



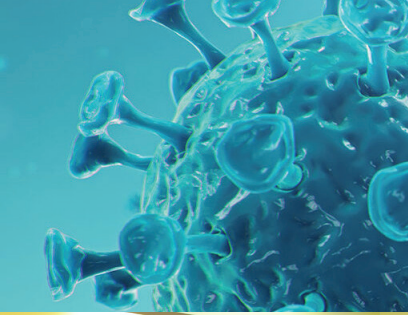
# RUFORUM

## Post COVID-19

Education, Agriculture Innovation  
and Livelihoods in times of Crisis

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## From Response to Recovery and Resilience in Education and Agriculture



Higher education is recognised as one of the greatest equalizers with a transformative potential of moving people and generations out of poverty. In the last one year, the COVID-19 pandemic has created immense disruptions in higher education by widening inequalities and dramatically affecting the most vulnerable groups. It has similarly disrupted Africa's food systems, increased the number of the hungry and created a cluster of the 'new poor' in a continent already grappling with several development challenges.



Throughout historical times, adversity has led to advancement in innovation and expansion of opportunities for social, economic and political change. COVID-19 equally opens innovation avenues for creating new opportunities and possibilities to address both existing and emerging higher education and agri-food systems challenges in Africa.

The world's lack of resilience was exposed from the most developed countries to the least developed countries; public health systems, agri-food systems, education, logistics, governance

and politics among others have been affected and a rethink of pathways to recovery and resilience are required. Africa has experienced disruptions in health, education and the agri-food systems that is expected to continue into the foreseeable future. The gains made towards the realisation of the Sustainable Development Goals (SDGs) in the last five years are at risk of being wiped out by the pandemic and already vulnerable poor are at the greatest risk. Urgency is required to transform the COVID-19 crisis into opportunity to build better and shape a collective sustainable future.

Universities under the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), a network of 129 universities from 38 African countries, recognise strategic opportunities as well as continued challenges that COVID-19 presents to higher education and the agricultural sector in general. Universities further recognise that several strategic milestones need to be delivered to support continued response, recovery and resilience.

RUFORUM has mobilised a collective effort and exploited existing synergies to respond to the COVID-19 crisis

whilst recognising that the challenge ahead is enormous. Collective dialogue and mapping on the way forward involving 5,750 persons from across 80 countries over the last eight months yielded three strategic responses that universities especially under the RUFORUM network need to urgently take to respond, recover and build resilience in the medium term: (1) Stabilize higher education delivery through leveraging network strengths, exploring and enhancing alternative modes of pedagogy and academic delivery; (2) Stabilize food security in a transforming agri-food system across the value chain; and, (3) Support youth entrepreneurs to recover, rebuild and scale innovative enterprises.

Universities further recognise that knowledge sharing and multi-stakeholder engagement and ownership will remain pivotal for innovative response, recovery and resilience building efforts on the continent. Unanimously, the universities focusing on agriculture agree that if Africa is to shift the continent's future narrative, universities ought to be actively engaged making the continent competitive and resilient.

## RUFORUM: Dynamic and Resilient Network



RUFORUM was created in 2004 by Vice Chancellors of universities in Africa to provide a platform for networking, resource mobilization and advocacy to transform universities for relevance towards inclusive sustainable development, rationalize resource use and enhance economies of scale and scope, and ensure that universities directly support African governments development priorities.

RUFORUM network connects globally with other university networks, development partners, policy and decision leaders to leverage synergies and solidarity for delivering requisite science solutions for development, human capital development and institutional reform in African higher agricultural education.

RUFORUM acknowledges youth as the propulsive engine driving change and leading the charge for a better Africa. The network is African owned, aligned with country goals and thrives in multi-stakeholder inclusive engagement that is alive to gender equality and gender responsive interventions.

## Building on a Collective Foundation

The RUFORUM network is building on the shared collective voice enshrined in the African Universities' Agenda for Agricultural Higher Education, Science, Technology and Innovation (AHESTI), Vision 2030 agenda.

The Vision 2030 seeks for vibrant transformative universities that catalyse sustainable inclusive agricultural development to feed and create prosperity for Africa.

RUFORUM network universities appreciate that transforming African universities for growth and development will yield quality human capital, institutional reform and deliver science solutions for development to bolster Africa's competitiveness and improved livelihoods.





## Our Vision

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

## Mission

To strengthen the capacities of Universities to foster innovations responsive to the demands of smallholder farmers and value chains through the training of high quality researchers, the output of impact-oriented research, and the maintenance of collaborative working relations among researchers, farmers, market actors, national agricultural research and advocacy institutions, and governments.

## Motivation

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

## Science Solutions for Development



Science, Technology and Innovation has a strong contribution to advancing human progress, creating a shared value and leaving no one behind as advocated in the SDGs.

RUFORUM researchers and scientists working collaboratively across Africa have been instrumental in making science solutions and innovations for agricultural development readily available at community level. In contributing to climate change adaptation and mitigation, RUFORUM is providing science solutions to address Greenhouse Gas Emissions in Africa. The network has been active in addressing trans-boundary livestock diseases and endemic tsetse flies challenge in Sub-Saharan Africa. Universities are alive to the shift in food consumption patterns to rice, wheat and maize as the most

important cereals for food, nutrition and income security on the continent. The universities in the network have responded to promoting food and nutrition security needs focusing on key priority crops; wheat production and commercialization in Ethiopia; cassava production and value addition through a community seed system in Uganda and Kenya; breeding and distribution fish and fish technologies and marketing to enhance fish production and profitability in Malawi; commercializing pineapple production for income security of smallholder farmers in Ghana and engaging smallholder farmers to profit from South Africa's competitive wool industry.

RUFORUM has collaboratively worked with other global research centres to deliver technologies, innovations and management practices for increasing productivity and profitability of commodities along the value chains; Uganda (rice); Ethiopia (wheat) and Zimbabwe and Kenya (maize); and Kenya and Uganda (potatoes).



## Human Capital Development

RUFORUM has been at the forefront of building the next generation of scientists for Africa through the regional training and research programmes.

The plant breeding programme at Makerere University (Uganda) has produced some of the finest plant breeders in Africa today that have developed a wide range of crop varieties in cereals, legumes, roots and tubers that are driving change in agri-food systems on the continent. The PhD in Dryland Resources Management at the University of Nairobi continues to produce top notch researchers that are leading response and emergency assistance in arid and semi-arid areas. Collaborative effort within the network has been instrumental in supporting universities and research centers in conflict and post-conflict countries such as Burundi, DR. Congo, Liberia, Madagascar, Mali, Rwanda, Somalia, South Sudan, Sudan, and Zimbabwe to re-launch training and research programmes in priority development areas.

Alumni from RUFORUM training interventions are championing agricultural research and development in their countries of origin as well as in other regional research facilities in Africa. These graduates have boosted local and national agri-food systems and unlocked pathways out of poverty for smallholder farmers.



## Youth Creating Enterprises, Jobs and Expanding Employment



Africa's demography is at the heart of contemporary interest with a youthful population that is interpreted variously as an opportunity, a threat, or both due to a slow and late demographic transition. RUFORUM has been harnessing the youth opportunity and developing the capacities of universities to shape agro-enterprises, create jobs and expand employment opportunities.

In the last two years, RUFORUM has engaged with young people in enterprise development with profitable and innovation driven spin-offs and start-ups that have created more than 1,200 direct jobs.

Young people are employing fellow youth in innovative enterprises, social ventures and are similarly making a

mark in the international arena with global recognition. Supporting and nurturing the young entrepreneurs through various small-scale incubators in universities has demonstrated that universities have unexploited potential.

The young entrepreneurs supported through RUFORUM have demonstrated that youth can find value in agriculture especially in technology driven value addition processes, utilization of artificial intelligence to support off and on-farm productivity needs thus, universities are reshaping the narrative of African youth participation in agriculture.



## Institutional Reform in African Higher Education

Early in RUFORUM's formation, Member universities recognised the need for substantial reforms that would make them more responsive to the needs of society and the economy.

Progress to reform was approached from the human capital development and institutional competitiveness perspective. Curricula review and pedagogical practice that promotes experiential learning, entrepreneurship, and community engagement were evolved. Seventeen masters and PhD regional programmes promoted the internationalization of universities with emergent students and staff academic mobility.

The research focus shifted from the local and national to regional level science solutions. These laid the foundation for institutional readiness for success as centres of excellence for Agricultural food systems in Africa a pre-requisite for the World Bank African Centers of Excellence. Today, the regional programmes have blossomed into African Centres of Excellence at Egerton University, Haramaya University, Lilongwe University of Agriculture and Natural Resources, Makerere University, Mbarara University of Science and Technology, and Uganda Martyrs University that influence change and generate relevant technologies and innovations for Africa.



## RUFORUM's Contribution to Africa's Growth and Prosperity

The network's contribution to human capital development, institutional reform and delivery of science solutions for development has been fast paced, consistent and responsive to national and regional priorities, niche challenges as well as trans-boundary challenges on the continent.

These initiatives place RUFORUM at the forefront of mobilizing universities capacities to deliver innovations led development in Africa. The network is unequivocally committed to the realisation of the Sustainable Development Goals (SDGs) in particular: Goal 1 (No Poverty), Goal 2 (Zero Hunger), and Goal 4 (Quality Education).

Considering the Pan-African character of the network, members collectively work towards the realisation of Africa's quest for inclusive and sustainable development as enshrined in the Africa Union Agenda 2063. As agricultural universities, RUFORUM is strongly committed to supporting the delivery of the Comprehensive African Agricultural Development Programme (CAADP) as well as other continental frameworks such as the Science, Technology and Innovation Strategy for Africa (STISA).



## Towards a Collective Higher Agricultural Education Post-COVID-19 Response, Recovery and Resilience Building

Despite disruptions COVID-19 has had on Africa's agri-food systems, education and the economy, it has generated opportunities for addressing new and old challenges facing Africa.

The pandemic elevated science, technology and innovation as the mutual solution provider. It provided the opportunity for systems to reflect, review and design interventions that will ensure not only operational continuity but opens new pathways for response, recovery and resilience building.

Universities under the RUFORUM network have had the opportunity to rethink how agri-food systems should function and universities contribution to livelihoods and development. It is the stimulus that universities needed to reboot their systems to offer online learning, and reflect on the fundamental issues of

access, equity, and relevance of higher education. In addressing the diverse challenges of the pandemic, the value of the RUFORUM network became visible. RUFORUM has prioritized the following actions for response, recovery and resilience building:

**Stabilize food security in a transforming agri-food system for smallholder farmer's gain:**

Prior to the COVID-19 pandemic outbreak, the Africa region already grappled with some 256 million (20% of Africa's population) hungry people and an estimated 239 million undernourished persons in Sub-Saharan Africa. It is projected that by 2021 there will be an increase in the number of hungry people, those becoming poor and those dropping out of school as a result of COVID-19. Stabilizing inclusive food and nutrition security, in the region is an urgent imperative. In order to realise this, RUFORUM member universities working



with other partners will: (i) develop and adapt innovations, technologies and management practices including use of artificial intelligence for enhancing productivity, value addition, post-harvest handling and marketing systems for smallholder farmers; (ii) provide and support delivery of agricultural advisory and extension services to farmers to enable them make smart on and off-farm decisions; and (iii) provide innovations and technological applications for reducing logistical and distribution bottlenecks and enhancing e-commerce.

### Stabilize higher agricultural education delivery through leveraging network strengths:

The pandemic's disruption on education has demonstrated global interconnectedness and the need for collaborative action. Regional and convener networks

such as RUFORUM are well placed to collaboratively mobilise stakeholders to take action.

RUFORUM proposes the following actions to help stabilize higher agricultural education delivery: (i) strengthen network collaboration to leverage resources from within network universities to support struggling universities transition to takeoff with virtual learning; (ii) universities to rethink their business models, focus on equity and inclusion and reinforce their capacities for risk management and mitigate the glaring inequalities among the rural, urban-poor and urban affluent learners revealed by the pandemic; and, (iii) agricultural higher education institutions adapt engagement models that promote the agri-food systems approach for achieving food and income security; (iv) invest more funding into frontier sciences including basic research to build requisite capacity and generate innovations that will promote evidence based policy and decision making.

## Facilitate business recovery and enable entrepreneurs re-build in post COVID-19 era:

Owing to the critical role of micro small and medium enterprises in the economic development of Africa, they need to be supported to recover and bounce back in the post-COVID-19 era. Universities have been playing a nurturing and mentorship role for the creation of startups throughout the various business incubators in university campuses. COVID-19 interfered with these processes, collapsed the young and novice business.

RUFORUM proposes the following actions to help member universities rebuild these businesses and enhance systems for nurturing young entrepreneurs: (i) transition startup support services to virtual based systems to bridge the vacuum for physical interaction; (ii) mobilise impact investors to provide recovery funding support to university based innovations led start-ups; and (iii) support startups with opportunities to strengthen internal operations and policies that ensure they are well-placed to withstand an extended crisis period.

## Partnership for implementation:

Global interconnectedness and collaboration among education and development actors remains a strong pillar for response to the challenges created by COVID-19.

African Governments and higher education regulators, philanthropists and development partners, civil society organisations and community based organisations, smallholder farmers and African communities have been targeted as key players in the response, recovery and resilience of African economies.


Universities, universities confederations and the global research community need to mobilise network engagements, share resources for digital learning, leverage expertise and experiences, and strengthen collaborative research and innovation. RUFORUM remains positioned to bring together actors to continue with dialogue and advocacy for addressing the effects of COVID-19.



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