
4. **ACKNOWLEDGE** the weak linkage between higher education institutions and the private sector as well as the inadequate and severely constrained uptake of technologies generated from research;
5. **NOTING** that
  - a. Funding for postgraduate training in Africa continues to be a hindrance to quality and capacity development for Higher Education and Development in Africa;
  - b. Partnerships will play a significant role in advancement of Africa's Higher Agricultural Education, Science, Technology and Innovation transformation agenda.



6. **RECOGNISING** the importance of higher education as a key mechanism to ensure the attainment of the Sustainable Development Goals (SDGs) and Agenda 2063 '*The Africa We Want*';
7. **NOTING that** there is an opportunity for dialogue, collaboration and joint priorities under the Africa-EU Partnership that has been in existence since 2000 and with other Partners across the globe.

**RECOMMEND** to the African Governments, the African Union Commission, the European Union and other stakeholders to mobilise support for consideration of the following recommendations by the Human Resource, Science and Technology Specialised Committee of the AUC to be tabled to the sixth EU-AU Summit on 17 and 18 February 2022.

1. The collaboration in the field of 'STI and agri-food' should be operationalised for implementation and that Universities should play a significant role in this operationalisation
2. African Governments and EU commit long-term funding for higher agricultural education, science technology and innovations
3. Invest in youth programs that advance requisite technical skills, entrepreneurship and uptake of digital solutions to expand innovation and employability

**EXPLORE FOR IMPLEMENTATION:** Strategic interventions and partnerships to catalyse graduate and postdoctoral training to bolster the capacity of universities in Africa to generate the requisite knowledge, skills and innovations for the development of sustainable agri-food systems in Africa.



## Day Seven: Wednesday 08<sup>th</sup> December, 2021

### Session 1: Plenary Session 2: Building Africa's Science, Technology and Innovation Capacity

**Venue:** Blue Auditorium; Palais des Congrès; Blended (Link: <https://bit.ly/3mVE6A9> )

#### Background

Deployment of Science, Technology and Innovation (STI) has been generally accepted as an effective route to achieve equitable development at national level. Evidence for such has been achieved for countries such as China, Republic of Korea, Malaysia, and Singapore where national governments deliberately invested in knowledge generation, development of technologies and innovations to guide policy making, create jobs and improve service delivery for their citizens and consequently increase local tax revenue and exports.

Africa's Agenda 2063 aspires that Africa will be a prosperous continent with resources and means to drive its own development. The continent will *have well educated citizens and skills revolution underpinned by science, technology and innovation for a knowledge society*. As the first step to achieve this desired state, the Science, Technology and Innovation Strategy for Africa 2024 (STISA 2024) was developed in 2016. The STISA 2024 targets improvements in ST&I infrastructure, professional and technical competence, and entrepreneurial capacity as well as policies and programs. However, ST&I readiness and capacity in Africa is still significantly low compared to the rest of the world. Sub Saharan Africa (SSA) contributed only 1% of the global researchers with only 70 and 90 researchers per million inhabitants by 2013. The number of publications by 2014, were only 18,000, a mere 1.4% of the total global publications and by 2017, and the R&D expenditure dismally low at less than 0.5% of Africa's GDP. Three critical challenges impede Africa's capacity to effectively harness STI for development; i) skills deficit; ii) STI infrastructure; and iii) capital funding for STI based entrepreneurship.

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) has been exploring options to galvanise Agricultural Higher Education, Science, Technology and Innovation Strategy (AHESTI)/ [Vision 2030](#). In operationalizing this strategy, RUFORUM developed five continental initiatives vis: (i) the Strengthening Higher Agricultural Education in Africa (SHAEA); (ii) Building Africa's Science, Technology and Innovation Capacity (BASTIC); (iii) Strengthening Africa's Innovation and Entrepreneurship Capacity (SASTIE); (iv) Regional Initiative to Strengthen Staff Capacity and Increase the Pool of Women Scientists in Africa (RISSCAW); and (v) the African Digital Agricultural Platform (AfriDAP). While all the continental initiatives target variants of science, technology and innovation, the Building Africa's Science Technology and Innovation Capacity (BASTIC) stands out as a driver for ST&I in all the other initiatives. The initiatives have been deliberated by several RUFORUM and other policy organs and received endorsement from continental and regional organizations. There is however, still room to move beyond rhetoric to action.

The RUFORUM 7<sup>th</sup> Higher Education Week and RUFORUM Triennial Conference hosted by the Government of Benin in partnership with RUFORUM member universities in Benin, under the theme *Operationalising Higher Education for Innovation, Industrialisation, Inclusion and Sustainable Economic Development in Africa: A Call for Action* was looking towards awakening this debate. Among the activities for the Conference was a blended **Plenary Session focusing on Higher Education: Building Africa's Science, Technology and Innovation Capacity**. From the regional perspective to be discussed at the Ministerial and Technical Experts Round Table, the Conference was moving towards localizing the dialogue to explore the low hanging fruits and those actions within the mandate of Benin Higher Education, Science Technology and Innovation framework that can be adopted and adapted to advance science technology and innovations at both the national and continental levels.

#### Dialogue Objectives

- i. Engage high level political, technical and academic leadership to identify options for increased investment to build Africa's Science, Technology and Innovation Capacity.

- ii. To provide a platform for open sharing of experiences, lessons and emerging issues related to Building Africa's Science, Technology and Innovation Capacity
- iii. To Identify areas where actors can pool expertise, infrastructure, funding and partnerships to achieve maximum impact related to Building Science, Technology and Innovation Capacity at national and regional levels
- iv. To propose areas of synergy, implementation and coordination mechanism for Building Africa's Science, Technology and Innovation Capacity at national, regional and continental levels
- v. To identify initiatives for the translation of ST&I into technologies that facilitate *Operationalising Higher Education for Innovation, Industrialisation, Inclusion and Sustainable Economic Development in Africa*

### **Rationale**

The dialogue was intended to attract Government leaders, policy makers, technical teams, and funding agencies participants during the Triennial conference. It was convened to provide technical evidence on the country specific ST&I needs, gaps and required strategic actions for effectively harnessing ST&I for economic development and generate actions to be implemented at country level with regional cooperation.

Reaping benefits from ST&I for development requires a common understanding among policy makers, scientists, ST&I entrepreneurs and development partners. The plenary session was expected to be an opportunity to lesson share and identify areas where actors can pool expertise, infrastructure, funding and partnerships to achieve maximum impact for capacity in science, technology and innovation at the national and continental level. The dialogue fed into the technical experts meeting and the ministerial round table to inform the action plan for operationalization of the initiative that is envisaged at continental level.

### **Session outcomes**

Prof Frans Swanepoel Director: International Strategic Partnerships and Professor: Agricultural Transformation in Africa (ATA), Centre for Advancement of Scholarship, University of Pretoria, South Africa noted that RUFORUM commenced processes to engage policy makers through C10 engagements and STISA. This implied that RUFORUM plays a catalytic role through the facilitation processes to enable the continent leapfrog in the era on global knowledge economy

### ***Panel Discussion: Policy and Innovations for Reshaping Africa's ST&I Development***

**Hon. Dr. Monica Jane Musenero Musanza, Minister for Science, Technology and Innovation, Uganda**, deliberated on why all the research taking place in Africa is not resulting into technological transformation. She noted that technologies are not emerging and reasons for such phenomena needed to be distilled. Amongst the issues she highlighted, included research models where she noted that for developed countries, research focuses on developing a product while for Africa it is the pride in developing the knowledge. Universities in Africa focus on developing prototypes as the target and the moment the project ceases, there is no vision to translate this into technological application. This implied that the African concept of research and innovation cannot result into applicability of research developed. Further noted that some of the research models are believed but the governments offer limited research funds because the intention is not to take the innovation/product to the market. Even for research projects, there are no technologies emerging. The governments are sometimes unaware about the costs of research. Once students graduate, they remain unemployed because the research ended at the university. A lot of work is funded but products are not emerging from this research, and this could be attributed to laying emphasis on isolated problems. On Africa, the issue is poverty and in technological development needs to address poverty. To curtail all these setbacks, universities need to sit together with the governments that have the desire for the technologies and develop a common agenda. For the case of Uganda, there are think tanks for eight priority areas encompassing several stakeholders. This warrants the need to undertake prioritization and ensuring that proposed interventions make business sense in order to move beyond the prototype level. She recommended

that mind-set change was needed to focus on industrialization. This mind-set is pervasive and mind-set change of the Minister for Science, Technology and Innovation (MoSTI) was ongoing with focus on industrialization. The end-result of research must be development technology that impacts the livelihoods of the smallholders. Education and ST&I should for instance result into the utilization of Benin-made cars instead of using household items imported from elsewhere

**Hon. Prof. Ansu Dao Sonii, Ministry of Education, Liberia** noted that politicians needed to set the pace taking on the example of Covid 19 that provided key lessons including the need to collaborate: no body is safe and Africans need not separate self from the other side of the world. Further recommended the need to localize the Africa We Want in 2063 to country-specific conditions. Concluded by noting that science is taking center-stage and if technology was deployed to produce massively, Youth unemployment would be tackled.

**Hon. Prof. Amon Murwira, Ministry of Higher and Tertiary Education, Zimbabwe**, noted that their ST&I is not well shaped to achieve objectives warranting the need for redesigning: the design of the education system as well as the philosophy of the education system needed to be redesigned. Further noted the need to consider whether technologies address what the people require; focusing on innovation and industrialization to enable students generate innovations as a diversion from the colonial education system that was meant to serve their interests; reviewing relevant the laws; revamping the financial infrastructure; and, embracing heritage education to make Africa feed into the World Economy instead of feeding from it

**Prof. Emmanuel Tanyi, Dean, Faculty of Engineering and Technology, University of Buea** proposed a four step model encompassing: strategic planning based on STISA clusters and national development plans (NDPs); building synergy amongst ecosystem stakeholders; and, resource mobilization.

**Hon. Sarjoh Aziz-Kamara, Ministry of Technical and Higher Education, Sierra Leone** noted that the country has a directorate of ST&I and have given preference in bringing on board Girl education, with Women in STEM being offered automatic scholarship awards. Concluded by noting that Universities have no more than 16% PhDs and thus the Medium Term Development plan was anchored on education for development.

**Hon. Agnes Makonda Ridley, Ministry of Education, Science and Technology, Malawi**, noted that the environment in which we work is critical for ST&I, especially the political commitment. Further noted that Malawi has a long term development plan with focus on education due to the fact that ST&I is at the heart of improving the education system. Given that Malawi has a young population, this implied that several citizens need education services that likewise need to be developed. She however noted several challenges in the educational system including the need to look at the educational value chain (at University: 90 % enrolment but 50 % finish; and at secondary 16% complete studies); considering how to develop the educational sector to meet community needs; and, the limited funding to ST&I due to limited evidence towards resulting into national development. Hence, she noted the need to demonstrate the relevance of science and technology

## **Reactions**

- i. With respect to transforming polytechnics into universities, this was undertaken and a unique skill set was lost. The much-advocated science parks will be run by technicians. There is need to have a mix between craftsmen, diplomas, PhDs, MScs. This caution needs to be taken whilst promoting ST&I
- ii. The ministers in charge of finance need to be engaged in order to action, since investments in education are needed. There is a challenge of capital investment in research and development. Henceforth min of finance need to be engaged to understand the real issues at hand
- iii. Finance isn't an issue when there are good ideas on the table. Higher education institutions derive curricular from what the people want. Thus, funding an education system cannot be an issue. The

problem is with the design. Our priorities need to be set right, it's about the way we do our research to address societal problems.

- iv. In TVETs ST&I will need to be upheld as a foundation
- v. In Sierra Leone there are over 200 TVETs and the President is no longer a chancellor but instead it is a woman.

### **Closing remarks by Prof Adipala Ekwamu, the Executive Secretary, RUFORUM**

He noted that the COVID 19 pandemic had taught us a lesson that collaboration can enable Africa handle its development programmes, an aspect that is important due to the fact that the world is volatile requiring Africa to adjust accordingly. Reiterated that during the 5<sup>th</sup> Biennial Conference in Cape Town, RUFORUM was advised to develop a project on Building Africa's Science, Technology and Innovation Capacity (BASTIC) and consequently requested governments to endorse the action plan for BASTIC, to support Africa's development. He concluded by recommending: development of a framework for working together to move the Continent forward; Ministers to partner with Africa Universities to develop a framework for strengthening African Higher Education, Science, Technology and Innovation Strategy (AHSTI); and, the Ministry of Science Technology and Innovation to champion the Afro-Arab partnership forum.

### **Session 2: Official Opening Ceremony of the Seventh African Higher Education Week and RUFORUM Triennial Conference**

**Venue:** Red Auditorium; Palais des Congrès; Blended (Link: <https://bit.ly/3AVfWdk>)

#### ***Session outcomes***

This session was chaired by Prof. George Kanyama-Phiri, RUFORUM Board Chair & former Vice Chancellor Lilongwe University of Agriculture & Natural Resources (LUANAR).

Prof. Avlessi Felicien, Vice Chancellor, University of Abomey Calavi, Benin welcomed all participants to the Triennial. Expressed welcome remarks to all the high personalities

#### **Remarks by Dr. Florence Nakayiwa, Deputy Executive Secretary- Planning Resource Mobilisation and Management, RUFORUM Secretariat**

Dr. Florence Nakayiwa delivered remarks on behalf of the Executive Secretary of RUFORUM. She noted that RUFORUM sincerely thanks the Government of Benin for hosting the Conference and devoting resources towards the success of the conference. Further thanked the Government of Benin for hosting the regional node. Looked forward towards the signing of the action plan that was agreed upon by the ministers and concluded by requesting the Government of Benin to continue to lobby the Mastercard Foundation to consider Benin as one of the ten focus countries for the Young Africa Works Initiative.

#### ***Conference Address***

**Hon. Prof. Eléonore Ladékan Yayi, Minister of Higher Education and Scientific Research, Republic of Benin**, appreciated the decision to host the Triennial conference for the very first time in a Francophone country. He highlighted the meeting as fundamental in enabling the follow-up, monitoring and implementation of previous recommendations by the President of government of Benin. This would also offer opportunity for a relook into the limited numbers of Women in research and Innovation as well as limited female leaders on the Continent. The meeting will further be fundamental in developing recommendations for linking the sectors of higher education, agriculture and other sectors.

Noted that the government of the Republic of Benin has undertaken several measures to address the issue of Youth Entrepreneurship including the implementation of several reforms such as revisiting the service offering in the Benin Higher Education sector. Concluding by wishing all participants a good stay in Benin

**Dr. Simeon Ehui, Regional Director for Sustainable Development for Africa, World Bank** noted that Africa has to promote industrialization in order to offer jobs to the citizens; and, the need to build the skills of the young people. Further noted that eight of the Africa Centres of Excellence are focused on agriculture and are present in five African Countries. Concluded by noting that traditional funding will focus on the priority areas.

**Hon. Prof. Khaled Abdel Ghaffar Minister of Higher Education and Scientific Research, Arab Republic of Egypt** noted that the first technological advancement reoriented the patterns of interactions across the world, and for the case of Africa, more than 60% of the population are youth warranting the need for measures to prepare them for the global economy. Concluded by posing a question regarding how higher education systems can address the challenges and prepare young people for the job market.

**Speech by Dr. Osman El Fiel, Senior Adviser, Arab Bank for Economic Development in Africa (BADEA): The Role of Higher Education and Scientific Research Institutions in Preparing and Qualifying the Youth for the Labour Market's Needs**

We are really grateful for the Government of Benin and RURORUM for inviting us to this important gathering around the theme “Operationalizing Higher Education for Innovation, Industrialization, Inclusion and Sustainable Economic Development in Africa: A Call for Action”.

The fast technological advancement has changed the way we live, work and interact with one another. These technological shifts have resulted in new challenges and opportunities for future generations. In a world where the youth comprise fourth of the world population, and in Africa 60%, efforts should be made to prepare them for the challenges of current and future workplace and full participation in the national and global economy.

Governments, educational institutions as well as business community and funding agencies should collaborate and create partnerships targeting youth skills development. Specifically, the focus should be on training programs that help youth develop the skills needed to meet the demand of the labour markets fully engage to participate in the growth journey of their countries as well as improve their lives, and in turn, allow them to be leaders and innovators in their communities.

Tailoring to labour market needs in higher education programs may seem like an easy-to-implement. However, it is much more complex. The variety of institution types, levels of implementation, stakeholder perspectives, and a lack of reliable data on supply and demand make labour market alignment not an easy task and an issue without an on the shelf ready designed solution.

Jennifer Cleary and Michelle Van Noy from the State University of New Jersey stated in a relevant research that labour market alignment does not lend itself to a simple, “one size fits all” approach. Rather, it involves many alignment actors across multiple institutions and organizational levels in a complex and dynamic process that seeks to balance multiple — and sometimes competing — stakeholder needs amid shifting labour markets and policy environments. They, generally, mentioned that Policymakers and practitioners need a better understanding of higher education labour market alignment to create effective higher education programs and job-driven strategies. Accordingly, there is a need for tailored research to guide labour market needs actors and policymakers in the development of approaches and metrics for different types of institutions and levels of implementation.

The question for us today is how can tertiary education systems, especially those working in Agriculture, respond to these challenges and play a stronger role in preparing young people for the labour market? Tertiary education can be a powerful engine for building a better society, for productivity and growth. It contributes through the production of advanced knowledge, skills and competences, through basic and applied research but also through its so-called ‘third mission’ – a wider service to the community. It needs to function as a system of connected actors: institutions



interact with each other, employers, and companies, research institutions but also earlier education providers. If these connections don't work, it is difficult for universities to live up to their potential.

It is also important for universities to prepare and retrain professionals for a world where demand for routine work is systematically disappearing, as machines and ICT are replacing workers. Demand for more elaborate design thinking yet, is still on the rise. Thus, besides an initial education and training function on the tertiary level, universities can and indeed should also play an important role with regard to lifelong learning.

Good quality information is another area which is critical for connecting universities to the world of work. Curricula need to be based on agreed generic and professional or technical learning outcomes – developed jointly by the higher education sector, employers and other key stakeholders - and institutions needed to support students through practical placements, internships, career guidance and labour market information. This seems overly evident but often such provisions are not in place and students are left on their own.

The first Day panels around the event on “Global Academia-Policy Partnerships for Transformative Institutional Leadership, Skills Development and Youth Employability” present pertinent experiences and suggestions regarding this matter that could pave the way towards establishing a workable model on how Agriculture High Education Universities and Institutes could bridge the gap for the Labour Market Alignment. Some of the important reflections delivered by the papalists include the following:

- i. There must be a clear value chain starting from the country economic growth drivers and cascaded down to all education levels, TEVT and Higher Education. That was clear from the Korean experience.
- ii. Partnerships with stakeholders, policy makers, private sector, industries and communities in order to address all issues pertaining to access to finance, access to skills and capacity building and access to markets and other opportunities. As they said: partnerships are created by chance, we have to work for that.
- iii. At the university level:
  - Curricula review and revisiting teaching modalities.
  - Lecturers to adopt a facilitating role,
  - Moving from teaching to learning.
  - Introduce entrepreneurship programs from the first years with target to relevant skills.
  - Entrepreneurship programs to be delivered by entrepreneurs.
  - Adopting well-tailored incubation facilities.
  - Focus on graduating job creators not job seekers.
- iv. Community engagement to give guidance and support to other youth segments who are not university graduates but have their own small businesses especially in the agriculture sector.
- v. Not everybody will be entrepreneur, so focus also should be given to others and provide them the right skills and competencies.
- vi. Technology in agriculture means less employment opportunities. So focus should go also:
  - Agro-processing not production.
  - Related ICT applications.
  - Related services.

I would like to commend the Call for Action on Higher Education for Innovation, Industrialization, Inclusion and Sustainable Economic Development in Africa adopted at the Ministerial Roundtable Meeting held on 7<sup>th</sup> December 2021 that stated among others:

- i. Putting higher education at the service of the development of Africa through adoption of strategies for evaluating the capacities of teaching resources, developing training offers and curricula that meet the needs of national employment markets.
- ii. Investing in home grown institutions to provide local solutions with more appropriate application to local contexts

- iii. Harnessing science solutions and agro-innovations for growth by making significant investments in key agricultural productivity enhancing innovations including, harnessing competitive advantage.
- iv. Improving labour productivity through skilling and Science Technology Innovation solutions to meet local to global skills to create opportunities for increasing rural incomes and participation in the cash economy.
- v. Strengthening the capacities of the smallholder producers and youth owned/led MSMEs to generate effective demand for science, technology, and innovation to ensure the sustainability of agri-food systems. Make agriculture attractive for the youth.
- vi. Forging inclusive partnerships that provide equitable opportunities for all through co-development, co-ownership and joint implementation of initiatives that positively drive the development process.

Overall, there are needs to adopt appropriate governance, management, financing and quality assurance systems in place in order to enable universities to fulfil their missions concerning societal and labour market demands. In addition, there is a multitude of specific measures which can increase employability at the institutional level – an area which becomes increasingly important for MDBs clients and to which they contribute through advisory work and operations.

The recent COVID-19 pandemic has a devastating effect on Africa's economy. However, COVID-19 disruption has also opened new opportunities, as indicated by Prof. Carlos Lopes, recently: increased attention to agro-processing, use of technological advances and provoking Africans to deal with internal resources and indigenous knowledge and boosting productivity within the continent. All those aspects could lead African Agriculture Universities and Higher Institutions to be in the driving seat towards responding to the needs and aspirations of the new created markets. Prof. Carlos Lopes indicated that foods imports of approximately \$ 40 billion could largely be met by increasing productivity of African Agriculture

The Arab Bank for Economic Development in Africa has financed many projects in the field of higher education in many sub-Saharan African countries, amounting to 34 projects with a total funding amount of \$288 million USD by the end of 2020. BADEA has also funded several training, institutional support and capacity building operations within the technical assistance program.

BADEA in cooperation with RUFORUM are preparing a study on “Youth Employability and Entrepreneurship Development in Agriculture Sector in Uganda”. The study is focusing on:

- i. Relevant policies and Regulatory Framework.
- ii. Entrepreneurship Education and Programs within the Higher Education System. Assessment and Evaluation and presentation of successful initiatives. With focus on agriculture related initiatives.
- iii. Presentation of best experiences in Africa regarding of Youth Employability and Entrepreneurship Development in Agriculture Sector and the role played by Higher Education Initiations.
- iv. Entrepreneurship Education, Design contents and responsiveness.
- v. Agribusiness Incubation.
- vi. TEVT Component.
- vii. Capacity Building to Universities. Research Centres and stakeholders.

BADEA is looking forward to see this program as a pilot operation targeting the Effective Role of Higher Education Institutions in Responding to the Labour Markets Needs in Africa.

Wishing you all the best forward, and thank you all.



### **Key Note Address by H.E Prof Ameenah Gurib-Fakim, Former President of Mauritius**

The former President of Mauritius, Prof Ameenah Gurib noted that in September 2015, the United Nations general assembly declared 11<sup>th</sup> February as the International day of women and girls in science coinciding with the adoption of the sustainable development goals that are built on a strong foundation of science, technology and innovation with a consistent call for gender equality. The emphasis on gender equality needs to serve as a guide-post for collective efforts to achieve on gender equality in all human activities and social advancement. Noted that Sub-saharan Africa has substantial gender education gaps as compared to the rest of the world, and in countries such as Mauritius, free education service by the government was fundamental in closing the gender education gap. Called upon all stakeholders to focus on science technology and innovations for sustainable development. In order to end poverty and boost shared prosperity there is need for inclusive equitable sustainable economic growth; need to foster resilience against climate change and against pandemics and ensure social protection; and boost investment in people with focus on health, food security and education. In all these, there is need to integrate technology in order to enable African nations move forward/progress. Further noted that by 2050, the African population is expected to double, warranting the need to mobilize Youth to the task of national and regional development, and this is where tapping Africa's vast human, scientific and innovation potential will require visioning, sound policies and investment backed by keen implementation capacity. Africa needs to foster a culture of innovations in order to keep the population in good health. There is need to bring about Africa's institutional transformation of African institutions and this can only be brought about by empowered African Youth in agriculture and food security where Women play a significant role. Agriculture faces a severe problem of access to water especially due to the vagaries imposed by climate change. In the context of the fourth industrial revolution, there will be need for robotics, nano technology, artificial intelligence, biotechnology and big data analytics, and Africa will not need to be left behind in all this. Further noted that of all the students enrolled in higher education, less than one-third undertake science technology engineering and Mathematics courses. The aspirations for a better life of Africans will totally depend upon the actions that are currently undertaken. To move faster and with greater gender equality, there is need for Africa to include and provide greater opportunities for women especially women scientists and accelerate enrolment of girls in STEM courses. Increased representation of Women in renewable energy and food sectors will be fundamental in achieving the aspirations of most of the Sustainable Development Goals. To foster science technology and innovations, African Governments need to be the facilitators in the adoption of policies inclusive to the development of ST&I to ensure that talented Women Scientists are inspired and recognised. Africa further needs to be active in the generation of knowledge at the global level rather than being entirely consumers of knowledge, as this will be key in generating development solutions tailored to the African Continent.

### **Statement by representative of visiting ministers present: Hon. Agnes Makonda Nyalonje Minister of Education, Malawi**

Hon. Agnes Makonda Nyalonje delivered greetings from the Government and the peoples of the Republic of Malawi. Hoped that the deliberations will result into strategies for ensuring effective utilization of higher education for the development of the Continent. Appreciated the Triennial Conference for bringing together key stakeholders that are fundamental for driving the Continent towards the "Africa We Want". Noted that Africa's development is a collective responsibility of citizens across the Continent and this warrants the need to make higher education institutions fit-for-purpose and empower higher education institutions play an effective role in development. Through the agenda 2063, African Nations have made a deliberate choice to promote science technology and innovation for development. This warrants developing policies to integrate ST&I in all economic sectors. Recognised that for Africa to develop, ST&I have a significant role to play and there is need for involvement, alignment and coherence amongst the different actors and sectors. The call to action pronounced by the RUFORUM Triennial conference needed to be heeded by all stakeholders and affirm commitments to advance ST&I. She challenged fellow Ministers and policy makers present to promote ST&I in the respective countries by making use of the platform provided by RUFORUM to link with universities in the Continent.

Further noted with appreciation the efforts by the RUFORUM Secretariat to engage member state governments on the implementation of the five continental initiatives and thanked the World Bank for providing additional funding for strengthening higher agricultural education in Africa and for BADEA for supporting the YEED initiative. She concluded by welcoming all participants to the next AGM that will be held in Zimbabwe in 2022 and the next Triennial in Namibia in 2023.

### **Recognition awards**

Seventeen individuals were recognized for their outstanding contribution to development in Africa. These included:

- i. *H. E. Prof. Ameenah Gurib-Fakim*, Former President of the Republic of Mauritius: for her distinguished devotion to the advancement of Science and Technology through inclusive policies in Africa.
- ii. *Dr. Agnes Kalibata*, President of the Alliance for a Green Revolution in Africa (AGRA): for exemplary leadership and contribution to championing agricultural transformation in Africa.
- iii. *Prof. Monty Patrick Jones*, Former Minister of Agriculture Forestry and Food Security for Sierra Leone and co-winner of the prestigious 2004 World Food Prize: for outstanding contribution to the advancement of agriculture in Africa.
- iv. *Dr. Gabriel Gadison Ajedra Aridru*, Former State Minister of Finance in the Cabinet of Uganda: for exemplary contribution to advancing the cause of Higher Education, Science, Technology and Innovation in Africa.
- v. *Dr. Mary Shawa*, Former Principal Secretary in the Government of Malawi: for influence in the fight against HIV in Malawi and for fostering linkages between Science and Policy for economic development of Africa.
- vi. *Prof. John Ssebuwufu*, Former Vice Chancellor of Makerere University, Uganda: for distinguished accomplishments in the field of Higher education and its management on the African Continent.
- vii. *Prof. Lindiwe Majele Sibanda*, University of Pretoria South Africa: for exemplary engagement and leadership in the effective delivery of transformative research and policy for Africa's food systems.
- viii. *Mr. Khalid Bomba*, Former Chief Executive Officer of the Ethiopian Agricultural Transformation Agency: for exemplary, strategic and transformative leadership in Ethiopia's agricultural sector.
- ix. *Prof. Stella Williams*, President of Nigerian Women in Agricultural Research and Development (NiWARD): for distinguished contribution to the advancement of equity and gender inclusivity in Africa's rural development.
- x. *Dr. David Nielson*, Former World Bank Senior Agriculture Official and Chairperson of RUFORUM International Advisory Panel: for extensive and exemplary contribution to strengthening agricultural research in Africa and promotion of rural and agricultural advisory services.
- xi. *Prof. Ali Mahamane*, Chancellor of the University Diffa, Niger: for championing peace and conflict resolution in the Lake Chad Basin and for his contribution to higher education in Africa.
- xii. *Prof. Kathleen Ann Muir Leresche*, Former Professor at the University of Zimbabwe and a member of the International Advisory Panel of RUFORUM: for excellent leadership and passion for transforming higher education for inclusivity, relevance and innovativeness.
- xiii. *Prof. Sita Guinko*, Former Vice-Rector of University of Ouagadougou, Burkina Faso: for distinguished contribution to science and higher education in Africa.
- xiv. *Dr. Dorothy Limunga Njeuma Effange*, Pioneer Vice-Chancellor of the University of Buea, Cameroon: for outstanding contribution to the advancement of education in Africa.
- xv. *Prof. Iman El-Mahallawi*, Professor of Metallurgical and Materials Engineering, University of Cairo in Egypt: for distinguished contribution to the field of Metallurgy in Africa.
- xvi. *Prof. George Yobe Kanyama-Phiri*, Former Vice Chancellor of Lilongwe University of Agriculture and Natural Resources Malawi: for significant contribution to food security in Malawi and to the advancement of higher agricultural education in Africa.

- xvii. *Prof. Souaïbou Farougou*, Former Vice Rector of the University of Abomey Calavi, Benin: for outstanding contribution to human capital development and research in the field of Animal Microbiology and Pathology in Africa.

**Official Opening Address by Hon. Abdoulaye Bio Tchane, Minister of State in charge of Development and Coordination of Government Action, Republic of Benin.**

Hon. Abdoulaye Bio Tchane welcomed all participants and wished the delegates a good meeting. He welcomed Prof Ameenah Gurib, former President of the Republic of Mauritius and as well appreciated eminent researchers including Vice Chancellors. He noted that the Covid 19 called for repositioning education and scientific research at the universities to develop sustainable solutions to address epidemics. Noted that the pandemic had destabilized several sectors including the agricultural sector and this had created tensions in agricultural demands. This was also an opportunity for research to enable the agricultural system be more productive. He believed that the extractible recommendations would be developed. Concluded by noting that the government of the Republic of Benin was fully cognizant of the role of universities in development, and prior to the conference new reforms were introduced in the governance of Universities in Benin for better efficiency and better results

## Day Eight: Thursday 09<sup>th</sup> December, 2021

### Session 1: Parallel Scientific Sessions

**Venue:** Blue Auditorium Palais des Congres for the opening; Blended (Link: <https://bit.ly/3t9PzwU> )

#### *Session outcomes*

##### Presentation 1:

The presenter noted that most of the discussions that took place during the conference were based on challenges faced in Africa and that we tend to concentrate on challenges while overlooking opportunities.

In his presentation he addressed the following questions:

- i. How should Africa refocus agriculture and environmental research?
- ii. What key actions should agricultural researchers take to accelerate growth in the sector

The points highlighted by the presenter were as follows:

- iii. There is a lot of optimism about the future of Africa because the continent is experiencing rising income levels, improving demographics and that global demand of food is rising
- iv. The rising income improves consumption patterns and opportunities, which in turn provides an opportunity for investment in agriculture and research.
- v. The growing population and rise in urbanization implies rise in demand for foods; crops which provides market for agricultural commodities within Africa
- vi. Africa's agriculture is driven also by external factors like rise in food demands in Asia – this will create export opportunities for primary and value added commodities.
- vii. Africa has under-utilized arable land which provides opportunity for investment in Agriculture.

Key messages were that agricultural research should:

- i. Inform evidence based decisions
- ii. Avail tools and knowledge that will practically help improve productivity, livelihoods and reduce greenhouse gas (GHG) emissions
- iii. Provide suggestions of how to exploit existing opportunities for sustainable growth in agriculture
- iv. Africans need to embrace innovation and technology

In closing remarks the presenter quoted a Mozambican saying:

*"Your neighbor will not fill your granary"* implying that there's need for Africa to work hard to attain food security instead of waiting to be bailed out by others.

#### **Key issues raised**

Taking a holistic approach in agricultural production with respect to environmental conservation is critical for sustainable agricultural productivity enhancement

African researchers need to speak to and collaborate with policy and decision makers so as to address the local issues in the region.

Innovation and technology is a key to Africa's sustainable agricultural growth and development.

#### **Presenter 3 Maize study – Ruth Magreta**

- i. Maize is a very important staple food crop in Malawi
- ii. Climate shocks cause significant (about 40%) losses to farmers
- iii. Understanding the behavior of smallholder farmers in respect to climate smart agriculture is critical for development of coping technologies/strategies
- iv. A farmer is a rational being who wants to maximize profits, so he chooses a strategy which enables him/her maximize profits
- v. Climate risk and smallholder or individual farmer risk strategies ought to be understood for appropriate climate change adaptation planning

The research question was: What effect does a farmer's risk attitude have on adoption/adaption of climate change risk minimization strategies

Pointed out that:

- i. Household opts for another coping strategy if the risk on used strategy is higher than the available options.

Farmer risk was captured using:

- i. Reduced food consumption
- ii. Labour selling
- iii. Investment in technology

Conclusion

- i. The study focused on drought. Drought has more effects on agricultural production compared to floods in Malawi.
- ii. Risk attitude of farmers ought to be understood to be able to address issues of climate change.

### **Presenter 5**

**LiLi:** Conflict beyond the borders – over natural resources in Africa

#### *Highlights*

- i. Conflicts happen between countries – causing gradual conflicts which graduate to war
- ii. Research aimed to find strategies to shift conflicts to cooperation
- iii. Example was given of a conflict between Ethiopia and Eritria?
- iv. Transboundary resources management – Trying to curb conflict through cooperation in the area

#### **Recommendations**

- i. Interdisciplinary research to find solution is recommended
- ii. More conflict experienced in relation to sharing of rivers
- iii. Source for resources to invest in climate change ameliorating technologies
- iv. Decentralization does not necessarily mean cohesion
- v. Institutions have a lot to do with providing a platform in organizing to bring about organized planning that ultimately yields coherent implementation of strategies.

### **Present 5 - Alice Bonou**

Assessed demand for shea butter and baobab products

The study was to consider local opportunities in producing more cotton than harvesting non-timber products

- i. There is no significant difference between labour for cotton production and labour for non-timber products harvesting
- ii. The two activities are competitive
- iii. When revenue increases – there is small variation in quantities of non-timber products harvested

Recommended that the research be validated by carrying out an experimental study because the current findings were based on survey data.

### **Presenter 6**

- i. Assessing climate change vulnerability of different communities using different vulnerability indicators
- ii. Vulnerability and sensitivity analysis
- iii. Using different approaches for assessing vulnerability can lead to different results from the same communities
- iv. Need to standardise approaches for vulnerability measurements
- v. Need to consider gender issues and clustering communities according to age groups when assessing vulnerability
- vi. Consideration of the correlation between exposure and sensitivity

**Session 2: Reflections on the RUFORUM Journey and Envisioning the Future**  
**Venue: Golden Tulip Hotel**

**Background**

The Seventh African Higher Education Week and RUFORUM Triennial Conference 2021, co-hosted by member universities in Benin in partnership with the Government of Benin, has been running since the virtual launch in August 2021 under the theme: *Operationalising Higher Education for Innovation, Industrialisation, Inclusion and Sustainable Economic Development in Africa: A Call for Action*. It is important to reflect on how the different events have contributed towards the theme and the **call to action** that was envisaged at the inception of the Triennial Conference events that come to a close on 10th December 2021. The reflection embodies, two main questions. 1) What are the actions? and, 2) Who are the actors? As RUFORUM stakeholders, constituents and well-wishers we need to pause and explore the possibilities and options for engagement.

The RUFORUM Network envisions ‘*vibrant, transformative universities to catalyse sustainable, inclusive agricultural development to feed and create prosperity for Africa*’. The Network is targeting elevation of appreciation of and movement towards knowledge economies. It is imperative to examine the role and contribution of universities towards sustainable livelihoods on the African continent. First, through reflection and changes in the institutions leadership context, content and approach to development practice. Second, through changes in focus and appreciating the symbiotic relationships across i) institutions in the network, regionally and global, ii) relationships disciplines, iii) communities and universities, iv) the education value chain v) the agricultural value chain, and vi) demographics. And third, institutional changes will be influenced by national, regional and global policy frameworks and context, specifically, National Development Plans and Visions, the African Union Agenda 2063, the Comprehensive Africa Agriculture Development Programme (CAADP) and the Malabo Declaration, the African Union Science, Technology and Innovation Strategy for Africa (STISA) 2024, Continental Education Strategy for Africa 2016-2025 as well as the Sustainable Development Goals.

**On the Actions**

The RUFORUM Network as a home-grown initiative has several unique features for building Africa’s innovation capacity and for engaging universities in development process and practice. How do we harness these features for inclusive strengthening of Science Technology and & Innovation to improve agri-food systems and livelihoods.

**On the Actors**

This concept note served as a springboard for discussion on how the RUFORUM network can utilize the resources (human, financial, institutional) to *Operationalise Higher Education for Innovation, Industrialisation, Inclusion and Sustainable Economic Development in Africa*. The reflection identifies **key actors** and their role in taking forward the agreed actions. The reflection captures the frameworks to ensure delivery of the agreed actions. It captures expectations from policy, private sector, academia and community perspectives. These perspectives are grounded in their experience and from the dialogues and emerging issues from the Triennial Conference.

**Discussion Format**

The panel discussion was held during the closing session of the 7<sup>th</sup> Higher Education Week and RUFORUM Triennial Conference focusing on the Future of Africa and how to progress with:

1. Catalyzing investment in Higher Education for human capital development in Africa;
2. Promoting international linkages and partnerships for excellence in Higher Education;
3. Strengthening collaboration and mutual learning to spur innovation and industrialisation for economic transformation in Africa;
4. Promoting youth employment and skills acquisition for development; and,
5. Strengthening University-Private sector business linkages.



## Session outcomes

- 1. What do you consider to be the key ideas and beliefs that RUFORUM is founded on? How have you seen these key ideas and beliefs grow and evolve across the lifespan of the network?**

### *Key ideas*

- Elevating agriculture to entrepreneurship level
- Promotion of the production of agricultural equipment and implements
- Partnering

### *Evolution of key ideas and beliefs*

- Improve agricultural production through human and institutional capacity development in Africa
- Expand RUFORUM to be both a national and regional organization
- Human capacity has been promoted through training of cadres at various levels
- Enhanced mobilization of funds

- 2. What are your reflections on the challenges and opportunities of RUFORUM navigating its growth to become a pan-African network? What has this growth meant for the network, its member universities and its broader relationships?**

- Inadequate resources
- Need for a headquarters and regional or sub-regional offices
- Country offices/representatives
- Competition
- Availability of specialists
- Innovations, science and technology work
- Ability to mobilize resources
- Being able to cover all the regions of Africa
- Championing STISA in AU Agenda 2063
- Governizing policy makers to be champions of higher education
- Formation of the AU Committee of Ten Heads of State and Government (C10) Championing Education, Science and Technology in Africa
- Linking academia, policy and the private sector
- Linking TVETs with higher education and value chains in agricultural production
- Creating business
- Ability to mobilize people of like-minds to work as a team

### *Opportunities*

- Sharing experiences
- Funding partners
- A great partnership providing a platform for potential partnerships
- The Network is a potential platform
- The expanding network has increased access to diverse knowledge and experiences
- Expanding network has enhanced regional integration in Africa
- Dedication by member universities and countries
- Existing funding partners
- Existing human capital particularly Youth
- Relevant focus areas to the current challenges faced by the Continent including agriculture, ST&I, agripreneurship, MSc and PhD training and networking
- Confidence in RUFORUM by international institutions and banks
- Strong Universities belonging to the network
- Dedicated member universities

### *Challenges*



- i. Managing a bigger network
- ii. Overload at the Secretariat
- iii. The governance structure needs clarity since the organization is growing
- iv. Members need to be categorized as a funding mechanism
- v. Sub-regional offices need to be established
- vi. Declining resource base due to the effects of COVID 19, for instance universities are struggling to pay membership subscription
- vii. Resource mobilization
- viii. Commitment for a regional node
- ix. Increased demand for services by an expanding network, and this makes it difficult to meet the expectations of some universities
- x. How to effectively reach every region, sub-region, country and every single university on the Continent
- xi. How to effectively engage governments of member countries in resource mobilization
- xii. How to overcome language barriers and staff/persons mobility across borders
- xiii. Harmonizing the training system and curricular
- xiv. Language barrier
- xv. Management issues related to the Governance system
- xvi. Existence of other regional and Continental institutes including FARA
- xvii. Inclusiveness: strategies to include gender issues need to be developed
- xviii. Addressing Zoonoses
- xix. ICT integration in Education

***What has this growth meant?***

- i. There was need to ensure active participation by all members in RUFORUM activities, e.g. responding to calls.
- ii. RUFORUM needs to take advantage of ICTs to exchange information and learning resources among member Universities
- iii. Openness to each other
- iv. Integration
- v. Experience, knowledge and leveraging of resources
- vi. Complementarity
- vii. RUFORUM is a strong Network
- viii. Member Universities have opportunity for networking

**3. What does it mean to you that RUFORUM has become a pan-African Network, reflecting the linguistic and cultural diversity of Africa? How has the mobility and the networking facilitated by this continental platform made a difference to you and your institution (s)**

- i. A lot of progress has been made over the last 10 years. For the last five years, there has been a fundamental transformation in terms of its visibility, and impact.
- ii. The linguistic and cultural diversity is yet to be fully achieved as many Francophone and West Africa still need to be covered.
- iii. RUFORUM becoming a continental/ Pan African network is a fundamental achievement. It has brought African Universities together, a feat not achieved elsewhere-and further admired by other continents
- iv. RUFORUM has met many of its objectives. Since 2004 when other initiatives have not been successful new universities both public and private have joined the network
- v. The networking; the sharing of ideas; the programmes; and, the exposures have enhanced the capacity of many universities in a manner not seen before. The engagement with policy makers, the private sector and farmer organizations has brought in great dynamism of spreading partnership beyond universities.
- vi. The Pan Africanism and global exposure on education systems and development has been a learning curve

- vii. Partnerships have been developed with different universities
- viii. Universities have contributed to the governance and decisions of RUFORUM
- ix. Building of strategic linkages and networking to secure support from different donors, this initiative African conceived
- x. Visibility of universities/opportunities through breaking barriers of linguistics/culture thus enhancing exchange of staff and students

#### **4. As RUFORUM continues to expand:**

##### **4.1 How does the network offer value to its diverse members and stakeholders and meet their needs?**

- i. On expansion of RUFORUM, offering value to members and stakeholders should be thorough. There is need for a focal person in each country; need to organize national activities on behalf of RUFORUM at universities and Research Institutions; and mentoring of Young and upcoming researchers; easing communication with programme managers; and, helping young researchers develop noble leadership virtues
- ii. Gender inclusiveness
- iii. Mentorship to the network of early career researchers who are lacking in career guidance and know-hows
- iv. Financial support to ECRs and scholars with humble background who did not find sufficient financial support to pursue their research and career ambitions
- v. By increasing financial drive/income/funding opportunities
- vi. Networking and collaborative support, whereby scholars can be supported by sponsorship to institutions located in the developed areas of the world where they can be exposed to facilities and equipments that are lacking in their home institutions.

##### **4.2 How do you navigate conflicting interests and resource constraints?**

- i. By ensuring regional representations
- ii. By encouraging collaborative fundraising between all stakeholders
- iii. Countries should be treated on the basis of equity in project and grant distribution
- iv. By getting individual country governments to contribute towards the progress of RUFORUM
- v. By getting more women into research and development
- vi. Having a focal person in each country
- vii. Organizing national activities on behalf of RUFORUM at universities and research institutions
- viii. Mentoring Young researchers
- ix. Communicating and interacting with managers of the programme

##### **4.3 How do you balance the needs and contributions of older and newer members, for example?**

- i. By decentralizing some activities
- ii. Members should never be given concessions
- iii. By identifying priorities and needs and attending to pressing needs
- iv. By recognizing the contribution of older members and carrying them along without neglecting the newer ones
- v. By balancing out the governance organs

##### **4.4 What do you think RUFORUM represents for its diverse constituencies?**

- i. Hope for African development
- ii. Pan African Organization
- iii. A network that addresses issues of development especially in agriculture, in Africa

## **5. What does RUFORUM need to do to ensure its future sustainability?**

- i. Select for new but local sources of funding
- ii. Work with government entities
- iii. SWOT analysis
- iv. Multi-design approach
- v. Need to network with all actors
- vi. Need to ensure diplomacy, inclusivity and flexibility
- vii. Legitimizing operations
- viii. Ensuring value proposition to member Universities
- ix. Membership subscription payment commitments
- x. Local and African sources of funds
- xi. Buy-in from African Governments
- xii. Broadening the funding base and focusing on thematic funding, for instance COVID 19, ICT and Artificial Intelligence
- xiii. Diversify membership/participation and financial resources
- xiv. Have endowments to finance work and sponsorships
- xv. Creative and longterm programs to generate excitement
- xvi. Financial sustainability
- xvii. Payment of membership subscriptions and broadening resource base
- xviii. Identifying resources to cater for key activities
- xix. Value proposition of RUFORUM
- xx. Collaboratively working with all partners
- xxi. Activating the endowment fund
- xxii. Creating programs that excite the Youth

### **5.1 What strategic choices are facing the network now?**

- i. Diversification of education
- ii. Networking with all sectors
- iii. Multi-sectorial approach
- iv. Multidisciplinary approach
- v. Funding
- vi. Governance
- vii. Relevance
- viii. Over expanding throughout Africa without increasing Staff at the Secretariat
- ix. Diversification of programmes including programmes for the youth
- x. Relevant education for the 21st century
- xi. Have a multidisciplinary approach
- xii. Assessing if the funding mechanisms are fine

### **5.2 How can it best navigate the challenges and opportunities ahead?**

- i. Dynamic approach
- ii. Advocacy
- iii. Science diplomacy
- iv. Keeping focused on the niche
- v. Ensuring impact on the ground
- vi. Strategic alliance between academic, policy and the private sector
- vii. Diversification of programs
- viii. Growth-staying within the niche by making use of regional nodes
- ix. Funding-Diverse strategies need to be employed including government support and advocacy (government advocacy)
- x. Constant buy-ins
- xi. Inclusiveness
- xii. Stakeholders inclusivity
- xiii. Flexibility

- xiv. Funding mechanisms: is it working when it does not have sticks but only carrots
- xv. Accelerate relevant programs or projects on the continent
- xvi. Accelerate impact on the ground for the people
- xvii. Strengthen academic-political and private sector linkages
- xviii. Lobby African governments to provide support to RUFORUM work
- xix. Look for local resources within Africa
- xx. Government buy-ins

**6. How have you seen the wider context of higher education, capacity building in agriculture and development evolve, and how is this reflected in RUFORUM's trajectory - for example in TAGDev which extends to undergraduates and reflects new thinking about relationships with the TVETs and the entrepreneurial university**

- i. Shifting from traditional training/research towards making community impacts including focus on undergraduates, TVETs and entrepreneurship training.
- ii. RUFORUM should keep focus on MSc and PhD training
- iii. Focus on postgraduate capacity building
- iv. Sustainability
- v. Biodiversity
- vi. Climate Smart Solutions
- vii. Capacity for innovation for future jobs
- viii. Inclusivity and innovation
- ix. Transposable skills for the job market

**7. How has the world changed**

- i. The world is changing. The pandemic is forcing closure, networking, expansion of IT, communication and new trends for education
- ii. Virtual meetings
- iii. Digital/online teaching and training
- iv. Nations have become more nationalistic and in-ward looking. This implies intensified search for local/internal resources and regional integration
- v. There is a rapid growth in science and technology
- vi. There are less face-to-face human interactions due to the COVID 19 pandemic
- vii. Teaching and learning are mostly done in the blended/hybrid modes through the use of E-learning platforms
- viii. Climate change
- ix. The world has become more technological, which has led to digitalization in all fields of study
- x. There is a shift in technology: E-systems, E-learning, research, and a shift in graduate demand
- xi. The world has moved to the advent of communications, technology, population control and climate change including several aspects including: internet of things, stepping up collaborations between universities in the network; recognition by over 38 African Countries

**7.1 What does this mean for RUFORUM?**

- i. RUFORUM should adopt new methods, ideas and objectives
- ii. RUFORUM is training many scholars and researchers that will be capacitated to maximumly function in this technological era
- iii. The world has gone digital and at the same time COVID has disrupted academic and social life
- iv. The need for regional dialogues
- v. Balance in the value chain system
- vi. Re-engineering the capacity building strategy

**7.2 How has RUFORUM's history set the stage for it to act within this emerging new context) (e.g. in the way that the COVID pandemic has catalyzed e-learning in the network?)**

- i. With the application of the technology, RUFORUM will achieve planned goals more effectively
- ii. RUFORUM has to adapt accordingly
- iii. Embrace Africa for digital blended interaction among members
- iv. Need to build capacity through graduate training
- v. Need to build the foundation of knowledge

**7.3 What future possibilities have been opened by the particular ways in which RUFORUM has engaged previously?**

- i. Upgrading the website and announcing core projects
- ii. Collaborating with GOOGLE for access to internet through satellite
- iii. Strengthening alliance with Government institutions
- iv. Networking with key stakeholders and policy makers
- v. Harnessing the knowledge within Africa
- vi. Opening up for brokering partnership, funding and policies
- vii. Preparation of online modules (virtual universities and hence a new more collaboration between universities)
- viii. Re-engineering the strategy especially in capacity building, involving other disciplines and innovation & industrialization
- ix. Nations have become more nationalistic and more inward looking. This warrants the need to search for local/internet sources; and, regional integration

**8. How does RUFORUM need to position itself to remain relevant in a context of rapid emerging trends such as climate change, the fourth industrial revolution, globalization, and the employment and demographic challenges and opportunities of young people in Africa?**

- i. RUFORUM is diverse and too big to play any meaningful role, and there is need to form regional blocks
- ii. Need to start young people early enough in agriculture
- iii. Need to inculcate production, research and commercial agriculture early enough
- iv. Need to infuse IKS quite early due to the fact that city life is a nuisance
- v. Need to create opportunities for exchange within the continent, including exchange with the west but not within Africa
- vi. Need to open African markets for African traders
- vii. Collaborative research focusing on contemporary and topical issues
- viii. Understudies for young people to accumulate knowledge and experience
- ix. Gender mainstreaming
- x. Incentives for innovations which lead to mitigating the effect of climate change and adaptation thereof, as well as creating jobs
- xi. Ensure that RUFORUM universities adopt relevant courses that will skill the graduates to innovate and follow up the prototypes to production
- xii. Develop teaching models that will be acceptable to all the universities
- xiii. Utilize the expertise available in Africa to benefit development of enhanced skills and knowledge
- xiv. RUFORUM needs to incorporate ICT very fast into its programmes especially digital farming so as to reduce methane emissions
- xv. Research at molecular level that involves gene editing to produce crops and livestock that are resistant to adverse climate changes, disease resistant and high yielding in terms of per hectare yields, fast growth rate and shorter maturity timeframe so as to avert unexpected climate shocks such as drought and floods
- xvi. Research-informed data collection from rural communities to be used for relevant interventions so as to change lives where it really matters

- xvii. Involvement of youths right from primary level up to university level in practical agriculture training, through curriculum development to include agriculture at all levels of education
- xviii. Coaching and training of young people as future leaders not only in agriculture but in both socio-political setup
- xix. Encouraging inter-country trade relationships within the African countries rather than western countries where there is higher gains temporarily
- xx. Value-added approach to agricultural produce/entrepreneurial skills training for farmers and food producers to increase profit margin.
- xxi. Climate change; Apply COP policy to ensure success
- xxii. Fourth industrial revolution
- xxiii. Globalization and employment: There is need to advocate for training geared towards promoting self-employment
- xxiv. Demographic challenge: How to extend the training programmes in all regions
- xxv. Opportunities for young people in Africa: There is need for training geared towards encouraging self-employment
- xxvi. At the continental and global level, there are issues related to the context of rapidly emerging trends including climate change, globalization, 4th Industrial revolution, employment and demographic challenges and opportunities for the young people in Africa. All these are outlined in policy documents/frameworks

To remain relevant, RUFORUM must: Always align to global and continental/sub-regional frameworks including COP; research collaboration on tropical issues, and this must be intentional; need to create incentives for innovation in emerging topical issues and leverage on the diversity of expertise between and among network members; develop relevant courses that facilitate/allow innovative implementation linking prototypes with product development and commercialization of goods and services; developing modules for joint implementation especially in light of the global challenges in connectivity; strengthening sub-regional nodes in the context of rapid emerging trends plays out differently in the different sub-regions, and this warrants the need to use member universities' structure to coordinate sub-regional agenda that feeds into other continent-level agenda; and, growth to this point has been in numbers/members, however there is also need to focus on growth in discipline.

### **Session 3: Young Innovators side event**

**Venue: PDC- S305**

#### **Background**

Youth are the defining moment of Africa today. They are active performers, sharpeners of the economic progress and adapters for competitiveness. In the past, they would be referred to as the future of tomorrow but that future is now. For tomorrow, Africa's youth will be consolidators of the continent's progress. The time is therefore now to provide them with opportunity to rise to the challenge and help them walk the journey of a rapidly competitive world.

Across the continent; from South to north, west to east and central, the youth unemployment challenge is a concern for every government. But, the youth of today, are more educated, networked and connected, ambitious, and daring. These attributes make Africa one of the most entrepreneurial continent with numerous start-ups started but with a very short business life. This challenge of short business life partly arises from the quest for immediate success as well as a poorly developed entrepreneurship and mentorship ecosystem across the continent.

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) has been running the RUFORUM Young African Entrepreneurs Competition (RUYAEC) since 2016. Three Cohorts of Awards have been concluded with immense success and progress. The three cohorts identified 58 young innovators. These have created over 1,500 jobs engaged over 60,000 farmers and beneficiaries. This fourth cohort of the RUYAEC series has identified 20 additional young innovators from across Africa.



RUFORUM recognizes that the entrepreneurship ecosystem for young start-ups across Africa is generally weak. Accordingly, it has set-out to provide opportunity for supporting the young and competitive starts through building their capacity to enhance competitiveness. Accordingly, the 20 selected young entrepreneurs receiving their awards in Benin in December 2021 will have the opportunity to under-go an entrepreneurship and mentorship sessions prior to, during and after. The purposes is to enhance their competitiveness in the business world.

### **Objective of the training session**

The purpose of these scheduled training sessions is to build RUYAEC beneficiary entrepreneur capacity with skills to grow their ventures and prepare them for 1 minute-pitch session at Benin Triennial Conference.

### **Key points**

The training was developed with the following objectives:

- i. Enable trainees to rethink and validate their business models.
- ii. Enable businesses to learn and adopt growth strategies through marketing and scale up strategies.
- iii. Develop the trainee communication and pitching skills in preparation for the Benin Triennial conference and this covered these topics:
  - a. Make a one minute pitch at the Benin Triennial conference
  - b. Access to presentation slides used during the session.
  - c. Training on the SME-Hub accounting system of the SME hub to help them effectively run their finance records.
  - d. The physical activity facilitated networking and potential partnerships between the trainee businesses.
  - e. Trainees developed high quality one minute pitches in Benin.

This side was blended, the two first days of the training were conducted online and the third/last day was done physical at Hotel Azalai in Benin.

The pitching covered the two aspects:

- i. The Art of the pitch
- ii. Pitch practice

Trainees were equipped with tools to help with their growth including:

- i. Marketing Funnel.
- ii. Sales Funnel.
- iii. Pitch deck templates.

In addition to the Young Innovators, Innovations, products to markets field attachment program award “IPM-FAPA” beneficiaries from Benin were invited to also attend the Pitch training. At the end of the session, the trainees were tasked with perfecting their elevator pitch. This was through 3 different pitch cycles, including a session on stage at the Palais de congress in Cotonou (This is did not take place due to time constraints).

### **Key issues**

- i. Access to presentation slides used during the session.
- ii. Training on the SME-Hub accounting system of the SME hub to help them effectively run their finance records.
- iii. The physical activity facilitated networking and potential partnerships between the trainee businesses.
- iv. Trainees developed high quality one minute pitches in Benin.

### **Key recommendations/action points**

1. There is a need to implement SME Hub accounting platform trainings to enable businesses to use the resources available on the Hub.



2. To maintain entrepreneur morale, it is important to let the have the opportunity to pitch upon completion of trainings.
3. RUFORUM should facilitate the creation of a virtual entrepreneur's network for enable continued engagement, networking and potential growth partnerships between the trained entrepreneurs.

## **Day Nine: Friday 10<sup>th</sup> December, 2021**

### **Session 1: RUFORUM Annual General Meeting**

**Venue:** Red Auditorium; Palais des Congrès; Blended (Link: <https://bit.ly/39FKdAF> )

### **Background**

The Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) established in 2004 by Vice Chancellors of the then ten member Universities in Kenya, Malawi, Mozambique, Uganda and Zimbabwe is today a Consortium of 147 African universities in 38 countries spanning the African continent. The Network envisions '*vibrant, transformative universities to catalyse sustainable, inclusive agricultural development to feed and create prosperity for Africa*'. The Network has several unique features for building Africa's innovation capacity and for engaging universities in development process and practice; i) It is owned and managed by Africans; ii) It derives its agenda largely from the continent wide policy frameworks especially of the African Union Agenda 2063 and the New Partnership for African Development's (NEPAD) Comprehensive Africa Agriculture Development Programme (CAADP), the African Union Science, Technology and Innovation Strategy for Africa (STISA) 2024, Continental Education Strategy for Africa 2016-2025, the Sub regional Multi-Country Agricultural Productivity Programmes, National Strategy Papers of the Member States and Governments and constant review of global trends and foresight planning to ensure Africa has the required capacity for global competitiveness; and iii) it allows for joint action by the member universities and stakeholders in higher education and agricultural sectors.

RUFORUM's vibrancy stems from its own character, which a) allows for ownership and direction of network activities by member universities, b) allows for identification of priorities from national level to inform regional thrusts, c) ensures broad consultation and consensus on regional level activities by members, and d) promotes sharing of resources, rather than competition, across the network for capacity building in agriculture and the broader Science, Technology and Innovation (ST&I). The Annual General Meeting (AGM) provides a forum for RUFORUM member universities to share and learn from key stakeholders in higher education and agricultural development who are normally invited to attend as observers or partners. The AGM has since served as a springboard for leveraging resources and has fostered mutually beneficial partnerships between and among universities in and outside the Network. Although a number of activities are associated with the AGM, the actual AGM was a one-day convening organized as a Business Meeting

### **Purpose and Objectives of the RUFORUM Business Meeting**

The 16<sup>th</sup> RUFORUM Business Meeting was expected to:

- i. Review and approve minutes of the 16th AGM, held virtually on 20th November 2020
- ii. Receive and approve reports for the activity year July 2020 – June 2021 and work plan and Budget proposal for the Activity Year July 2021 – June 2022;
- iii. Consider and approve the 2020/2021 External Audit report
- iv. Appoint the External Auditor for FY 2021/20212
- v. Receive updates on preparations for the 18th RUFORUM Annual General Meeting to be hosted by Zimbabwe
- vi. Consider requests for membership from universities that wish to be part of the RUFORUM network;

### **Approach and Methodology**

The Business Meeting was held under the Chairmanship of the Board Chair, Prof. George Kanyama-Phiri, the Outgoing Vice Chancellor of Lilongwe University of Agriculture and Natural Resources. The event was organized in collaboration with University of Abomey-Calavi, the University of Parakou, National University of Agriculture and the RUFORUM Network. The meeting followed procedures in the RUFORUM Constitution and generated action points as indicated below:

## Session outcomes

Issues and Actions from the 17 <sup>th</sup> RUFORUM Annual General Meeting held 10 <sup>th</sup> December 2021, Red Auditorium, Palais des Congres de Cotonou, Benin	
Minute	Action
<b>Min 5.1/RUF/10/ DECEMBER /2021:</b>  Minutes of the 16 <sup>th</sup> RUFORUM Annual General Meeting	The Secretariat incorporated missing name(s) in the list of AGM 2021 participants
<b>MIN 5.2/RUF/10/ DECEMBER /2021:</b>  Matters arising and actions from the 16 <sup>th</sup> Annual General Meeting	With respect to membership subscription payments, the status of each university be shared at each Annual General meeting Sign language be considered in subsequent RUFORUM convenings
<b>MIN 7/RUF/10/DECEMBER/2021:</b>  Presentation of the 2020/2021 Financial Report and 2021/2022 Budget Proposal	Vice Chancellors of Member Universities advocate with respective member governments on the endorsement of the RUFORUM Charter RUFORUM continued to follow up with member universities having outstanding accountabilities for grants awarded

## Session 2: Closing Ceremony

**Venue:** Red Auditorium; Palais des Congrès

## Session outcomes

### Remarks by Outgoing Board Chair, Prof George Kanyama-Phiri, former Vice Chancellor, Lilongwe University of Agriculture and Natural Resources, Malawi

The outgoing RUFORUM Board Chair, Prof George Kanyama-Phiri noted that the coordination of FORUM was under the responsibility of the late Bharati K. Patel. In 2004, the coordination was transferred to Prof. Adipala Ekwamu, and thus subsequently ushered in the change of the name from FORUM to RUFORUM. Following the change from FORUM to RUFORUM, the mandate of RUFORUM likewise changed from merely capacity building at masters level towards capacity building at the PhD level. During his tenure, 85 RUFORUM member Universities increased from Eastern and Southern Africa towards covering the entire African Continent with 146 Member Universities in 38 countries. Further recognized the President of Malawi who installed as the champion for Higher Education in Malawi and the rest of Africa. RUFORUM participated in the organization of the United Nations Food Systems Summit. The Secretariat further grew in term of capacity towards having two Deputy Executive secretaries in charge of Planning Resource Mobilisation and Management (Dr. Florence Nakayiwa); and, Programme Development and Implementation (Dr. Alice Mutiti Mweetwa). The positions helped ease the pressure exerted onto the executive Secretary, Prof Adipala Ekwamu. He noted several challenges including COVID 19 that inhibited face-face meetings as well as the annual meetings thus resorting to blended meetings. He noted that as he is handing over the mantle, the successor would have to be prepared to tackle several unfinished assignments including the low annual membership subscription, endorsement of the RUFORUM Charter where 11 countries out of the 38 member countries have so far endorsed the Charter and includes Benin, Cameroon, Democratic Republic of Congo, Eswatini, Ghana, Liberia, Malawi, Mali, Sierra Leone, Sudan and Zimbabwe. He called upon Vice Chancellors to follow up the endorsement of the RUFORUM Charter by respective member governments. The Executive Secretary, RUFORUM Secretariat had similarly advocated for the endorsement of the RUFORUM

Charter with several member Governments. Concluded by expressing gratitude for being entrusted with the Board Chairperson position as well as Board Chairperson during the era where Prof Mabel Imbuga was the Board Chairperson. Further appreciated the support extended by the Deputy Board Chairperson, Prof Theresia Nkuo Akenji; RUFORUM Secretariat, Board Executive Committee members, and fellow Vice Chancellors. Further appreciated the supported extended by Lilongwe University of Natural Resources that enabled his participation in RUFORUM Convenings. He pleaded that as he is handing over the Board Chairperson position to Prof Theresia Nkuo Akenji, support be extended to her. Thanked Prof Theresia Nkuo Akenji for accepting to take over the mantle. This was followed by Prof George Kanyama –Phiri handing over instruments of power to Prof Theresia Nkuo Akenji

### **Remarks by Prof. Bruno Djossa Vice Chancellor, National University of Agriculture**

Prof. Bruno Djossa noted that the National University of Agriculture was determined to interact and collaborate with the other Member universities of RUFORUM. He appreciated the diversity of participants including scientists, decision makers, great leaders and other knowledgeable persons that are fundamental in the development of respective countries

### **Thoughts on creating a Future Africa (Panel Discussion):**

**Panel Moderator:** Prof. Christine Dranzoa, Vice Chancellor, Muni University, Uganda

**Lead Speaker:** Prof. Umezuruike Linus Opara, Stellenbosch University, South Africa

#### **Panellists:**

- i. Prof. Frans Swanepoel, University of Pretoria, South Africa
- ii. Prof. Coumba Touré Kane, Rector, Université du Sine Saloum El-Hâdj Ibrahima NIASS (USSEIN), Senegal
- iii. Prof. Ophelia Weeks, Former President, University of Liberia
- iv. Prof. Patrick Okori, ICRISAT, Mozambique
- v. Dr Steven Muchiri, President, East African Farmers Federation

The session moderator: Prof. Christine Dranzoa, Vice Chancellor, Muni University, Uganda noted that the need to distil key actions that emerged from the five days engagement. She noted that RUFORUM had grown immensely but there was need to devise strategies on how to generate the outputs as well as the responsible entities for undertaking these actions.

The Lead Speaker, Prof Umezuruike Linus Opara shared thoughts on how to operationalize higher education for innovation, industrialization, inclusivity and sustainable economic development in Africa. He highlighted the new actions that must be endeavoured to achieve consistent results. He noted the progress made to-date most notably several African countries gaining political independence; progress towards realizing Agenda 2063, Agenda 2030 and the SDGs; connectivity with the rest of the world; citizens that are more educated with more qualifications and degrees; and a high and rising youthful population. In terms of higher education in Africa, he noted that initial focus was on the production of development workers with limited experiential learning particularly in modern agriculture; education was mainly Education 3.0 with focus on teaching and learning, research and community service. There had been very limited engagement with industry thus very high youth unemployment and whither agricultural education.

Agriculture in Africa is characterized by domination by millions of subsistent smallholder farmers that are efficient but poor; dominated by women and the old; lowest productivity and output; least application of modern technological inputs; high on-farm and postharvest losses & low value addition. Things have been changing yet there is still darkness, the farmers are poorer hungrier and sicker. The yield per unit of land/resources invested is still very low and this imposes a threat on the competitive ability of Africa as a continent. Given the dominance of subsistence agriculture on the continent, characterized with utilization of the hand hoe, it is extremely difficult to convince African Youth that agriculture is indeed their future. Measures of creating a new vision for African agriculture by RUFORUM and member universities needs to be undertaken.

Several other challenges are still faced including climate change characterized with flooding, heat waves, fires, pests and pathogens, flowering growth and development pre-harvest losses and broken cold/dry chains; global competition and pandemics.

Whilst talking about THE AFRICA WE WANT, focus also needs to be paid towards THE EDUCATION AND AGRICULTURE WE WANT as well as the RUFORUM WE WANT. Given the issues discussed, the RUFORUM of 2004 will not be able to deliver in 2030. The global challenges are not predictable. The RUFORUM WE WANT needs to focus on the leading repository of information and knowledge on best practices and partnerships' promoting and facilitating exchange among members of the Network; the strong voice for transformation and positive change in the education and agricultural sectors; the most highly sought after Network on Agricultural Education. RUFORUM needs to be agile, flexible, future-oriented, impact-focused continental network, championing higher education with special focus on agricultural education.

**New actions that can deliver on the Africa We Want includes:**

- i. Envisioning a New Africa (de-colonized mind-set, value for what is African and active player for better Africa) involving all stakeholders
- ii. Envisioning a new Education (industry-focused, technology-enabled, market-driven and inclusive) involving several actors including academia, private sector, civil society and development agencies.
- iii. Envisioning a new agriculture (commercial, sustainable, industrialised, highly productive, profitable, competitive and market-oriented) involving several actors including academia, private sector, civil society and development agencies.

**The new actions above can deliver several aspects of the Africa We Want including;**

- i. Developing policy (generating quality data/evidence, developing new policies and policy dialogues) with several actors including researchers, academia, RUFORUM and Government
- ii. Building and sharing capacity (teaching and learning, experiential learning, revising/developing curricular and staff development) with several actors including academia, RUFORUM and Government
- iii. Conducting leading and impactful research (includes cutting-edge research, developing new products, developing new processes and developing intellectual property) with several actors including researchers, academia, Government and private sector
- iv. Industrialization of Africa (includes science parks/industrial parks, innovation hubs, pilot plants, local manufacturing, and developing infrastructure) with several actors including research institutions, academic institutions, Government and private sector

**Panel discussion**

Members hoped that the journey began by Prof. Adipala Ekwamu, the RUFORUM Executive Secretary would continue in order to realize the Africa We Want. In order to achieve this, Universities had a role to play as indicated by the United Nations food system summit given that they are actors for change and can change the African panorama, especially concerning supporting the five continental initiatives aimed at supporting human capital development. Universities are stakeholders for change and Youth can be trained to love agriculture and take this up as an opportunity. The Youth can play a key role and contribute to economic development. This however warrants the need to train the Youth through a competence-based approach where students are the focus whilst embracing agribusiness incubation and acceleration. The COVID 19 pandemic proved that Africa has the potential to develop home-grown solutions to tackle several challenges that may come up. The Youth only need a conducive environment in order to bring up the difference. This however requires support from the member governments with respect to funding as well as the need for universities to undertake research. There is also need to enforce transdisciplinary research in order to ensure generation of cadres that are development oriented for enhanced agricultural productivity. RUFORUM has role to play in strengthening research in the countries, networking and assisting universities in searching for funding for research. Together, the African Youth, African Women and African Universities can achieve the much-needed transformation.

### **Deliberations by Prof Ophelia weeks**

She noted that:

- i. Research needs to be focused on areas of priority as delineated by governments
- ii. Women need to be empowered
- iii. Deliberate efforts need to be made to ensure collaboration between governments and the private sector to support fund research at the universities. Universities further have to strengthen collaborations with the private sector
- iv. There was need to work within a limited number of value chains
- v. Online learning needs to be improved as well as links with the labour market
- vi. Agricultural programmes taught at the universities need to consider the new reality of job creation
- vii. Given the youth bulge that is expected at 40% by 2030, there was need to heavily invest in African higher education infrastructure.

### **Deliberations by Prof Patrick Okori**

- i. RUFORUM needed to consolidate and accelerate its growth as it matures through decentralized coordination and management of operations considering the African Union regions.
- ii. There was need for accelerated teaching, learning and research through making use of: academic, research and innovation stables supported by adjunct professors and co-appointments; cost-leveraging (with regional and or “themed” centres of leadership); and, digital acceleration for research, outreach, teaching and learning
- iii. Science had supported accelerate growth of the African Continent. However, there is an emerging threat of losing over 34 % of the crop area in Africa. Science therefore needs to undertaken things differently and this is the sole responsibility of the academia. There was need to ensure climate change proofing through adaptive agriculture to feed Africa and expanding energy for development with focus on renewable energy; undertaking policy research for thought leadership in topical futures and strategic areas; and, developing home-grown solutions with focus on a more integrated R4D agenda-one world one health; and, a balanced R4D agenda (strategic to applied research agendas)

### **Deliberations by Dr Stephen Muchiri, East African Farmers Federation**

#### **How stakeholders especially governments in Africa can contribute towards making farming attractive and economical to the youth in Africa? The space for RUFORUM in these proposals?**

Dr Stephen Muchiri noted that Governments are the custodian of policies and the role of policies is to catalyse and spur investments. Good policies attract great investments, however there are several challenges facing policy including;

- i. Public participation/ consultation is enshrined in the law, RUFORUM national chapter universities need to participate in this crucial process.
- ii. Domestication/implementation of policies-there had been challenges domesticating World Trade Organisation (WTO) and climate change related international agreements; the CAADP and ACFTA process have their challenges – and even at the regional level e.g. in EAC, a bill called EAC co-operatives societies bill was passed in 2015 to integrate the co-operative movement into regional trade in line with the EAC mandate and up to now its not assented into law by the EAC partner states presidents – This was among many others still awaiting assent.
- iii. Monitoring – Despite the fact that there exists joint sector reviews, there was need for action by the counties to meet targets rather than just being a procedural process. The role of parliament especially the committees of education and agriculture in oversighting need to be scrutinized. At the bear minimum, he noted the need for implementation of policies, that should be predictable and should support medium to long term domestic and FDI investments.



He therefore noted a challenge in the Capacity of policy makers wherein lies the opportunity for RUFORUM to influence policy. Building on the already bilateral meetings with policy makers during RUFORUM events, relationship needed to be built with government through a structured consultative dialogue that meets yearly or every two years – with invitation of other Value chain actors to discuss priorities of governments/ universities/ farmers/ private sector – agreeing on a road map but also to give relevance to the role of RUFORUM. In Europe, universities back-stop policy makers and policy negotiations such as WTO and RUFORUM can support cross-learning with involved universities. In such policy discussions the mantra of “what is in it for us” should not suffice, rather policy affecting one part of the chain actor affects the entire chain.

On Youth, he applauded the role of governments in enhancing affirmative action for women and youth and developing many programs along this line where impacts have been visible. Its clear youth would take up agriculture more in the future, since the future will be educated and exposed. The advent of ICTs had opened up space for innovations around IoTs, AI, social media – and this had created new jobs but more importantly new breed of youthful agri-business leaders. Last week, he noted he had sat with 100 youth about 70% who were CEOs/ MDs and was amazed with their level of engagement in agriculture. Clearly, he noted that there will be need for more virtual learning, less demand for Higher post –degree education/ students and more demand for cutting edge science. He further noted the following opportunities for RUFORUM including;

- i) Opportunities of matching/ bridging the supply of youth opportunities in governments/ development partners/ private sector with the demands by youth. The youth need information, capacity building and advocacy support.
- ii) Harnessing experiences from existing youth programs, but beyond just documenting the success/ failures. He noted the need to analyse the trajectory/ direction the youth are taking? E.g. if the demand for credible online content was the direction how can research outputs be tailored to meet this demand and how can content be used to inform curricula and approaches to learning
- iii) Mentorship, coaching and post enterprise establishment support – due to the fact that there aren't many mentors in agriculture, measures of innovatively using successful youth as mentors for others need to be explored.
- iv) On alternative sources of funding, the presentation on concentration of venture capital in Europe and America should not be a worry, because of crowding out a lot of this capital is moving to Africa, realizing that in the west, a number of universities are engaged by these venture capital firms, how can RUFORUM support cross learning by forming partnerships with such universities – this could result in informing learning, as well as new resources to supplement development funds

In summary – he noted the need to continuously adapt learning and delivery of education to be in tandem with the changing times so as to remain a relevant actor, strategic partners and a reliable knowledge broker; it was only through partnerships that success in developing agriculture, science and education. Could be achieved

**Award for Excellence by Hon Gaston Dossouhoui, Minister of Agriculture, Livestock and Fisheries, Benin; Hon. Professor Eléonore Ladékan Yayi, Minister of Higher Education and Scientific Research, Benin; Hon Said Ciid, Minister of Agriculture, Somalia; Hon Dr Monica Musenero, Minister for Science, Technology and Innovation, Uganda & Dr Elfiel Osman, Arab Bank for Economic Development in Africa**

**i. The Five outstanding scientists recognized included;**

**Dr. Dougnon Tamegnon Victorien** for his contribution to the development of the bio-pesticide against mosquito's larvae based on *Bacillus thuringiensis* and the sequencing of lytic bacteriophages infecting *Acinetobacter baumannii*.



**Dr. Salako Kolawolé Valère, Lecturer and Researcher-University of Abomey-Calavi**, for his publications and on his work to integrate molecular genetics and experimental ecological approaches (common garden and reciprocal transplant experiments) to better understand Climate Change threats to tropical tree species, accelerate agroforestry trees domestication, and guide more effective adaptation strategies.

**Dr. Eméline Sèssi Pélagie Assede, Senior lecturer, University of Parakou**, for her teamwork, role model for the students at University of Parakou and for developing the optimal wood-fuel harvesting techniques that improve wood fuel productivity. The latter has contributed significantly to conservation of existing biodiversity in Benin.

**Dr. Michel Dossou, Associate Professor and Researcher, University of Abomey-Calavi**, for his contribution to the generation of optical fiber capable of offering higher transmission capacity compared to the conventional existing fibers.

**Dr. Akomian Fortuné Azihou, Senior Lecturer, University of Abomey-Calavi**, for his intensive and significant work on tree species regeneration and low cost vegetative propagation of trees.

ii. **The recognized Young Innovators included;**

N°	Names	Gender	Country
1.	Ghislain Irakoze	M	Rwanda
2.	Abdul Gafaru Dasana Amin	M	Ghana
3.	Mulanga Jacques Baruani	M	DR Congo
4.	Nahurira Hillary	M	Uganda
5.	Costantine Edward Herman	M	Tanzania
6.	Dorah Momanyi	F	Kenya
7.	Kisaakye Jovia	F	Uganda
8.	Samuel Mwangi	M	Kenya
9.	Grace Nyokabi Kimani	F	Kenya
10.	Boby Ogwang	M	Uganda
11.	Ntirenganya Elie	M	Rwanda
12.	Damilola Aminat Adeyemi	F	Nigeria
13.	Nshimirimana Evariste	M	Burundi
14.	Kihumuro Wilbur John	M	Uganda
15.	Matiedje Nkenmayi Gislaine	F	Cameroon
16.	Marion Nyangoma	F	Uganda
17.	Akwo Ashangndowah	M	Cameroon
18.	Esther Wanjiru Kimani	F	Kenya
19.	Adaeze Akpagbula	F	Nigeria
20.	Birabwa Brooks Rhona	F	Uganda
21.	Badedji Rodrigue Landry	M	Benin
22.	Malieh Maxime	M	Cameroon

**Conference proceedings and communiqué**

*Summary of the 2021 Triennial Events: Professor Brice Sinsin, Former Rector, University of Abomey Calavi, Cotonou, Benin*

Appreciated the leadership of Prof Adipala Ekwamu that has been fundamental in mobilizing several dignitaries to engage in dialogue during the triennial conference. Since 25<sup>th</sup> November, Pre-conference events had been held. The actual annual general meeting was scheduled 6-10 December 2021, however from 28<sup>th</sup> November 2021 several pre-conference events had been held. The Benin higher education day attracted more than 500 participants.

From the 5<sup>th</sup> December 2021, RUORUM made financial accountability to the different stakeholders especially Deans and Vice Chancellors

From day 6, panel discussion attracting 1000 persons discussed issues related to the Youth employability focusing on restructuring the education system to take advantage of the Public-Private sector Partnership to the advantage of the Youth on the African Continent.

Several skills enhancement trainings were undertaken including Scientific Communication Skills development; poster presentations; entrepreneurship skills development; grant proposal development;

Five-day exhibition was help to show case the variety of innovations emerging from member Universities

RUFORUM member universities have increased to 146 with a call to endorse the RUFORUM Charter; activation of the SHAEA programme by the World Bank

A total of 48 awards were issued out to catalyse investments in the higher education sector to ensure that agricultural development on the continent has a favourable landscape

Partnerships need to be established to develop mechanisms of skilling young graduates to enhance their chances of securing employment.

The meeting attracted a high quality of participation with delegates including nine ministers; 25 members of cabinet from various African nations; Vice Chancellors and pro-vice Chancellors from Anglophone countries;

### **Speech by Dr Elfiel Osman, Arab Bank for Economic Development in Africa**

1. Greetings from Dr. Sidi Ould Tah, the Director General of the Arab Bank for Economic Development in Africa who was looking to participate in this event, however, he was taken for another ICESCO Meeting those same days in Cairo. He is sending his high appreciations regarding the level of cooperation with RUFORUM and also highlighting BADEA readiness for further cooperation that will benefit Social and Economic Development of Sub-Saharan African Countries.
2. We are really grateful for the Government of Benin and RUFORUM for inviting us to this important gathering around the theme “Operationalizing Higher Education for Innovation, Industrialization, Inclusion and Sustainable Economic Development in Africa: A Call for Action”.
3. We, in BADEA have listen carefully to that Call, and we would like to state that:
  - Tertiary education can be a powerful engine for building a better society, for productivity and growth. It contributes through the production of advanced knowledge, skills and competences, through basic and applied research but also through its so-called ‘third mission’ – a wider service to the community.
  - Governments, educational institutions as well as business community and funding agencies should collaborate on youth skills development. Specifically, the focus should be on training programs that help youth develop the skills needed to meet the demand of the aspirations of their countries.
  - BADEA noticed with satisfaction the progress achieved in the joint operation targeting the Digital Learning through the Development and Delivery of Selected Online Courses and call upon all stakeholders to deploy all necessary efforts towards its successful finalization.
  - BADEA also noticed the large steps coordinated by RUFORUM regarding the Feasibility Study on “The Youth Employability and Entrepreneurship Development in Agriculture Sector in Uganda”, and will be looking forward to see the agreed upon Program Proposal that might lead to a well-designed intervention in Uganda, and that

might set the pace towards similar projects in other countries. BADEA is also looking to see this program as a pilot operation targeting the Effective Role of Higher Education Institutions in Responding to the Labour Markets Needs in Africa.

- BADEA welcomes the “Call of Action” emanating from the Meeting of Ministers Responsible for Agriculture, Education & Training, Science, Technology and Innovation, and will be ready to discuss ways and means towards responding to that “Call of Action” falling within the priority programs in Sub-Saharan African countries.

4. In conclusion, I would like to re-iterate our thanks and appreciations to RUFORUM for their proactiveness and dedication in facing the development challenges in Africa, and our thanks and gratitude to the Government of Benin for their warm welcome and hospitality

#### **Statement by Hon Said Ciid, representative of the Somali Minister of Agriculture**

Hon Said Ciid, representative of the Somali Minister of Agriculture, appreciated the efforts vested by the RUFORUM in organizing the triennial conference as well as the Government of the Republic of Benin for the leadership in hosting the conference. He conveyed greetings from the President of the Republic of Somalia and appreciated RUFORUM for the good work done for the good of the African Continent. Further appreciated all the Dean, Vice Chancellors and Ministers for the deliberations undertaken during the Triennial Conference.

#### **Statement by Hon Dr Monica Musenero, Uganda Minister for Science, Technology and Innovation**

Hon. Dr. Monica Musenero, Uganda Minister for Science, Technology and Innovation welcomed all participants for attending the triennial conference and appreciated the hospitality accorded by the People's of the Republic of Benin. She appreciated the quality of discussions during the different sessions of the Triennial Conference that are a key indicator of the high quality human resource available in the Continent that needs to be harnessed to transform the Continent. Reaffirmed the capability of Africans to address their problems in order to transform respective nations by exploiting science technology and innovation that is fundamental in the economic development of several nations and plays a fundamental role in wealth creation, improving the quality of life and the real economic transformation in society. To realize the benefits emerging from Science Technology and Innovation, there is need for a mind-set change and prioritizing investment towards the development of fully and well-coordinated ST&I ecosystem which links the research taking place in the academic institutions and the human capital development which are linked to industry and investment. Cognizant that education plays a fundamental role in enhancing the quality of Science Technology and Innovations, the current education system was designed to train users as well as technicians to support the technology but not develop technology. This warranted the need to review the education system. Agriculture has a lot of economic potential through research and development. Most African countries export agricultural produce in the form of raw materials. Science, Technology and innovations is fundamental for value addition. Innovations that were exhibited by the students had potential to transform into industries if accorded due attention and focus. Cognizant of the large gap that exists between the innovations that emerge from the universities and the marketability of the innovations, there was need for focused programmes to help cross this bridge to ensure that innovations emerging from the universities translate into economic development and jobs. Concluded by recommending the need for scientists to develop products, patents. Publications are important but in order to transform the economy there was need for products and registered patents for translation into businesses. Concluded by noting that the Uganda government was ready and committed to champion the transformation, and further take on the responsibility to support RUFORUM to fast-track any pending activities that RUFORUM needs to moves forward. Looked forward towards hosting the upcoming summit with BADEA and The EU in Uganda and ensure that the meeting is a success.

**Vote of Thanks: Professor Adipala Ekwamu, Executive Secretary, RUFORUM**

Prof Adipala Ekwamu, the RUFORUM Executive Secretary thanked all participations for the deliberations during the conference focusing on envisioning the future of Higher Education, Science Technology and Innovations. Noted that RUFORUM would continue approaching the Uganda Ministry of Science Technology and Innovations (MoSTI) for more guidance to ensure alignment of RUFORUM interventions with continental policies. Appreciated all delegates from non-African nations for participating actively and virtually in the conference. Appreciated the LOC and the ROC for the support in organizing the conference. Reiterated the need to turn research into products as well as working on patents. Thanked all participants for the engagements undertaken and hoped to receive decisions from Benin with respect to the Regional Nodes where Benin is amongst those selected with focus on West Africa.

**Closing Address by Hon Gaston Dossouhoui, Minister of Agriculture, Livestock and Fisheries, Benin**

Hon Gaston Dossouhoui, Minister of Agriculture, Livestock and Fisheries, Benin, appreciated the technical support provided by the Staff from the University of Abomey Calavi as well as the Benin RUFORUM Member Universities for ensuring that the Conference is a success. He appreciated the technical and financial partners such as BADEA for investing heavily in research. He noted this as fundamental in enhancing the contribution of African Universities towards agricultural transformation in Africa. Noted that the existence of students that decide to follow the trail of their teachers as well as the Young innovators as fundamental in cross-generational development of the African Continent. The different sessions held are fundamental in fostering strong partnerships for a stronger inclusive Africa Higher Education sector. Universities are a sustainable development engines for several governments across the world as they provide content for the political vision. Recommended the need for Universities to imitate decision makers for more pragmatism and envisioning on what universities wish to undertake and to ensure that difficulties in research should not delay progress. Recommended the need for more inclusion of women in research and innovation as demonstrated by the vast administrative and politically focused females engaged at the Conference. Even amongst the nominees, gender considerations were accorded due respect. With reference to the nominees in the various categories, he recommended the need for more attention to be accorded to women, given that much more output could be realized. Universities need to contribute towards adding value to agricultural produce through reorienting the curriculum towards this direction to generate specialists to realize this target. Recommended that RUFORUM capitalizes the discussions held to ensure that the data generated and knowledge could be accessed easily by the public

**Session 3: Evaluating the Impact of Entrepreneurship in Agribusiness Training****Venue: Laguna, Palais des Congres****Background**

The African continent is at an exciting and challenging point in its economic development but continues to face challenges such as poverty, malnutrition, conflict, climate change and a growing youth population. According to the United Nations, 226 million youth aged 15-24 lived in Africa in 2015 representing nearly 20% of Africa's population, making up one fifth of the world's youth population. Including all people aged below 35, this number increases to a staggering three quarters of Africa's population. Moreover, the share of Africa's youth in the world is forecasted to increase to 42% by 2030. Furthermore, it is expected to continue to grow throughout the remainder of the 21st century, more than doubling from current levels by 2055. ([Office of the Special Advisor on Africa](#)). Ten to twelve million young people join the African labour force each year, yet the continent creates only 3.7 million jobs annually. ([Jobs for Youth in Africa](#), African Development Bank. Apart from the high levels of unemployment, the youth regularly suffer from under-employment and lack of decent working conditions. Of the 38.1 per cent estimated total working poor in sub-Saharan Africa, young people account for 23.5 per cent. Young girls tend to be more disadvantaged than

young men in access to work and experience worse working conditions than their male counterpart, and employment in the informal economy or informal employment is the norm. ([Youth Employment in Africa](#), International Labour Organization).

Agriculture and agribusiness offer enormous opportunities for young people to create profitable businesses and there are a significant number who are highly motivated to do so. The spirit of enterprise is high. However, many of these young people lack the business skills and acumen to build a solid business plan to launch their enterprise optimally. The University environment provides an excellent training ground for young entrepreneurs to undergo agribusiness training and potentially to launch their businesses in a 'safe' environment.

### **Session Objectives**

1. Raise awareness around the key role entrepreneurship education plays both in sustainable development in Africa as well as the growth of African education institutions.
2. Understand the key success factors from different programs.
3. Identify means to evaluate the impact of entrepreneurship programs.
4. Assess the means and the opportunities for other RUFORUM Universities to adopt entrepreneurship education programs.

### **Methodology and Format**

Presentations, Panel Discussion and Q&A. Testimonies from participating students.

### **Participation**

The session attracted 50 participants physically and 50 participants virtually. The participants were drawn from 25 countries from across Africa, Europe and the United States.

### **Key Highlights of the session dialogue**

Dr Anthony Egeru from RUFORUM presented the incubation programme of RUFORUM that includes 14 agribusiness incubation clusters in 8 countries. It also involves commodity value chains where students in the research program work in a particular commodity in agribusiness and work together with farmers to implement the innovations. RUFORUM also has an Enterprise Scheme which is generally a student enterprise fund where students are recruited within the University, regardless of their background, but with an interest in creating their own business. RUFORUM invests and trains them to pilot the ideas while they are still on campus, so they can grow the business and move with it out when they leave. These have so far had the following outputs

- 780 students participating in experiential entrepreneurship learning
- 180 business plans
- 130 successful enterprises supported
- 692 jobs created
- Over US\$400,000 in total revenue sales from the student enterprises
- Over US\$800,000 required investment need for scaling and growth.

Dr Anne Roulin presented on the Agripreneurship Alliance Entrepreneurship in Agribusiness training, which is a blended, participative course taught by university staff in several African countries. This 10-module course takes the budding agripreneurs through all the steps to build a solid business plan. Since 2018, this training has been implemented in Universities and Institutes in Kenya, Uganda, and Somaliland and now in DR. Congo and Namibia (several RUFORUM Universities). Thirteen cohorts of students have been trained thus far. Presentations were given by some of the University Trainers implementing this course – Dr Florence Opondo from Laikipia University in Kenya, Dr Basil Mugonola from Gulu University in Uganda, Dr Rebecca Kalibwani from Bishop's Stuart University in Uganda and Dr Catherine Tindiwensi from Makerere University Business School, Uganda. The presentations explained how this partnership has enriched their universities, the strategy which they have adopted to implement the Entrepreneurship in Agribusiness course and how it is embedded in their university life. It was evident that the Entrepreneurship in Agribusiness course has had a significant impact on the lives and aspirations of students who have participated in the course.



It was also noted that the training course is strengthening partnerships and engagements between universities, building the capacity of staff, introducing new and different ways of teaching, and making fundamental differences to the outlook of universities. This has had an influence on universities to initiate incubation activities and drawing up the curriculum for post-graduate course in agribusiness management. Other institutions have now adopted a ‘whole university’ approach to embedding entrepreneurship into its culture and approach. Another embeds the Entrepreneurship in Agribusiness course into its post-graduate courses which, since the course recruits students from across Africa through the MasterCard Scholarship scheme, increases the geographical impact of the course.

From Agripreneurship Alliance, the summary of the results and impacts of the training to date is as follows:

- 50 African Trainers
- 400 participants completed training
- 42% Women
- 120 Business Plans prepared by the Teams
- 57 agri-food businesses in operation resulting from the training across a wide range of value chains

The session also attracted a private sector venture capitalist from Nigeria; Mr. Eric Osiaku that pointed out the need for Governments to develop policies and regulatory frameworks that create enabling environments. Two young entrepreneurs from Uganda spoke about their own journeys, developing and growing SME businesses within the value addition (hygiene products) and coffee sectors as well as agricultural inputs. The latter SME has already reached 100’000USD in sales and is implementing some novel business models.

Experience on training agripreneurs were also shared from the University of Abomey-Calvi in Benin by Mr. Thiburce Bokassa, and Dr. Jan Swanepol from the University of the Free State in South Africa. These incubation hubs have been wholly funded by the TAGDev programme supported by the Mastercard Foundation being implemented by RUFORUM. These hubs have also demonstrated unique models of training and incubating young entrepreneurs.

### **Summary of Key issues**

Three key areas where action is required for the universities and other stakeholders engaged in promoting entrepreneurship and supporting young African agri-entrepreneurs these include:

1. Strengthen south-south partnerships and south-north partnerships and business growth opportunities. These promote knowledge, increase capacity, enable resourcing of initiatives, and assist in the creation of entrepreneurial eco-systems within and across the African food system.
2. Entrepreneurs need to develop wining strategies including the skill and art of ‘Acting local and thinking global’. This is crucial, entrepreneurs should be aware of the challenges that face the communities of which they are a part, food insecurity, changing climate, gender inequality and poverty, seek to create businesses that create a good future for themselves, but also support their communities as an integral part of their business model, while at the same time, seeing the connections and potential for their businesses on a much larger scale.
3. Strengthen the power of connectivity and capitalise on it. Relationships should be developed and enhanced so that there a move away from ‘silo thinking’ and promote the potential of developing multi-disciplinary approaches, bringing strengths from different sectors to create the answers needed to address fundamental issues affecting entrepreneurship growth and business success.

### **Session Materials for reference**

1. Link to recording of the session:

[https://us02web.zoom.us/rec/share/x\\_1TkZavMoy-27Ptd5Ncr\\_cK2Hd4wl-SxW1ws1DTpWwmqQfY\\_-jQy8Hwi0shQGaD.OCYICg9pxR\\_zdSGS](https://us02web.zoom.us/rec/share/x_1TkZavMoy-27Ptd5Ncr_cK2Hd4wl-SxW1ws1DTpWwmqQfY_-jQy8Hwi0shQGaD.OCYICg9pxR_zdSGS)

Passcode: U?S3v5#Q

2. Link to presentations:

<https://drive.google.com/drive/folders/1ugb1Q4bC0XzZe8NfAPI9gO4Hbo5Fa7Ie?usp=sharing>

