



Call for Abstracts for the RUFORUM 21st Annual General Meeting

**1st to 5th December 2025 at Gaborone International Conference
Centre, Botswana**

Introduction

The 21st RUFORUM Annual General Meeting (AGM), scheduled for 1st –5th December 2025 in Gaborone, Botswana, will convene a diverse community of university leaders, researchers, students, policymakers, and development partners committed to advancing Africa's agri-food systems through innovation, education, and evidence-based policy. The AGM will involve a scientific conference for which this Call for Abstracts is made.

The scientific sessions will provide a platform for sharing cutting-edge research, proven innovations and solutions that contribute to inclusive and sustainable development. Submissions must align with one or more of the six themes outlined in this call, which include: (1) green energy transitions, (2) agri-food system resilience, (3) workforce development, (4) artificial intelligence in agriculture, (5) strategic investments in research and education, and (6) knowledge-policy integration.

Selected abstracts will be presented as oral or poster presentations, and authors will be invited to submit full papers for publication in RUFORUM's peer-reviewed outlets—the RUFORUM Working Document Series and or peer reviewed journals. Researchers, academics, graduate students, and practitioners across disciplines are encouraged to submit abstracts that showcase impact-oriented research, best practices, or policy insights.

THEME 1: GREEN ENERGY TRANSITIONS FOR SUSTAINABLE AGRICULTURAL SYSTEMS AND CLIMATE ACTION

Background:

Agriculture continues to evolve in the face of climate change, population growth, and increasing food demand. The sector is under growing pressure to both reduce greenhouse gas (GHG) emissions and enhance resilience to climate-related shocks. Traditionally dependent on fossil fuels for irrigation, mechanization, and post-harvest processing, agriculture in many parts of



Africa contributes to energy-related emissions and remains vulnerable to volatile energy prices and supply disruptions (FAO, 2021¹; IRENA, 2022²).

In this context, clean energy offers a transformative pathway to decouple agricultural productivity from fossil fuel dependency. By harnessing solar, wind, bioenergy, and other clean energy sources, agricultural systems can improve energy access, reduce operational costs, and cut emissions while also supporting off-grid rural communities (IRENA & FAO, 2021³). Moreover, coupling energy transitions with circular agriculture practices where organic waste is recycled into energy or nutrients can further enhance resource efficiency and climate resilience (World Bank, 2021⁴).

This theme seeks to spotlight innovative, scalable, and context-relevant agri-energy solutions that drive climate action while improving agricultural productivity and value addition. It promotes interdisciplinary approaches and policy-research linkages that support the design and implementation of energy-smart agricultural systems across Africa.

Sub-Themes:

- **Renewable and clean energy for irrigation and mechanization:** Innovations in solar-powered pumps, wind-driven systems, and decentralized energy grids that support climate-smart intensification.
- **Bioenergy and circular agriculture:** Utilization of agricultural waste, residues, and livestock manure to produce bioenergy, contributing to a closed-loop, low-carbon system.
- **Energy-smart value chains:** Enhancing the energy efficiency of processing, storage, and transportation through clean energy technologies and management systems.
- **Agri-energy solutions and innovations:** Case studies and technologies that showcase novel energy interventions across various agri-food contexts, including digital and IoT applications.

THEME 2: BUILDING RESILIENT AND INCLUSIVE AGRI-FOOD SYSTEMS IN THE FACE OF CLIMATE AND ECONOMIC SHOCKS

Background:

Agri-food systems in Africa are increasingly vulnerable to a complex web of interrelated

¹ Food and Agriculture Organization of the United Nations. (2021). *Energy-smart food for people and climate: A review of food-related energy policies*. FAO. <https://doi.org/10.4060/cb2322en>

² International Renewable Energy Agency (IRENA). (2022). *Renewable energy for agriculture: Insights from the Middle East and North Africa*. IRENA. <https://www.irena.org/publications/2022/Feb/Renewable-Energy-for-Agriculture>

³ IRENA & FAO. (2021). *Renewable energy for agri-food chains*. IRENA and FAO. <https://www.irena.org/publications/2021/Jan/Renewable-energy-for-agri-food-chains>

⁴ World Bank. (2021). *Innovations and investment in circular agriculture*. World Bank Group.



challenges, including climate variability, global economic disruptions, conflict, and deep-rooted social inequalities. These factors exacerbate existing vulnerabilities in agricultural production, food distribution, and household access to nutritious food, especially in rural and marginalized communities (FAO, 2023¹; IPCC, 2022²). Rising temperatures, erratic rainfall, prolonged droughts, and flooding are not only reducing crop yields and livestock productivity but also undermining the stability of food supply chains and local markets (AGRA, 2022³).

At the same time, global shocks—such as the COVID-19 pandemic, the Ukraine war, and commodity price fluctuations—have highlighted the fragility of food systems that are heavily reliant on imported inputs like synthetic fertilizers, fuel, and food staples (IFPRI, 2022⁴). These disruptions have worsened food insecurity and driven up the cost of living for millions of African households, particularly affecting women and youth who are often concentrated in the informal and subsistence sectors of agriculture (UN Women, 2021⁵).

This theme therefore focuses on strategies to build system-wide resilience through inclusive policies, climate-smart technologies, and institutional innovations. Emphasis is placed on integrated approaches that protect agricultural productivity, promote income diversification, strengthen early warning and risk mitigation systems, and ensure social safety nets for vulnerable populations (World Bank, 2021⁶). Gender- and youth-responsive programming is especially critical, as these groups are both disproportionately impacted by shocks and represent key agents of transformation in agri-food systems (CTA, 2019⁷). By embedding resilience thinking into agricultural development planning and implementation, countries can move beyond reactive crisis responses toward adaptive, anticipatory, and inclusive food systems transformation.

Sub-Themes:

- **Soil Health and Nutrient Management:** Innovations in sustainable fertilizer use, soil regeneration, and organic matter restoration to improve agricultural resilience and productivity.

¹ Alliance for a Green Revolution in Africa (AGRA). (2022). *Africa Agriculture Status Report 2022: Accelerating African Food Systems Transformation*. Nairobi: AGRA.

² CTA. (2019). *The Digitalisation of African Agriculture Report 2018–2019*. Technical Centre for Agricultural and Rural Cooperation

³ Food and Agriculture Organization of the United Nations (FAO). (2023). *The State of Food Security and Nutrition in the World 2023*. FAO. <https://doi.org/10.4060/cc3017en>

⁴ International Food Policy Research Institute (IFPRI). (2022). *Africa Agriculture Trade Monitor 2022*. IFPRI. <https://doi.org/10.2499/p15738coll2.135982>

⁵ UN Women. (2021). *Beyond COVID-19: A Feminist Plan for Sustainability and Social Justice*. UN Women. <https://www.unwomen.org>

⁶ World Bank. (2021). *Strengthening Food Systems Resilience in Sub-Saharan Africa*. World Bank. <https://doi.org/10.1596/978-1-4648-1647-6>

⁷ Technical Centre for Agricultural and Rural Cooperation (CTA). (2019). *The Digitalisation of African Agriculture Report 2018–2019*. CTA



- **Climate-Smart Technologies and Agro-Advisory Services:** Tools and platforms for real-time weather, pest, and market advisory; adaptive cropping systems; drought-tolerant and fast-maturing varieties.
- **Early Warning Systems and Risk Reduction Strategies:** Community-based early warning systems, anticipatory action plans, and financial risk tools (e.g., weather-index insurance) to protect livelihoods.
- **Inclusive Resilience Programming:** Gender- and youth-responsive approaches to climate adaptation, resource governance, and food system transformation that leave no one behind.

THEME 3: EMPOWERING AFRICA'S AGRICULTURAL WORKFORCE: SKILLING FOR INNOVATION, AGRIBUSINESS, AND INCLUSIVE TRANSFORMATION

Background:

A future-ready agricultural workforce is essential for unlocking Africa's potential in agri-food systems transformation. The continent's growing youth population—expected to double by 2050 presents a powerful demographic dividend, but only if supported by relevant skills, training, and entrepreneurial ecosystems (AfDB, 2022¹). With agriculture increasingly shaped by climate change, digitalization, and global markets, traditional educational models are often misaligned with emerging labor demands, technological trends, and innovation needs in the sector (FAO, 2021²).

This theme focuses on equipping youth and early-career professionals with green, digital, and entrepreneurial competencies that enable them to participate in—and lead—the transformation of agriculture from subsistence to sustainable, market-oriented, and technology-enabled systems. Modernizing agricultural and technical vocational education and training (TVET) curricula is a key entry point. Competency-based education models, experiential learning, and industry-linked internships are needed to build practical skills that are in demand across value chains from sustainable mechanization and agro-processing to digital advisory services and regenerative agriculture (World Bank, 2022³).

Bridging the gaps between research, extension, and industry also remains critical. Stronger partnerships between universities, agribusinesses, and rural development institutions can promote innovation adoption and ensure that training programs respond to evolving needs. Moreover, developing inclusive skilling strategies that intentionally target women and rural

1 African Development Bank (AfDB). (2022). *Jobs for Youth in Africa Strategy 2016–2025*. AfDB.

2 Food and Agriculture Organization of the United Nations (FAO). (2021). *Youth in agrifood systems: Drivers of change*. FAO. <https://doi.org/10.4060/cb3046en>

³ World Bank. (2022). *Harvesting prosperity: Technology and productivity growth in agriculture*. World Bank



youth can address persistent inequalities in access to productive resources, finance, and decision-making platforms (CTA, 2019¹; IFAD, 2021²).

Ultimately, investing in a skilled, adaptable, and empowered agricultural workforce will not only increase productivity and incomes but also create dignified employment, reduce rural poverty, and drive Africa's broader economic transformation.

Sub-Themes:

- **Curriculum Reform and Competency-Based Learning:** Redesign of agricultural and TVET curricula to embed practical, interdisciplinary, and systems-thinking skills.
- **Green, Digital, and Entrepreneurial Skill Development:** Training programmes and innovation hubs that equip youth with climate-smart, digital, and business development competencies.
- **Strengthening Research–Extension–Enterprise Linkages:** Building synergies among researchers, extension workers, and agri-entrepreneurs to promote inclusive and demand-driven innovation.
- **Skilling for Mechanization, Agro-processing, and Value Addition:** Capacity development initiatives targeting emerging value chain technologies and industrial food systems transformation.

THEME 4: APPLICATION OF ARTIFICIAL INTELLIGENCE AND EMERGING TECHNOLOGIES FOR SMART AND SUSTAINABLE AGRICULTURE

Background:

Artificial Intelligence (AI) and digital technologies are transforming agriculture globally, and Africa is no exception. These innovations are enabling precision farming, predictive analytics, and real-time resource management, offering solutions to long-standing challenges in the Continent's agri-food systems. From drone-based crop monitoring and satellite imagery to AI-driven decision-support systems, digital tools are helping optimize inputs, reduce post-harvest losses, and improve climate resilience and productivity (World Bank, 2021³; FAO & ITU, 2022⁴).

AI applications such as machine learning for crop yield forecasting, pest and disease detection, and soil health diagnostics are beginning to show promising results, especially when localized for

¹ Technical Centre for Agricultural and Rural Cooperation (CTA). (2019). *The Digitalisation of African Agriculture Report 2018–2019*. CTA

² International Fund for Agricultural Development (IFAD). (2021). *Rural Development Report 2021: Transforming food systems for rural prosperity*. IFAD

³ World Bank. (2021). *Strengthening Food Systems Resilience in Sub-Saharan Africa*. World Bank. <https://doi.org/10.1596/978-1-4648-1647-6>

⁴ Food and Agriculture Organization of the United Nations & International Telecommunication Union. (2022). *Status of digital agriculture in 47 sub-Saharan African countries*. FAO & ITU



African agro-ecological contexts. These tools can empower farmers—particularly smallholders—with data-driven insights that reduce guesswork and improve decision-making (McKinsey, 2020¹).

However, the deployment of AI in agriculture must also consider governance, ethical use, and equity. There is growing concern that digital technologies may exacerbate existing inequalities if they remain inaccessible to rural populations, women, and youth, or if data is misused without adequate safeguards (OECD, 2021²). Issues of data sovereignty, algorithmic bias, and digital literacy are central to ensuring that AI serves inclusive and sustainable development goals in African agriculture.

Another important frontier is the integration of indigenous knowledge systems with AI tools. This approach can enhance the contextual relevance and social acceptance of emerging technologies, building trust and effectiveness at the community level. At the same time, regional policy frameworks and infrastructure development are needed to guide responsible AI deployment, foster cross-country collaboration, and ensure interoperability of digital tools.

Sub-Themes:

- **AI for Farm-Level Decision Support:** Predictive modelling, precision planting, pest and disease detection, and nutrient optimization using AI tools.
- **Ethical and Inclusive AI Development:** Ensuring responsible AI design that addresses data privacy, algorithmic bias, accessibility, and inclusion of marginalized groups.
- **Integrating Indigenous and Scientific Knowledge Systems:** Blending traditional ecological knowledge with AI-driven data for context-specific agricultural insights.
- **Digital Infrastructure and Innovation Policy:** Frameworks and investments needed to support equitable access to data, internet connectivity, and digital agriculture platforms across rural areas.

THEME 5: STRATEGIC INVESTMENTS FOR AGRICULTURAL EDUCATION, RESEARCH, AND INNOVATION

Background:

Transforming agriculture across Africa requires more than technical solutions—it depends on long-term, strategic investments in knowledge institutions, human capital, and innovation ecosystems. Agricultural transformation is only sustainable when underpinned by a strong

¹ McKinsey & Company. (2020). *How artificial intelligence will impact Africa*. <https://www.mckinsey.com/featured-insights/middle-east-and-africa/how-artificial-intelligence-will-impact-africa>

² OECD. (2021). *The impact of AI on the workplace: Main findings*. Organisation for Economic Co-operation and Development. <https://www.oecd.org/employment/impact-of-ai-on-workplace.htm>



foundation of universities, research centers, extension systems, and innovation hubs that generate and disseminate context-relevant solutions (World Bank, 2017¹; FAO, 2021²).

Yet, many African countries continue to underinvest in agricultural research and higher education, despite clear evidence linking these investments to productivity growth and food security. According to the Agricultural Science and Technology Indicators (ASTI), public agricultural research spending in sub-Saharan Africa remains well below the recommended 1% of agricultural GDP (Beintema et al., 2020³). Moreover, many agricultural universities and research institutions face outdated infrastructure, brain drain, and limited access to competitive funding.

This theme therefore focuses on innovative ways to mobilize and scale investments in agricultural education, research, and innovation. Key strategies include the design of regional investment frameworks that align with continental agendas such as the Comprehensive Africa Agriculture Development Programme (CAADP), and mechanisms to pool resources across countries and institutions (NEPAD, 2016⁴). Additionally, public-private partnerships (PPPs) offer powerful models for co-investing in knowledge generation and skill development, while ensuring that research outputs are demand-driven and translated into scalable technologies and services (AUDA-NEPAD, 2022⁵).

There is also a growing need for diversified financing models including blended finance, challenge funds, endowment models, and performance-based grants that can unlock capital from both public and private sources. Such mechanisms are critical for strengthening the capacity of African research institutions and universities to respond to emerging challenges such as climate change, digital disruption, and nutrition insecurity.

Strategic investment in education and innovation is not just about building capacity—it is about building resilience, equity, and sovereignty in Africa's agri-food systems.

Sub-Themes:

¹ World Bank. (2017). *ICT in agriculture (updated edition): Connecting smallholders to knowledge, networks, and institutions*. World Bank Group. <https://doi.org/10.1596/978-1-4648-1002-3>

² Food and Agriculture Organization of the United Nations (FAO). (2021). *Transforming food systems for rural prosperity*. FAO. <https://doi.org/10.4060/cb4474en>

³ Beintema, N. M., Pratt, A. N., & Stads, G.-J. (2020). *Taking stock of national agricultural R&D capacity in Africa South of the Sahara*. Agricultural Science and Technology Indicators (ASTI), IFPRI. <https://www.asti.cgiar.org>

⁴ New Partnership for Africa's Development (NEPAD). (2016). *Science, technology and innovation strategy for Africa 2024 (STISA-2024)*. NEPAD Planning and Coordinating Agency. https://au.int/sites/default/files/documents/31838-doc-stisa-2024_-_english.pdf

⁵ African Union Development Agency – NEPAD (AUDA-NEPAD). (2022). *Public-private partnerships for agricultural innovation in Africa*. AUDA-NEPAD. <https://www.nepad.org/publications>



- **National and Regional Investment Frameworks:** Development of strategic blueprints and public investment models to fund science, technology, and innovation in agriculture.
- **Blended and Innovative Financing Models:** Leveraging government funding, donor support, and private sector investment through public-private partnerships (PPPs), education bonds, and impact funds.
- **Building University Innovation Hubs and Research Parks:** Establishing centers of excellence, incubators, and knowledge platforms to accelerate agri-food innovation and entrepreneurship.
- **Governance and Policy Alignment:** Institutional policy reforms and leadership strategies that align with national priorities and continental frameworks such as CAADP and STISA-2024.

THEME 6: KNOWLEDGE MANAGEMENT AND POLICY INTEGRATION FOR TRANSFORMATIVE AGRI-FOOD SYSTEMS

Background:

Evidence-based policymaking is a cornerstone of effective governance in agri-food systems, particularly in contexts of rapid environmental, economic, and social change. To achieve inclusive, resilient, and sustainable agricultural transformation, decision-makers at all levels require access to timely, reliable, and context-specific data and knowledge (FAO, 2021¹). Yet, many African countries continue to face persistent gaps in agricultural data systems, weak institutional capacities for policy analysis, and limited mechanisms for cross-sectoral knowledge integration (ReSAKSS, 2022²).

This theme emphasizes the critical role of data governance, policy research, and knowledge-sharing platforms in shaping policies that are responsive, equitable, and aligned with long-term development goals. Strengthening regional knowledge hubs and observatories such as those developed under the Comprehensive Africa Agriculture Development Programme (CAADP) can enable evidence-based monitoring of food systems, support cross-country learning, and guide resource allocation for maximum impact (NEPAD, 2019³).

Policy research and advocacy are equally important in bridging the gap between scientific knowledge and political action. When grounded in rigorous data and participatory processes, research can highlight policy trade-offs, evaluate program impacts, and surface local innovations

¹ Food and Agriculture Organization of the United Nations (FAO). (2021). *The state of food and agriculture 2021: Making agrifood systems more resilient to shocks and stresses*. FAO.

² Regional Strategic Analysis and Knowledge Support System (ReSAKSS). (2022). *ReSAKSS Annual Trends and Outlook Report 2022: Building resilient agri-food systems in Africa*. IFPRI.

³ NEPAD Planning and Coordinating Agency. (2019). *Africa Agriculture Transformation Scorecard: ReSAKSS Annual Trends and Outlook Report 2019*



that inform adaptive strategies (Birner et al., 2021¹). This is particularly crucial in areas like education reform, agricultural R&D, and climate-smart agriculture, where multi-sectoral collaboration and political will are essential. In addition, knowledge management systems that incorporate diverse voices including women, youth, indigenous communities, and private sector actors help democratize the policy process. These systems promote transparency, accountability, and inclusiveness, which are foundational to achieving the African Union's Agenda 2063 and the Sustainable Development Goals (SDGs). By investing in institutional data capabilities, policy engagement tools, and open knowledge platforms, African countries can accelerate evidence-driven transformation of agri-food systems at the national, regional, and continental levels.

Sub-Themes:

- **Development of Knowledge Hubs and Regional Observatories:** Platforms for collecting, curating, and disseminating data, evidence, and innovations across countries and institutions.
- **Policy Co-creation and Stakeholder Engagement:** Participatory policy processes that engage farmers, researchers, private sector actors, and policymakers in agenda setting and decision-making.
- **Evidence Synthesis and Policy Advocacy:** Approaches for aggregating scientific and practice-based knowledge to inform policies on food systems, climate, and rural livelihoods.

Guidelines for Abstract Submission

1. Abstracts must be strictly submitted to this email: ruforumpapers@ruforum.org no later than **5th September 2025** (submission through other emails will not be accepted).
2. A clear and concise abstract of **no more than 2100** words with spaces excluding the title, authors' details and keywords. Please do not include figures or tables.
3. Abstracts must be submitted with the following structure when writing: background, objectives, methods, results, conclusions/implications, and keywords.
4. On submission, indicate whether for oral or poster (The selection committee may suggest otherwise upon review of the content of the abstract)
5. Accepted abstracts will be informed to submit a full short paper which will be published in either the RUFORUM Working Document Series <https://repository.ruforum.org/>, the African Journal of Rural Development <https://afirdev.org/index.php/jos>, or other peer-reviewed journals once accepted for the conference.

¹ Birner, R., Resnick, D., & Lee, H. (2021). *Improving policy processes for effective responses to food system transformation in Africa*. IFPRI Discussion Paper 02041



6. You may submit more than one abstract. However, presenters who are accepted for oral presentations will be permitted to give only one oral presentation. Additional accepted abstracts will therefore be presented as posters.
7. Posters should be printed as following these guidelines: A0 paper size (Height: 118.9 cm & Width: 84.1 cm). No horizontally printed posters may be accepted.
8. All papers will be subjected to peer review and plagiarism checks before publication.

Enquiries should be submitted to a.badji@ruforum.org with a copy to and hchepete@buan.ac.bw