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Towards A West African Regional Bioeconomy: The Contribution of Policy, Science, and Technology Innovations

*Conference Proceedings of the West Africa
Bioeconomy Workshop*



Towards A West African Regional Bioeconomy: The Contribution of Policy, Science, and Technology Innovations

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Summary

A recent workshop highlighted the emergence of a dynamic and growing community committed to advancing the bioeconomy across West Africa and the continent. This momentum provides a critical foundation for strategic collaboration, policy development, and long-term investment in the region's bioeconomy potential. While West Africa has lagged behind other African regions in formalizing its bioeconomy agenda, it also holds immense untapped potential, with rich biodiversity, a strong foundation of traditional knowledge, and an active research and innovation landscape. Now is a pivotal moment to translate this potential into action and leadership.

Central to the discussions was the need for a clear and coherent bioeconomy strategy at national, regional, and continental levels. Such a strategy would offer a structured framework to align vision with implementation, identify synergies and trade-offs, and guide policy coherence across sectors. Participants emphasized the importance of mutual learning, drawing insights from regional neighbors and international models. These diverse global approaches can offer valuable lessons for designing context-specific policies suited to West Africa's unique assets and challenges.

To support this strategic process, three concrete initiatives were proposed:

- **Development of a Comprehensive Inventory of Bioeconomy Initiatives in West Africa** to document a wide range of activities, including ongoing research, innovations, and indigenous knowledge systems, and to serve as a resource for mapping existing efforts, identifying gaps and opportunities, and fostering collaboration. By highlighting the region's strengths, it will provide a foundation for evidence-based planning and help position West Africa within the global bioeconomy landscape.
- **Establishment of a Continental Database of Bioeconomy Actors and Experts** to map stakeholders across countries and sectors, supporting integrated bioeconomy initiatives within West Africa and across the continent. It will also enhance the region's representation at the Global Bioeconomy Summit (GBS) 2026, enabling knowledge sharing, joint project development, and strategic alignment among African actors.
- **Development of a Common African Vision for GBS 2026** to strengthen Africa's collective voice on the global stage. This vision would unify regional perspectives, reflect Africa's priorities and strengths, and position the continent as a proactive contributor to shaping the future of the global bioeconomy.

Participants recommended that stakeholders actively engage in a strategic, sustainability-focused process, rooted in local contexts and inclusive of diverse actors, including women, youth, and indigenous communities. This includes leveraging sustainable traditional knowledge systems, which are vital for creating resilient and culturally grounded bioeconomy solutions.

These efforts are further supported by growing political momentum for the bioeconomy at the global level. Recent milestones include the G20 Presidencies of Brazil and South Africa, the Global Forum for Food and Agriculture (GFFA) 2024 and 2025, the GBS 2024 hosted in Nairobi, and the launch of the Bioeconomy Financing Hub. Although the bioeconomy is not explicitly referenced in the CAADP Kampala Declaration, it is inherently cross-cutting and underpins all the Declaration's commitment areas, from sustainable agriculture to climate resilience and circular economy.

The political momentum surrounding the bioeconomy globally and in Africa indicates that now is an opportune time for West Africa—and indeed for Africa as a whole—to step up, consolidate efforts, and harness the bioeconomy's transformative opportunities for inclusive, sustainable, and locally driven development.

Background and Objectives of the Workshop

As momentum around the bioeconomy grows across Africa, there is increasing recognition of opportunities for leveraging the continent's rich and diverse supply of natural resources together with its science and knowledge for sustainable solutions. With the ambition of expanding the production of value-added products from renewable biological resources, a bioeconomy combines natural resources, scientific knowledge, and technologies with markets and business opportunities. Institutional interventions and policy guidance will be crucial to the development of country-level and regional strategies to facilitate the adoption of biobased economies.

To date, more than 65 countries worldwide have developed dedicated bioeconomy strategies. South Africa was the first African country to establish a dedicated bioeconomy strategy in 2013, followed by Namibia and Ethiopia in 2024. At the continental level, the East African Community (EAC) developed a regional bioeconomy strategy in 2022, becoming the first regional economic bloc to establish such a framework. The growing relevance of the bioeconomy in Africa was further underscored by the most recent Global Bioeconomy Summit, held in Nairobi, Kenya, in October 2024. It marked the first time the Summit convened outside of Germany. Moreover, the South African-led G20 has Bioeconomy on the Agenda, which was also the case with the G20 Presidency of Brazil in 2024. This momentum presents a timely opportunity to place the bioeconomy firmly on the policy agenda of West African countries.

This focused regional workshop, hosted in Senegal, served as a strategic platform to initiate discussions and explore pathways for West African bioeconomy agendas, leveraging partnerships with key stakeholders in the sector to shape regional bioeconomy dialogue and development. The invite-only session was designed to stimulate a high-level, action-oriented discussion on how West African countries can collectively shape a sustainable and inclusive bioeconomy. The workshop represented a timely and strategic opportunity to catalyze regional action on the bioeconomy and build strong African representation in global discussions with the objectives of:

- Providing a platform for West African countries to discuss pathways towards comprehensive national bioeconomy agendas.
- Identifying the region's key priorities in the bioeconomy space and strengthening regional coordination in the sector.
- Positioning Senegal as a regional player in advancing bioeconomy policy and practice.
- Facilitating knowledge sharing and learning from best practices to support the development of a West African bioeconomy agenda.

The workshop also served as a preparatory step for the GBS 2026 in Dublin, Ireland, and the GBS preparatory meeting in Hannover, Germany, in January 2026.

Unlocking Africa's Bioeconomy: A Strategic Pathway for Growth and Resilience

Drawing on the opening remarks by Dr. Ousmane Badiane and the keynote presentation by Dr. Julius Ecuru.

Africa stands at a critical juncture in shaping a bioeconomy that reflects both its ecological wealth and technological potential. Drawing on a diverse set of practices, products, and traditional knowledge systems, the continent is laying the groundwork for a sustainable and inclusive bioeconomy. Integrating innovations from biotechnology, agriculture, energy, health, and industry, the bioeconomy is increasingly viewed as a strategic lever for achieving Africa's development vision, as outlined in Agenda 2063, particularly Aspiration 1 and Goals 1–7, which prioritize inclusive growth and sustainable development.

Although there is no single global definition of the bioeconomy, the IACGB's definition offers a practical and inclusive framework. Africa's interpretation of the bioeconomy continues to evolve, shaped by regional realities and opportunities. The IACGB 2024 report highlights key trends in national and regional bioeconomy strategies, including efforts to align with global frameworks, such as the Global Bioeconomy Summit (GBS 2018), which inspired the EAC's bioeconomy strategy. Across Africa, countries are beginning to integrate bioeconomy considerations into broader policy arenas such as energy transition, agroecology, and green industrial transformation.

West Africa, in particular, holds a competitive edge in the bioeconomy. It is richly endowed with biomass, growing technological capacity, and traditional knowledge systems, making it well-positioned to build climate-resilient supply chains and increase the share of sustainable manufacturing. Countries like Senegal and Nigeria may not yet have a formal bioeconomy strategy, but the principles of bioeconomy are embedded across several sectors: from agroecology and eco-construction (e.g., clay-based bricks) to green industrialization and renewable energy.

This momentum offers a window of opportunity. With the right investments and policy frameworks, the bioeconomy can be a driver of economic transformation, fostering innovation, increasing revenues for businesses (as evidenced by BioInnovate Africa's support to enterprises), and boosting intra-African trade.

Moreover, bioeconomy strategies are increasingly viewed as a lever for achieving sustainable transformation of agrifood systems. As countries develop food systems pathways, integrating bioeconomy into these strategies can unlock new opportunities for value addition, reduce food loss, and improve resilience. This includes not only agriculture and forestry, but also energy (e.g., bioenergy freeing up biomass for materials), the construction sector, pharmaceuticals, and the chemical industry, where microbial innovations present untapped potential.

To advance the bioeconomy, coordination is required at multiple levels. At the national level, this includes increased investment in R&D, education, and an enabling regulatory environment. Regionally, in West Africa, ECOWAS can play a central role in articulating a shared vision and

supporting cross-border collaboration. While initiatives like BioInnovate Africa are already demonstrating elsewhere on the continent how targeted support can translate into economic impact and innovation, scaling this support in West Africa could present an important strategic opportunity for the region.

Strategic data tools are also on the horizon: a biomass satellite from the European Space Agency (ESA), expected to provide data next year, could offer insights into biomass availability and help identify sustainable extraction and usage opportunities. This kind of data-driven approach will be essential for ensuring the bioeconomy not only grows, but does so sustainably.

Africa's abundant natural resources, innovation potential, and expanding (integrated) markets present a rare convergence of assets. The opportunity lies in combining these strengths through smart policies, investment, and collaboration across borders, sectors, and amongst stakeholders.



From Vision to Action: Africa's Role in the Global Bioeconomy Momentum

Drawing on the remarks by Dr. Ben Durham, Prof. Joachim von Braun, Prof. Cheikh Mbow, and Dr. Hans-Joerg Lutzeyer.

As environmental, economic, and social challenges converge, a growing international consensus is forming around the bioeconomy as a transformative pathway toward sustainability and inclusive development. Africa, with its abundant natural resources and youthful population, is uniquely positioned to lead, but this requires strategic coordination, investment, and action.

In 2024, Brazil, holding the G20 presidency, launched the G20 Initiative on Bioeconomy (GIB), a landmark step that led the world's 20 largest economies to endorse 10 High-Level Principles on Bioeconomy. These principles define a shared global vision that positions the bioeconomy not just as an environmental imperative, but as a means to achieve economic growth, social equity, and environmental resilience.

The momentum is reinforced by key global forums, such as the 2025 Global Forum for Food and Agriculture (GFFA), held annually in Berlin, which strongly endorsed the bioeconomy, calling for strengthened science, innovation, communication, and traditional knowledge integration. Similarly, the Global Bioeconomy Summit (GBS) has grown significantly in influence. Held in Nairobi in 2024 and planned for Dublin in 2026, the Summit emphasizes embedding bioeconomy principles into education systems, aligning with broader economic policy, and developing standards to unlock market access.

Importantly, these global developments are not just about high-level vision; they are moving rapidly toward implementation. Holding the current G20 presidency, South Africa has committed to driving the GIB agenda forward, ensuring that Africa is not just a participant but a shaper of global bioeconomy frameworks. At the inaugural GIB meeting in 2025, a sobering fact was highlighted: Africa captures less than 10 percent of the final value of its biomass. This stark figure reveals both the continent's untapped potential and the urgency for action. Key enablers to unlock this potential include technological innovation, private sector investment, and better access to finance. To this end, FSDAfrica and Nature Finance launched the concept of a "Bioeconomy Financing Hub for Africa", aiming to mobilize funding and support for African-led initiatives. Meanwhile, FAO introduced a comprehensive bioeconomy metrics toolbox, providing practical tools to track development across value chains, sectors, and regions.

As global frameworks take shape, Africa must also build on its existing partnerships and regional strategies, such as ECOWAS visions and the work of organizations like BioInnovate Africa. Consideration must be given to establishing an International Research Consortium, strengthening regional and national strategies, and anchoring the bioeconomy within broader development agendas, including the energy transition, agroecology, agrifood systems, and climate action.

At the GIB meeting held in mid-September in South Africa, discussions centered on creating global governance structures to coordinate efforts across regions and scales and to harness global momentum and continental capacity toward defining an African bioeconomy that delivers prosperity, resilience, and inclusive growth.

Country Perspectives

Drawing on the remarks by Dr. Julius Ecuru, Dr. Ben Durham, Prof. Cheikh Mbow, Dr. Rose Omari, Prof. Folasade M. Olajuyigbe, and workshop participants.

A moderated panel discussion brought together experts from across West Africa to explore national perspectives on the bioeconomy and how countries are positioning themselves within this emerging development space. Speakers emphasized Africa's natural advantages, demographic strengths, and indigenous knowledge systems, while highlighting country-level approaches, policy gaps, and opportunities for investment and innovation.

Dr. Julius Ecuru opened the discussion by presenting the investment case for Africa's bioeconomy, identifying two core opportunities. First, Africa holds the largest biomass and biodiversity in the world, which supports the livelihoods of more than 65 percent of its population. This biological wealth is a key asset, but is currently used unsustainably. Second, Africa's youthful population presents a demographic dividend that can drive innovation and entrepreneurship in the bioeconomy. He also addressed the importance of developing regulatory frameworks and stressed the challenges of managing intellectual property at the organizational level, as well as the need to strike a balance between biosafety, sustainability, and innovation to ensure that technologies are both safe and deployable.

Dr. Ben Durham spoke about how South Africa is positioning the bioeconomy as a key lever for national development, aligned with broader continental priorities. He noted a critical distinction between how the Global North and Global South perceive the bioeconomy. While the North often frames it in the context of emissions reduction, for Africa, the bioeconomy is a development pathway based on biomass. A major strength lies in Africa's indigenous knowledge, which is rooted in the continent's rich historical and cultural heritage. He emphasized that indigenous peoples must be the primary beneficiaries of the bioeconomy, not merely sources of knowledge. While South Africa is advancing Africa's agenda through its G20 leadership, he stressed the need to also strengthen the African Union and regional institutions and to avoid overreliance on any single platform. He advocated for a diverse, multi-track approach to advancing Africa's bioeconomy within global frameworks.

Prof. Cheikh Mbow offered the perspective of Senegal, whose entry point is the ambition to translate its natural resource wealth into sustainable prosperity. He emphasized the importance of reviving indigenous and traditional practices, advocating for a bottom-up approach to bioeconomy policy and implementation. He posed the question of whether the green economy can complement other investment flows and serve as an additional layer to attract finance. With climate change already impacting the region, he highlighted the role of the bioeconomy as a means to mobilize capital, while also addressing structural barriers, particularly through the use of technology.

From Ghana, Dr. Rose Omari explained that while the term "bioeconomy" is not commonly used, its principles are present across several national policies, particularly in agriculture, climate change, and energy. She shared examples from a green economy project and the work of CSIR (Council for Scientific and Industrial Research). She emphasized the importance of multi-stakeholder partnerships, including collaborations between academia, the private sector, and banks, citing successful examples that demonstrate how such partnerships can help scale innovation and drive practical outcomes.

Prof. Folasade M. Olajuyigbe, representing Nigeria, discussed the country's efforts to become a regional hub for bioeconomy innovation. Nigeria's assets include rich biodiversity, a large and skilled population, a vast domestic market, and a strategic geographic location with strong trade connections across Africa. She outlined national initiatives already contributing to the bioeconomy and described efforts to strengthen public-private partnerships (PPPs). However, she acknowledged

the need to enhance Nigeria's research and innovation environment, improve policy frameworks, and boost investor confidence. A key priority, she noted, is bridging the gap between research and commercialization, supported by real examples of effective PPPs.

Together, the panelists painted a rich picture of how countries across Africa are approaching the bioeconomy, each with its own context, priorities, and strategies. While their approaches may differ, they converge on a common vision: building resilient, inclusive, and sustainable bioeconomies rooted in Africa's unique natural, human, and cultural capital. The message from all speakers and participants was clear: Africa has the resources, knowledge, and momentum - now is the time to act.

Conclusion

Based on Prof. Joachim von Braun's remarks and key takeaways from the discussions.

The workshop demonstrated the emergence of a growing community dedicated to advancing the bioeconomy in the region and across the continent, providing an important foundation for future collaboration. The discussions reinforced the value of developing a clear national, regional, and continental bioeconomy strategy, offering a framework for coherent policies, helping identify synergies and trade-offs, and ensuring that vision and implementation efforts remain aligned and effective.

For West Africa, participants emphasized the importance of learning from both regional neighbors and international examples, as highlighted in the IACGB 2024 report. The diverse approaches to bioeconomy strategies globally provided valuable lessons to inform the design of policies tailored to local contexts.

It was recommended that stakeholders actively engage in a strategic process focused on sustainability transformation and mutual learning. Such engagement will strengthen the region's bioeconomy agenda and prepare participants to contribute meaningfully at the next GBS in Ireland. A regional policy brief, developed from a homegrown set of priorities, was identified as a potential initial step toward a coordinated strategy.

Resources

- International Advisory Council on Global Bioeconomy <https://www.iacgb.net/>
- BioInnovate Africa: <https://bioinnovate-africa.org/>
- GBS 2024 Nairobi: <https://gbs2024.org/>
- The Bioeconomy Connection in the Kampala CAADP Declaration. Kampala Policy Brief Series, No. 06. (AKADEMIYA2063) <https://doi.org/10.54067/kpbs.06>
- Advancing the Bioeconomy Finance Hub under the G20 Framework: https://www.dffe.gov.za/sites/default/files/docs/g20ecswg/webinar1bioeconomyinitiative_finance.pdf
- IACGB Global Bioeconomy Report (2024): https://www.iacgb.net/lw_resource/datapool/systemfiles/elements/files/52440fbo-f35d-11ee-9ed1-dead53a91d31/current/document/Global_Bioeconomy_-_April_2024_IACGB.pdf
- Policy Innovations and Opportunities for Africa's Bioeconomy, Malabo Montpellier Panel Report (2022): <https://www.mamopanel.org/resources/bioeconomy/reports-and-briefings/natures-solutions-policy-innovations-and-opportuni/>

APPENDIX I: Workshop Agenda

Provisional Agenda (GMT)

MC: Dr. Layih Butake, Director of Communications and Outreach, AKADEMIYA2063

14:00 – 14:30

Registration and coffee

14:30 – 14:40

Welcome and introduction

- **Dr. Katrin Glatzel**, Director of Global Strategy and Programs, AKADEMIYA2063
- **Tour de table**

14:40 – 15:00

Opening remarks

- **Dr. Ousmane Badiane**, Executive Chairperson, AKADEMIYA2063; Co-Chair, Malabo Montpellier Panel

15:00 – 15:15

Keynote: Opportunities for a bioeconomy in West Africa

- **Dr. Julius Ecuru**, Principal Scientist and Manager, Research Innovation Coordination Units, icipe/ BioInnovate Africa ; Co-Chair, International Advisory Council on Global Bioeconomy

15:15 – 15:30

Input talks (5mins each)

- Outcomes and recommendations from the GBS 2024, GFFA 2025, and G20 Bioeconomy Initiative
- Embedding the agrifood systems in the bioeconomy
- Bioeconomy opportunities in Senegal

- **Mr. Ben Durham**, Chief Director of Bio-innovation, National Department of Science and Innovation, South Africa
- **Prof. Joachim von Braun**, Center for Development Research (ZEF), University of Bonn; Co-Chair, Malabo Montpellier Panel ; Member, International Advisory Council on Global Bioeconomy
- **Prof. Cheikh Mbow**, Director General, Centre de Suivi Écologique (CSE), Senegal

15:30 – 16:20

Moderated country and regional round-table

- **Moderator: Dr. Layih Butake**, Director, Communication and Outreach, AKADEMIYA2063
- **Dr. Rose Omari**, Principal Research Scientist, Council for Scientific and Industrial Research (CSIR), Science and Technology Policy Research Institute, Ghana
- **Prof. Folasade M. Olajuyigbe**, Biochemist, Federal University of Technology, Akure (FUTA), Nigeria
- **Prof. Cheikh Mbow**, Director General, Centre de Suivi Écologique (CSE), Senegal
- **Dr. Julius Ecuru**, Principal Scientist and Manager, Research Innovation Coordination Units, icipe/ BioInnovate Africa ; Co-Chair, International Advisory Council on Global Bioeconomy
- **Mr. Ben Durham**, Chief Director of Bio-innovation, Department of Science and Innovation, South Africa

16:20 – 16:35

Coffee break

APPENDIX II: Participant List

NAME	INSTITUTION/ORGANIZATION
Dr. Canisius Kanangire	African Agricultural Technology Foundation (AATF)
Mr. Vitumbiko Chinoko	African Agricultural Technology Foundation (AATF)
Ms. Sofia Tesfazion	African Agricultural Technology Foundation (AATF)
Dr. Augustin Wambo Yamdjeu	AKADEMIYA2063
Dr. Katrin Glatzel	AKADEMIYA2063
Dr. Layih Butake	AKADEMIYA2063
Dr. Ousmane Badiane	AKADEMIYA2063
Dr. Racine Ly	AKADEMIYA2063
Mr. Ibnou Ndiame	AKADEMIYA2063
Mr. Tidiane Oumar Ba	AKADEMIYA2063
Ms. Nancy Massala	AKADEMIYA2063
Ms. Tsitsi Makombe	AKADEMIYA2063
Dr. Youba Sokona	AKADEMIYA2063/AISESA
Prof. Muhammadou Kah	Ambassador of the Gambia to Switzerland and the Geneva-based international organizations
Dr. Amy Faye	Center for Development Research (ZEF), University of Bonn
Ms. Friederike Schilling	Center for Development Research (ZEF), University of Bonn
Prof. Joachim von Braun	Center for Development Research (ZEF), University of Bonn / International Advisory Council on Global Bioeconomy (IACGB)
Prof. Cheikh Mbow	Centre de Suivi Ecologique (CSE)
Dr. Jonathan Mockshell	Alliance Bioversity International and CIAT
Dr. Rose Omari	CSIR-Science and Technology Policy Research Institute, Ghana
Mr. Ben Durham	Department of Science and Innovation, South Africa
Dr. Hans-Joerg Lutzeyer	European Commission
Prof. Folasade M. Olajuyigbe	Federal University of Technology, Akure (FUTA), Nigeria
Dr. Sheriff Kamara	Fourah Bay College, Sierra Leone
Ms. Silke Stallkamp	German Federal Ministry for Agriculture, Food, and Community (BMLEH)
Prof. Wisdom Akpalu	Ghana Institute of Management and Public Administration
Mr. Gideon Tups	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Dr. Julius Ecuru	International Centre of Insect Physiology and Ecology (icipe) / International Advisory Council on Global Bioeconomy (IACGB)
Dr. Debo Akande	International Institute of Tropical Agriculture (IITA)
Dr. Djiby Dia	Senegalese Institute of Agricultural Research (ISRA)
Dr. Patrick Cortbaoui	McGill University, Canada
Dr. Rose Gidado	National Biotechnology Research and Development Agency, Nigeria
Mr. Simon Winter	Rockefeller Foundation
Prof. Felix Asante	University of Ghana
Dr. Nusirat A. Sadiku	University of Ilorin, Nigeria
Prof. Boris Lokonon	University of Parakou, Benin

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