AFRICA

SUSTAINABILITY MAGAZINE

The AR Initiative

DECEMBER 2024 | VOLUME 1

2024 in Review

Sustainable Financing

and innovation in agricultural sector in SSA

Mind and Machine

AI's double-edged role in global sustainability

Op-ed:

MDBs and climate action

ACT Foundation's

holistic approach to sustainable development

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AFRICA SUSTAINABILITY MAGAZINE

December 2024 Volume 01

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Letter from the Editor

Dear Readers,

At a time when sustainability challenges demand global collaboration and innovative thinking, I am pleased to introduce Africa Sustainability Magazine (ASM). This publication emerges at a pivotal moment when the intersection of finance, technology, and sustainable development reshapes our future.

The landscape of sustainability is evolving rapidly. From the corridors of multilateral institutions to the innovative labs of African startups, new solutions are emerging that challenge conventional thinking. This dynamic environment calls for a fresh perspective – one that recognises Africa not just as a stakeholder but as a leading voice in global sustainability discourse.

Our inaugural edition explores the multifaceted nature of sustainable development through an African lens. We examine how technological innovation, financial mechanisms, and policy frameworks converge to create unprecedented opportunities. The stories and insights within these pages showcase how African institutions and entrepreneurs are pioneering solutions that resonate far beyond our borders.

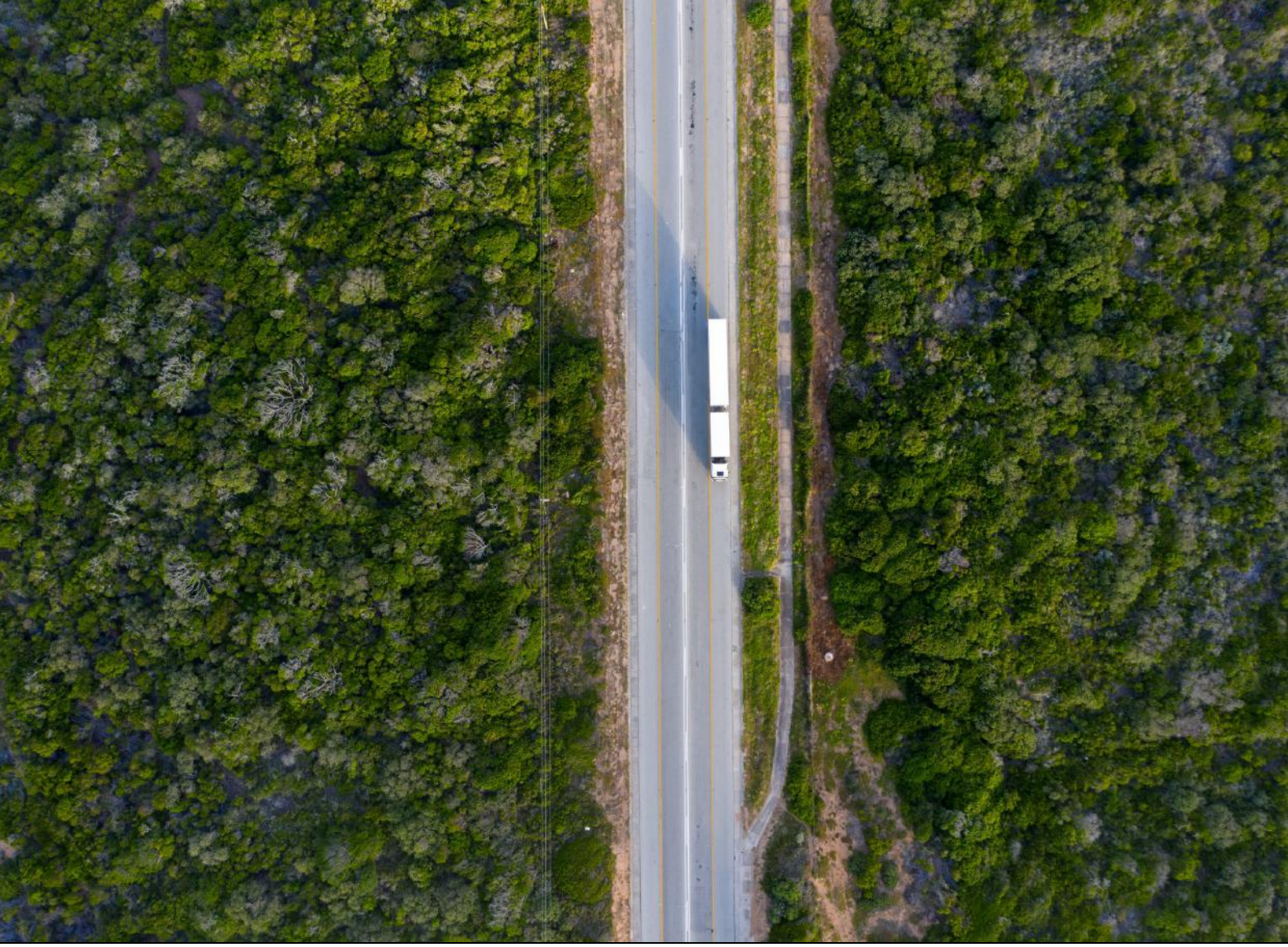
The depth of Africa's contribution to global sustainability extends from agricultural innovation to climate finance, from artificial intelligence applications to grassroots environmental initiatives. These pages capture the spirit of innovation and determination driving positive change across our continent.

As we launch this publication, we recognise that meaningful dialogue on sustainability must bridge local insights with global perspectives. We aim to create a platform where African voices can shape and enhance the international conversation on sustainable development.

This first edition marks the beginning of what we envision as a dynamic forum for exchange and collaboration. We warmly invite your feedback, contributions, and partnership as we build this platform together. Your engagement will be crucial in ensuring that future editions continue to serve as a valuable resource for anyone interested in sustainable development from an African perspective.

Labake Ajiboye-Richard

Editor-in-Chief



SUSTAINABILITY IN 2024

A Year of Global Transformation

2024 has signalled a decisive global shift toward a sustainable future. Amidst the realities of climate change, underscored by global temperatures that have risen 1.2°C above pre-industrial levels, governments, industries, and communities worldwide have been propelled to act with unprecedented urgency. From severe droughts in Africa to heightened wildfire seasons globally, the devastating impacts of climate change are no longer distant projections—they are our present reality urging nations to accelerate their commitments toward limiting global warming in line with the Paris Agreement. With pivotal policy advancements, innovative technologies, and an amplified commitment to sustainable practices, 2024 has marked a turning point for climate action and future-oriented environmental stewardship.

▶ **AGATHA AFEMIKHE,**
Consultant, The AR Initiative

Revitalised Climate Commitments

In 2024, many nations enhanced their climate pledges to align with the IPCC's pressing target: a 43% reduction in emissions by 2030 to limit global warming to 1.5°C. In response, the United States committed to a 50–52% emission reduction from 2005 levels by 2030, while China reaffirmed its intent to peak emissions before 2030. This collaborative global momentum is underscored by growing pledges

Intergovernmental Panel on Climate Change (IPCC), "2023 IPCC Report on Emissions Reduction," 2023.

from over 100 countries, each striving toward net-zero emissions by 2050. This intensified commitment reflects a broader recognition that inaction risks a potential temperature rise to 2.4°C by the century's end if emission levels remain unaddressed.

Africa's increasing climate commitments are vital given the continent's unique climate challenges, which include high exposure to droughts, floods, and food insecurity, all exacerbated by climate change. At COP28, African countries collectively highlighted the importance of aligning climate action with development goals, especially as they work to secure concessional financing and support for adaptation. Nations such as Kenya, Egypt, and South Africa have implemented ambitious renewable energy initiatives, setting the stage for regional cooperation on clean energy and climate resilience. Investment in renewables is climbing, with several African countries prioritising solar, wind, and hydropower to reduce fossil fuel dependency.

The surge toward renewable energy in 2024 signals a remarkable shift in the global energy mix. Investment in clean energy nearly doubled that of fossil fuels, aligning with the International Energy Agency's (IEA) assertion that renewable capacity must triple and energy efficiency double by 2030 to reach crucial climate targets. Global capital is being poured into renewables, hitting unprecedented levels of nearly $495 billion in 2023 and sustaining momentum in 2024 as nations strive to phase out coal and other high-emission sources. Simultaneously, clean technologies, from advanced solar systems to electric vehicles, are reshaping energy demand, hinting at a peak in oil, natural gas, and coal consumption by 2030

Climate Investing Across Africa

The climate tech industry in Africa is witnessing a transformative phase as investment flows shift toward innovative sectors that address pressing environmental challenges. The African climate tech market was projected to be valued at approximately $20 billion in 2024, with substantial growth opportunities in renewable energy, sustainable agriculture, waste management, and water conservation These industries are not only pivotal for local economies but also essential in contributing to global climate action efforts.

Renewable energy remains at the forefront of climate investment in Africa, driven by abundant solar, wind, and hydro resources. In particular, solar energy initiatives have gained traction, as evidenced by d.light's recent $125 million funding round aimed at expanding off-grid solar solutions in underserved communities across Kenya. Furthermore, the sector, including electric vehicles and clean transportation solutions, is attracting significant attention, with companies like BasiGo in Kenya leading the charge in sustainable mobility.

Geographically, East Africa has become a focal point for climate tech investment, but other regions are also emerging as vital players. South Africa is making strides in renewable energy and green hydrogen projects, while Nigeria's fintech solutions integrate climate considerations into broader economic models. Despite these developments, challenges remain in ensuring that funding reaches diverse regions and industries. Many sectors, such as sustainable forestry and climate-smart agriculture, still lack adequate financial backing, which could hinder broader climate resilience efforts.

> **"We must accelerate our transition from fossil fuels with urgency, making sustainability a core tenet of economic development."**
>
> *United Nations Secretary-General, António Guterres*

When comparing Africa to other continents, it is still catching up in the global climate tech landscape. In 2023, Africa accounted for only about 4% of global climate tech funding, highlighting a disparity when juxtaposed with North America and Europe, which dominated the investment space. However, Africa's unique position, with its rich biodiversity and youth population, offers immense potential for growth in sustainable technologies. As the global climate tech industry continues to expand—valued at approximately $1 trillion by 2030—Africa has the opportunity to carve out a significant role, aligning local innovations with global sustainability targets.

Technological Advancements in Sustainability.

In 2024, technology and sustainability have increasingly converged, driven by advancements in artificial intelligence (AI) and energy storage. AI applications are revolutionising energy efficiency, optimising waste management, and enhancing environmental monitoring. According to Bloomberg New Energy Finance, investments in energy storage surpassed $20 billion in 2023, indicating a strong market response to sustainability-driven AI innovations like predictive maintenance, which decreases operational downtimes and costs, thus aiding emission reduction strategies across renewable infrastructure. Similarly, AI is improving grid reliability through "virtual power plants" that aggregate distributed energy resources, streamlining renewable integration and demand response.

Despite these advancements, the financial burden on African nations remains substantial, particularly as high debt levels restrict funding for clean energy projects. The International Energy Agency reports that achieving Africa's energy and climate goals by 2030 will require investments of over $200 billion annually. Yet, current investments only reach approximately $110 billion, with much of it directed toward fossil fuels rather than clean energy. Given that over 600 million Africans lack electricity and nearly 1 billion do not have access to clean cooking, targeted concessional finance and de-risking mechanisms are critical to bolstering

Intergovernmental Panel on Climate Change (IPCC), "2023 IPCC Report on Emissions Reduction," 2023.

private sector involvement and scaling sustainable energy access. Bridging these gaps could provide significant strides towards an equitable and resilient energy future on the continent.

Electric Vehicles and Transportation in Africa

In 2024, the electric vehicle (EV) landscape in Africa saw notable growth, with several countries piloting ambitious electrification strategies to improve air quality, reduce emissions, and curb reliance on fossil fuels. While EV sales globally surged by 30% compared to 2023, Africa's unique approach includes localised production and adaptable models for local terrains and economies, which experts see as crucial for achieving climate goals on the continent. For example, South Africa's Department of Trade, Industry, and Competition has collaborated with the automotive industry to introduce incentives and lower import duties for EVs to make them more accessible.

Despite limited infrastructure, a strong focus has been placed on the potential of EVs in major urban centres where air pollution from conventional vehicles is a growing concern. The International Energy Agency estimates that urban EV adoption could reduce emissions significantly. Some African cities like Nairobi and Lagos are already moving forward with e-mobility projects by introducing electric bus fleets and charging stations. However, the transition is still challenged by the need for supportive policies and concessional financing to overcome high initial costs and infrastructural hurdles.

Spotlight on Circular Economy

In 2024, the circular economy model is increasingly shaping African industries, especially fashion, agriculture, and waste management, as governments and organisations strive for resource efficiency and reduced waste. Africa's fashion sector is witnessing a shift toward sustainable practices, with local brands adopting recycling, upcycling, and biodegradable materials. The African Circular Economy Alliance highlights that circularity in fashion and agriculture could present a substantial economic opportunity for the continent, potentially generating 4.5 million green jobs by 2030.

Circular economy practices are also gaining traction in waste management as many African nations develop policies for extended producer responsibility and recycling incentives to mitigate pollution. According to the Ellen MacArthur Foundation, adopting circular principles could help Africa reduce waste by up to 50% in high-impact sectors, supporting environmental goals and creating sustainable economic growth opportunities.

Reflections on COP29 and Key Progress in 2024

COP29, held in Baku, marked a pivotal moment for climate action in 2024, addressing critical issues like setting a new global climate finance target for 2025 and beyond. Negotiators worked to build upon the $100 billion annual commitment, closing the conference with a $300 billion goal to support developing nations' needs for the climate transition. Additionally, significant strides were made in scaling the Loss and Damage Fund, with the Philippines selected as host for its board and partnerships established with the World Bank. The fund's operationalisation reflects a growing focus on resilience for climate-vulnerable regions.

This year also emphasised adaptation, building on frameworks established at COP28. Countries were guided from planning to implementing their National Adaptation Plans (NAPs), with discussions advancing on measuring adaptation progress and securing funding pledges for initiatives like the Adaptation Fund. Furthermore, COP29 spotlighted the interconnectedness of climate, nature, and urban resilience, as highlighted during the "triple COP" year, which included the biodiversity and desertification COPs and the World Urban Forum.

As IPCC Chair Dr Hoesung Lee noted, "We have a narrow window to limit global warming to 1.5°C." The summit underscored the urgency of raising ambitions ahead of the 2025 NDC submission deadline, pushing for commitments to triple renewable energy capacity and phase out fossil fuels.

Intergovernmental Panel on Climate Change (IPCC), "2023 IPCC Report on Emissions Reduction," 2023.

COP 29 Highlights:

Landmark Finance Deal and Global Climate Action

The 29th UN Climate Change Conference of Parties (COP) of the UNFCCC conference hosted this year in Baku, Azerbaijan, ended on the 24th of November, 2024, with a draft financing deal, said to be "an insurance policy for humanity" by UN Climate Change Executive Secretary Simon Stiell. This year's COP dubbed the "finance COP", held particular significance for developing nations as they arrived prepared to address the limitations of the previous finance agreement that committed developed countries to provide USD 100 billion annually to developing countries. Despite some progress gained at the conference, COP 29 also highlighted some losses in the fight against climate change.

1. The USD 100 billion a year goal, which was formalised at COP 16 in Cancun, was set to expire in 2025 and was widely seen as insufficient by developing countries to meet the growing demands of the climate transition and deal with the impacts of climate change. In the early hours of Sunday, 24th November, COP 29 announced a new goal of USD 300 billion annually by 2035, tripling finance to developing countries. The new finance goal, set for a 10-year period from 2026, is intended to help countries protect their people and economies against climate disasters and share in the vast benefits of the clean energy boom. The USD 300 billion goal, though an improvement on its predecessor, will form part of a broader effort to scale up financing to at least $1.3 trillion per year by 2035 from all public and private sources. However, early reactions highlight displeasure from developing countries, who argue that the size remains inadequate to meet their needs and falls short of the trillions of dollars poor and vulnerable nations say they need to climate-proof their economies. The terms of the goal also state that going forward, contributions to multilateral lenders such as the World Bank from India, China and other developing countries will count, potentially reducing what is expected from wealthy nations. Criticism also held on the definition of climate finance and the instruments used (debt vs grants), making it unattractive to indebted countries.

2. The stark reality of global warming trajectories cast a shadow over the proceedings at COP29. A sobering report from the World Meteorological Organisation (WMO) released in June projected that there is a 47% probability that global temperatures will exceed 1.5°C above pre-industrial levels during the 2024-2028 period. Even more concerning, the UN's pre-COP analysis indicated that under current business-as-usual scenarios, the world is heading toward approximately 3.1°C of warming by century's end. Despite these alarming projections, COP29 maintained its messaging around the 1.5°C target, a stance that drew criticism from climate experts and practitioners who argued for more realistic goal-setting and urgent action plans.

3. In a landmark move toward establishing a global carbon accounting system, global leaders adopted key rules and guidelines underpinning international carbon trading under Article 6 of the Paris Agreement. The deal will establish a new framework for a global carbon market run by the UN, increasing demand for credits. "We have unlocked one of the most complex and technical challenges in climate diplomacy," according to COP29 lead negotiator Yalchin Rafiyev. Article 6.4 replaces the outdated Clean Development Mechanism (CDM) with a more transparent, centralised system. This new frame-

Picture Source: consilium.europa.eu

work allows countries and companies to trade emissions reduction credits generated worldwide.

4. Nuclear energy received a significant boost as six additional countries signed a pledge to triple global nuclear generation capacity by 2050. The addition of El Salvador, Kazakhstan, Kenya, Kosovo, Nigeria, and Turkey, brings the total of committed nations to 31. Nuclear energy, produced when nuclei of atoms split into several parts, represents a crucial component of the global energy transition. According to Malwina Qvist, Director, Nuclear Energy Program at Clean Air Task Force (CATF), "Tripling nuclear capacity by 2050 would go a long way towards striking that balance, offering zero-carbon electricity, heat, and fuel around the clock and accelerating decarbonisation timelines by up to a decade."

5. The conference highlighted significant geopolitical shifts as China China sought to align with Europe amid uncertainty about US climate leadership. The imminent return of Donald Trump to the US Presidential office brings with it a potential vacuum in the climate leadership space as he promises to pull the US back from global efforts against climate change. This realignment suggests a potentially significant shift in the dynamics of international climate cooperation.

6. The United Kingdom demonstrated strong climate leadership with a substantial commitment to forest protection, pledging £239 billion in funding to tackle deforestation in forest-rich nations such as Colombia and Indonesia. Energy Secretary Ed Milliband emphasised the crucial role of forests in climate security, stating, "Forests are the lungs of our planet – without them, climate security is impossible. We're determined to play our part in mobilising finance to protect and restore global forests in these critical years for climate action." This forest protection commitment forms part of the UK's broader £11.6 billion carbon finance pledge to be fulfilled by 2026, with £1.5 billion specifically designated for forest protection and restoration initiatives. A significant portion of the commitment—£188 million, representing 79% of the total—will be directed to the Scaling Climate Action by Lowering Emissions (Scale) programme, which focuses on developing and promoting high-integrity forest carbon markets. This targeted approach demonstrates a strategic focus on leveraging market mechanisms to protect crucial forest ecosystems while supporting developing nations in their conservation efforts.

Honourable mention - The COP **'Fossil of the Day' award for blocking climate progress was presented to G7 for failing to provide adequate climate finance**, a key goal at the UN summit. The Fossil of the Day has become a Cop tradition, with activists staging the awards ceremony in the conference halls, drawing attention to perceived obstacles in climate progress.

Global Perspectives

Geopolitical Priorities Shaping ESG/ Sustainability Globally

The pursuit of sustainability has become a global conversation in recent years, owing to the increasing impacts of climate change, environmental degradation, and economic disparities worldwide. Governments, individuals, and multinational organisations have recognised the need to address these challenges through various initiatives centred on environmental, social, and governance (ESG) practices. However, the nature and scope of relationships among states and regions continue to interfere with and influence the formulation, implementation, and adoption of sustainability policies and practices.

This essay explores the level of influence of geopolitical priorities on the global acceptance of sustainability initiatives. By studying international political dynamics and global governance frameworks, along with case studies from different regions, this essay will shed light on the challenges and opportunities for global cooperation on sustainability.

► **SALAMATU ALABI YUSUF,** *STUDENT WRITER, 3rd Year International Relations*

The Geopolitics of Sustainability

Due to the persistent effects of the unsustainable extraction and consumption of the earth's limited resources, world leaders are coming together to find lasting solutions to environmental disasters and to transition into a sustainable society. Some of these initiatives include the Paris Agreement of 2015. (aimed at limiting global warming to below 2°C and pursuing efforts to limit it to 1.5°C), the Kyoto Protocol (which legally binds developed countries to emission reduction targets), and the United Nations Framework Convention On Climate Change, UNFCCC, a global response to climate change.

Despite these collaborative efforts, the complex interplay between geopolitics and sustainability is evident globally. Factors such as national interests, trade agreements, international relations, economic incentives, and diplomatic alliances can either facilitate or impede the progress towards sustainable development.

The impact of conflicts and power struggles cannot be overlooked in terms of their potential to thwart even the most well-intentioned sustainability initiatives. The Russia-Ukraine conflict, for example, has had significant implications for Europe's energy security and sustainability schemes. It has impacted sustainability by delaying the transition to renewable energy in Ukraine, undermined the EU's climate goals by increasing reliance on coal and fossil fuels, and compromised energy security.

To address global challenges, cooperation among states is essential. Global governance frameworks, such as the United Nations Sustainable Development Goals (SDGs), play a crucial role in coordinating sustainability efforts by providing a common language and set of objectives for countries. However, they often lack enforcement mechanisms, posing compliance challenges that take precedence over state sovereignty and national interest.

Case Studies of Regional Differences in ESG and Sustainability Adoption

North America

Globally, the decisions made by the United States of America (USA) have had far-reaching effects on climate conversations. Despite this, the US's

climate leadership in the past few years has wavered as administrations changed and political agendas overrode all else. For example, The Paris Agreement, signed in 2015 by 196 countries, had early support from then-President Barack Obama, a major contributing factor to the agreement's early success. However, in 2017, President Donald Trump famously announced the US would withdraw from the Paris Agreement, citing it "disadvantages the United States to the exclusive benefit of other countries." In 2021, President Joe Biden rejoined the Paris Agreement. Each change in administration over the past decade held opposing views on the US's role in the climate transition and the urgency of action for climate change. The effect of these decisions included reducing climate funding as the US was previously the largest donor to the Green Climate Fund, limiting data on US emissions, empowering other skeptical nations to withdraw support, and creating a climate leadership vacuum. This had significant impacts on the global climate agenda, affecting available financing for innovation and research and furthering dissension in the climate community.
With a history of being skeptical of climate change issues, the recent reelection of President Donald Trump is expected to significantly impact sustainability and ESG initiatives in the region with potential hitches, including expanding fossil fuel production and limiting clean energy development.

Europe

The European Union (EU) is leading with regard to its policies and actions for the climate transition and ESG adoption. The European Green Deal and Corporate Sustainability Reporting Directive are examples of the EU's comprehensive approach, establishing strong standards that shape corporate behaviour well beyond European borders. Through initiatives like the EU Taxonomy for sustainable activities and mandatory ESG disclosures, the bloc has created a de facto global benchmark that influences sustainability practices from Wall Street to Singapore.

While Brexit initially sparked concerns about a regulatory change, the UK has largely maintained alignment with EU standards, recognising that access to the European market requires continued adherence to its sustainability framework. This shows the EU's role as a climate leader whose policies increasingly dictate the pace and direction of global ESG adoption.

China

In addition to being the largest emitter of greenhouse gases, China also faces incredible pressure on its natural resources and ecosystems due to industrialisation and urbanisation. China's commitment towards sustainable development is of equal relevance for both international programs and its national development. The nation's 14th Five-Year Plan shows a commitment to environmental reform, with ambitious targets for renewable energy deployment and carbon intensity reduction. However, this transition faces significant hurdles as it balances rapid urbanisation, economic growth, and environmental protection. China's success or failure in achieving its carbon neutrality pledge by 2060 will largely determine the global community's ability to meet Paris Agreement targets, given its outsized influence on global supply chains and energy markets.

Challenges and Opportunities for Global Cooperation on Sustainability

One of the most significant challenges in advancing global cooperation on sustainable development is that there needs to be an international consensus on ESG standards. In particular, there is a need to adopt comparable sustainability standards and benchmarks that can be used to compare the sustainability performance of countries. This would allow for information exchange and cross-checking so that countries can validate each other's sustainability claims. This will help greatly in preventing misleading environmental claims (i.e. greenwashing).

Another challenge is measuring and managing disparities in sustainability practices across countries. The concept of sustainability is more established in developed countries, where the infrastructure, financial support, and human capital are needed to implement sustainable development projects. In contrast, developing countries have many essential needs to fulfil before prioritising sustainability issues. Efforts must be made to build the capacities of developing countries to attain such a goal. The AREI (Africa Renewable Energy Initiative), for example, aims to develop and implement renewable energy projects by providing technical assistance and funding to African countries.

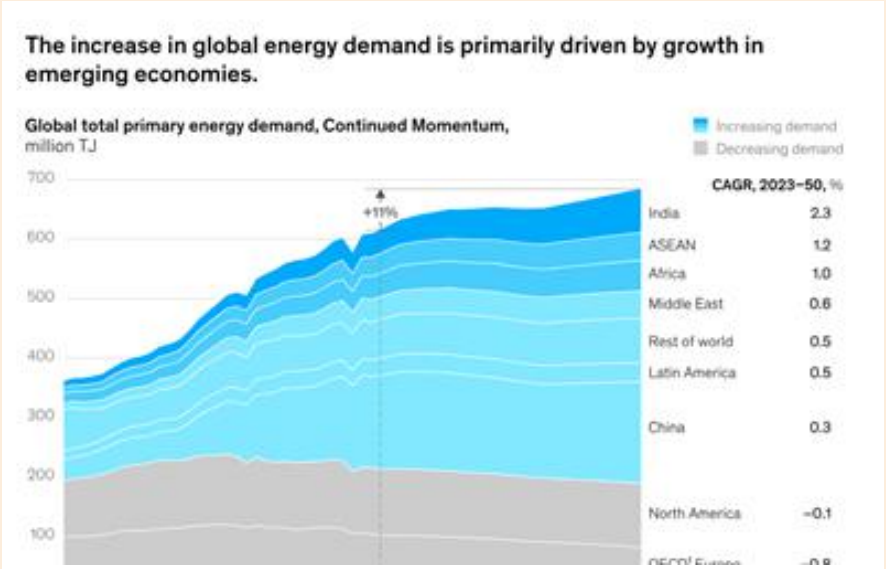
Global sustainability goals are best supported by non-state players like corporations, NGOs, and civil society organisations. They have the potential to lobby governments, spur initiatives, and rally support on the population's behalf. There is a conviction among sustainability advocates that direct integration of the governments and other non-state actors can overcome these political problems and promote sustainability more effectively. ■

Conclusion
The degree to which sustainability initiatives are accepted worldwide is heavily influenced by geopolitical factors. The motivation to move towards sustainability targets is influenced by political relationships and global governing systems. Mitigating inequalities, encouraging global cooperation and engagement, and using non-state actors such as NGOs, civil society, and the private sector are essential for encouraging collective and collaborative action against global challenges. Through inclusive multilateralism, cooperation in the cultural sphere, and filling the gaps in global governance, there is an opportunity to improve mutual cooperation in achieving sustainability goals.

Quarterly Brief

ROFIAT HASSAN AND FAITH OSAMAYE,
Researchers at The AR Initiative

Our Quarterly Brief captures snapshots of emerging conversations, developments, and ongoing challenges in Africa's sustainability landscape. In this edition, we examine the continent's energy transition through gas-to-power initiatives, the establishment of new regional sustainability hubs, and pressing social challenges in agricultural communities. From Mozambique's LNG ambitions to Ghana's cocoa farmers advocating for better working conditions, these briefs offer insights into Africa's journey toward sustainable development, highlighting both progress and persistent challenges across the continent.



1. Gas to Power

The world is shifting towards a cleaner form of energy, and so is Africa. A McKinsey report revealed that global energy demand is expected to rise to 18% by 2050 in a slowed evolution scenario, with most of the growth coming from emerging economies .

Hence, adopting natural gas-to-power as a transition fuel to meet the energy demands on the continent is gaining traction. In Sub-Saharan Africa, about 53% of its population lacks access to electricity , hence the need for Sub-Saharan Africa(SSA) to tap into its natural gas reserves to generate electricity . This transition would address energy access in the region while advancing efforts to pursue a Net-Zero target . For example, Mozambique has a vast offshore natural gas reserve in the Rovuma Basin, while South Africa focuses on Liquefied Natural Gas (LNG). At the African Energy Week (AEW), 2024: Invest in African Energy conference, held in Cape Town in November, South African officials signified a joint interest with Mozambique to leverage LNG as a cleaner energy source. At the event, Minister of Mineral Resources and Energy of Mozambique, Carlos Joaquim Zacarias, highlighted Mozambique's gas megaprojects and its goal of becoming a significant LNG exporter through projects such as Eni's Coral South FLNG, TotalEnergies' Mozambique LNG, and ExxonMobil's Rovuma LNG. They also seek to leverage their natural resources to provide energy to local communities through the Temane gas-to-power plant project, set to commence in 2025 . Alternatively, South Africa is in talks exploring their options for liquefied natural gas (LNG) generation. The Minister of Electricity and Energy in South Africa, Dr Kgosientsho Ramokgopa, emphasised that LNG serves as a solution in addressing the demand for gas in both industrial and energy sectors as there is a shift from coal to gas due to its lower carbon emission, in line with global efforts to address climate change .

Nigeria is also exploring its natural gas options, focusing on Compressed natural gas (CNG). Speaking at the Major Energies Marketers Association of Nigeria (MEMAN) Competence Lecture Series Webinar titled "Driving the Energy Transition CNG Conversion", Engr. Zayyanu Tamban Yabo, Coordinator of Regulatory Compliance and Facilitation for the Presidential CNG Initiative

highlighted Nigeria's goal of transitioning to cleaner energy in President Bola Ahmed Tinubu's administration. As a part of the energy transition goals, projects to expand the country's gas infrastructure are underway, such as the "Gwagwalada Independent Power Plant", which aims to generate an average of 10.3 million Megawatt hour (MWh) of electricity per year . Experts argue, however, that despite natural gas being a cleaner source of energy, it is not considered to be a renewable energy source and could be damaging to extract. As African countries embrace natural gas and its various forms as a transition fuel to manage the costs of meeting the energy demands of the continent while managing its environmental footprint, considerations should be made for increasing energy generation from renewable energy sources available in abundance on the continent.

2. Regional Collaboration Hubs for Sustainability

a. PAFA board approves strategy for groundbreaking centre of excellence for sustainability to enhance ISSB standards across Africa

The Pan African Federation of Accountants (PAFA) has approved the creation of a Centre of Excellence (CoE) for Sustainability, marking a significant step forward in governance and sustainability across Africa. This initiative would benefit Professional Accountancy Organizations (PAOs) across Africa and assist in adopting IFRS Sustainability Disclosure Standards . The CoE will function as a central resource hub for PAOs across Africa, offering services such as;

- Learning and development.
- Adoption and implementation support.
- Data and analytics tools.
- Multilingual services.

The initiative is backed by partnerships with the UK Foreign, Commonwealth & Development Office (FCDO) and the IFRS Foundation. As PAFA moves into the implementation phase, it plans to train country champions and establish a Forum for Advancing Sustainability and Integrated Reporting, both of which are crucial for executing a long-term strategic plan to advance sustainability practices across the continent. The hub would serve as a central hub for African countries, particularly for its members, which consist of 47 countries in Africa. The CoE's online platform will be the cornerstone of its service delivery.

b. AfDB announces plans for sustainability hub for Africa to foster joint green movement

At the inaugural continental ESG forum held in Abidjan, Côte d'Ivoire, in October, the African Development Bank (AfDB) proposed establishing a comprehensive hub dedicated to Environmental, Social, and Governance (ESG) practices in Africa. At the event attended by heads of state, investors, and business leaders, the proposed African ESG hub received strong support. The proposed Hub will serve as a comprehensive skilling and information-sharing hub dedicated to Environmental, Social, and Governance (ESG) practices across the continent. It aims to equip nations, businesses, and communities with essential knowledge and tools to implement effective strategies tackling pressing environmental and social issues, enhancing climate adaptation and resilience efforts.
The hub is set to be located in Abidjan, Côte d'Ivoire, serving all African countries. By serving as a centralised platform for training and resources, the hub will encourage cross-collaboration across sectors, countries and key stakeholders. The Hub seeks to prioritise Small and Medium Enterprises (SMEs) to make sustainability integration, access to finance and improved business performance accessible to businesses of all sizes.

c. AI hub for sustainability development

As Artificial Intelligence (AI) revolutionises sectors and economies globally, African leaders are recognising a need to build capacity for AI intelligence to boost innovation locally. To address this need, a joint partnership between the Ministry of Enterprises and Made in Italy (MiMIT) and the United Nations Development Programme (UNDP) established the Artificial intelligence hub. The AI hub will seek to foster AI innovation and, ultimately, accelerate sustainable development on the

continent. Addressing key areas such as agriculture, health, energy, education, water, and infrastructure, the Hub aims to encourage innovative solutions, build capacity and increase investment in these sectors.

The Hub also seeks to strengthen the four foundational pillars of the AI ecosystem in Africa:

- Inclusive and representative datasets
- Local AI talent development
- Accessible and green computing infrastructure
- Enabling environments for responsible AI adoption .

This initiative is set to improve collaboration with key stakeholders to drive sustainability in the artificial intelligence space in Africa, benefitting 9 African countries (Algeria, Egypt, Ethiopia, Kenya, Ivory Coast, Morocco, Mozambique, the Republic of Congo, and Tunisia). The AI Hub is said to become fully operational in 2025 .

d. New centre for excellence promotes conservation and climate-smart action in Eastern and Southern Africa

The Regional Centre of Excellence for Biodiversity, Forests, and Seascape Ecosystems Management was established in Nairobi, Kenya, to improve collaborative efforts between Eastern and Southern Africa on environmental conservation. The Regional Centre aims to provide and manage data on the region's ecosystem, addressing environmental and social challenges through evidence-based data. It will track data on the region's forests, grassland and aquatic ecosystems, and rich biodiversity. At the launch event in March, Peter Minang, CIFOR-ICRAF's Director for Africa, tied the centre's importance in addressing ecosystem degradation, climate change, and biodiversity loss to its having credible data that informs decision-making in mitigating these challenges .

Establishing these Hubs and Centres across Africa is a vital tool in the region's development. Collaborative efforts drive innovation, technical transfer, capacity building and improves investment opportunities that foster sustainable growth that shapes the future of Africa.

3. Ghana Cocoa Farmers File Complaints Over Prices and Child Labour

72.1 million African children are estimated to be in child labour, and 31.5 million in hazardous work. Agriculture remains the leading sector for child labour in Africa, accounting for 85% (61.4 million children) of child labourers on the continent . In Sub-Saharan Africa, as of 2021, 26% of children aged 5 -17 were engaged in child labour, the highest percentage on the continent . In many countries, the pressures farmers face, such as poverty, limited access to essential services and social structures, lack of labour protection and enforcement, and the informality of the sector, require farmers to rely on their children to meet the labour demands of farming.

In a coordinated effort to raise awareness for rising prices, low incomes for farmers, high rates of child labour and numerous other environmental and social grievances, Ghanian cocoa farmers filed a complaint with the Ghana Cocoa Board (COCOBOD) to demand more sustainable and equitable practices within the cocoa industry . The farmers argue that despite recent price adjustments, the current income level does not meet the threshold for a "living income," which limits their ability to support their families adequately. The complaint was initiated by about 30 farmers, supported by institutions like the University of Ghana School of Law, Civic Response (a Ghanaian NGO), and the Corporate Accountability Lab based in Chicago. This action is set to challenge a grievance mechanism created by COCOBOD as part of a $600 million loan agreement with the African Development Bank (AfDB) in 2019. The mechanism was designed to address social and environmental issues in the cocoa sector. Still, farmers claim it has not effectively tackled persistent problems such as a living income for farmers, environmental and social impact, health and safety issues and child labour exploitations.

Across the continent, there are increased efforts to highlight the environmental and social exploitations in the agriculture sector that perpetuate poverty among farmers, high rates of child labour and more. The International Labour Organisation (ILO)'s ACCEL Africa project aims to combat child labour in supply chains, promote private-sector compliance and reduce hazardous child work . These initiatives not only focus on economic development but also ensure that workers are better educated about their rights and have access to safer, more sustainable working conditions. In Mali, trade union confederations lobby for empowering agricultural workers with fair wages, safe working conditions and improved socio-economic conditions for farmers .

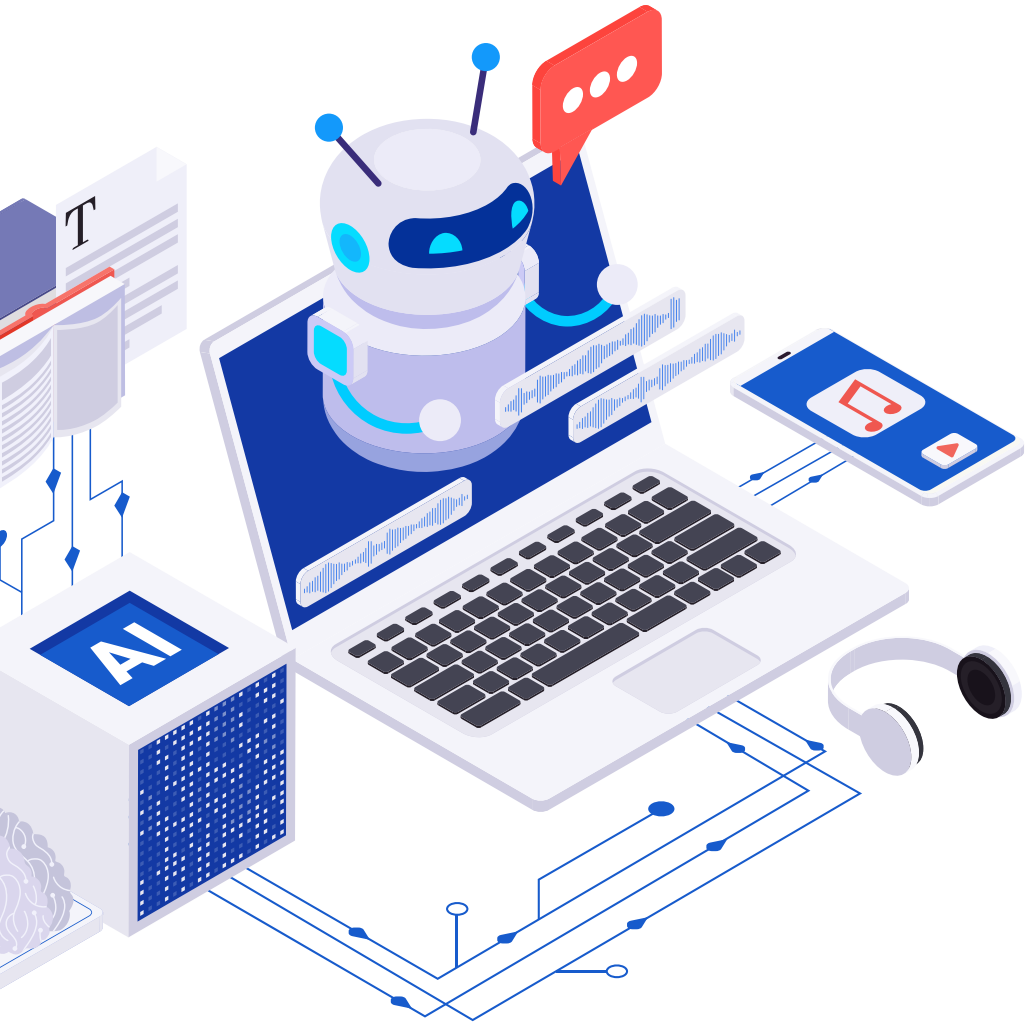
MIND AND MACHINE

AI's Double-Edged Role In **Global Sustainability**

LABAKE AJIBOYE-RICHARD,
Principal Consultant at The AR Initiative

The internet disrupted life as we know it, stimulating innovation, globalisation and connectivity. Today, the AI frenzy promises a similar revolution to increase productivity, accelerate innovation, transform industries and radically stimulate the global economy. Though difficult to define, this article understands AI to be "any software technology with at least one of the following capabilities: perception—including audio, visual, textual, and tactile (e.g., face recognition), decision-making (e.g., medical diagnosis systems), prediction (e.g., weather forecast), automatic knowledge extraction and pattern recognition from data (e.g., discovery of fake news circles in social media), interactive communication (e.g., social robots or chatbots), and logical reasoning (e.g., theory development from premises)." As we grapple with escalating environmental challenges and the urgent need for sustainable solutions, these AI capabilities present unprecedented opportunities to reimagine and revolutionise our approach to sustainability. From optimising resource consumption to accelerating clean energy adoption, AI's analytical power and predictive capabilities could be the catalyst we need to drive meaningful environmental change and meet the goals of the climate transition.

The global sustainability agenda faces persistent challenges that have hindered meaningful progress. From the complexity of measuring and reducing carbon emissions across fragmented supply chains to the struggle of optimising renewable energy integration into existing power grids at accessible rates – many sustainability initiatives have been constrained by technological and analytical limitations. Traditional approaches to environmental management often lack the sophistication to handle the scale, speed, and complexity of growing environmental challenges. Also, sustainability professionals have long struggled with data fragmentation, the inability to process vast amounts of ecological information in real-time, and the challenge of making accurate predictions for climate-related interventions. AI's emergence as a mature technology presents solutions to these longstanding barriers. Its ability to process and analyse enormous datasets, identify patterns invisible to human

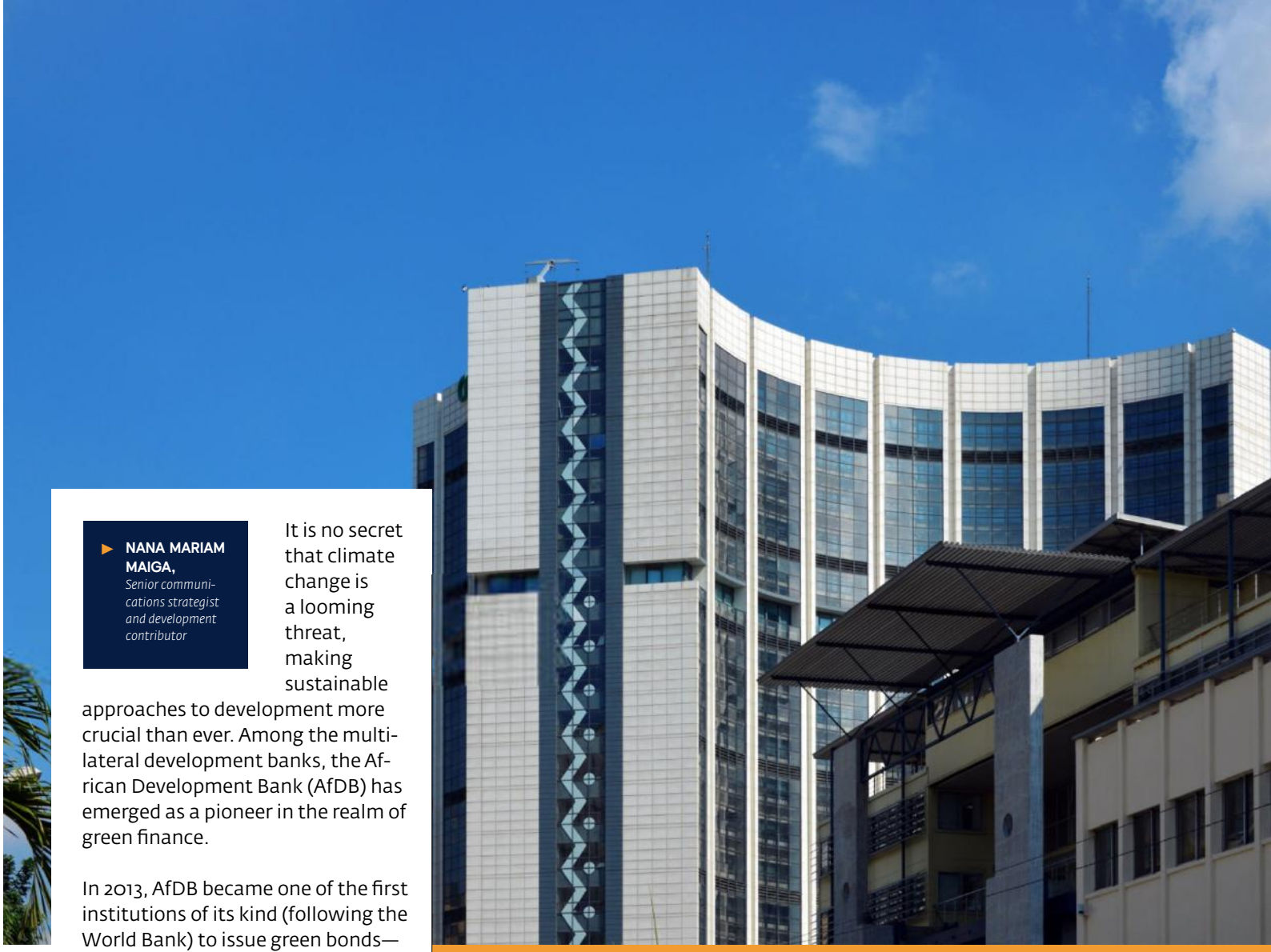


analysts, make sophisticated predictions, and optimise complex systems in real-time offers new possibilities for addressing previously intractable sustainability challenges. For example, machine learning algorithms can now process satellite imagery to detect illegal deforestation, while AI-powered smart grids can optimise renewable energy distribution with unprecedented precision.

The potential impact of AI on accelerating sustainable development and climate action is substantial, with BCG estimating that AI applications could help reduce global greenhouse gas emissions by 2.6 to 5.3 gigatons of CO_2e by 2030 – equivalent to the annual emissions of the EU. Specifically in the energy sector, Google's DeepMind AI has already demonstrated the ability to reduce data centre cooling energy consumption by 40%. In contrast, the World Economic Forum projects that AI-powered smart grid applications could reduce building emissions significantly by 2040. In agriculture, AI-driven precision farming technologies could dramatically reduce water usage while increasing crop yields. The financial implications are equally compelling – McKinsey estimates that AI could add up to $4.4 trillion to the global economy, naming it the "next productivity frontier." The McKinsey Global Institute reports that in urban environments, smart city applications powered by AI could reduce emissions by 10-15% in the short term and reduce water consumption by 20-30%. These quantifiable impacts demonstrate how AI is, in addition to an incremental improvement in sustainability efforts, a transformative force multiplier that could help bridge the estimated $4 trillion annual investment gap in sustainable development.

Artificial Intelligence undoubtedly advances efforts in sustainability; however, the AI revolution also risks exacerbating existing global inequalities if not carefully managed. While developed nations rapidly deploy sophisticated AI systems for environmental management, many developing countries face fundamental barriers to adoption. An estimated 2.6 billion of the world's population lacks internet access, with this digital divide particularly pronounced in rural areas and Low-Income Countries (LICs). Infrastructure limitations are stark – sub-Saharan Africa hosts just 1% of the world's data centre capacity, severely constraining local AI deployment capabilities. Gender disparities add another layer of inequality, with UNESCO reporting that only 22% of AI professionals globally are women, dropping to below 10% in many developing nations. The energy requirements for AI systems pose additional challenges – training a single large language model can emit as much carbon as five cars over their entire lifetimes potentially contradicting sustainability goals. Existing AI systems also exhibit inherent biases that could influence sustainability solutions; for example, satellite imagery-based environmental monitoring systems show significantly lower accuracy in developing regions due to limited training data. The cost barrier is equally significant – while developed nations invest billions in AI research and deployment, Least Developed Countries (LDCs) often lack basic environmental monitoring capabilities, let alone advanced AI systems. These disparities risk creating a "green divide" where the benefits of AI-driven sustainability solutions predominantly accrue to already-advantaged nations and communities while those most vulnerable to climate change remain technologically marginalised.

The AI revolution presents a pivotal moment for global sustainability efforts, offering unprecedented capabilities to address environmental challenges that have long seemed intractable. However, realising this potential requires a deliberate and inclusive approach that bridges rather than widens existing divides. As we harness AI's power for environmental benefit, we must ensure equitable access to these technologies through targeted investment in developing nations' digital infrastructure, capacity building, and technology transfer. Only by democratising access to AI-driven sustainability solutions can we truly leverage the technological revolution to create meaningful and lasting environmental change. The potential of AI in sustainability is pretty evident – the challenge lies in ensuring its benefits are distributed equitably. ■



Op-Ed:

Multilateral Development Banks and Climate Action: Spotlight on The African Development Bank's Green Bonds

NANA MARIAM MAIGA,
Senior communications strategist and development contributor

It is no secret that climate change is a looming threat, making sustainable approaches to development more crucial than ever. Among the multilateral development banks, the African Development Bank (AfDB) has emerged as a pioneer in the realm of green finance.

In 2013, AfDB became one of the first institutions of its kind (following the World Bank) to issue green bonds—an innovative funding mechanism for development projects prioritising sustainability and a transition to a low-carbon economy. Funds raised through green bonds have been allocated to a variety of renewable energy projects, improvements in agricultural practices, and the development of resilient infrastructure to drive long-term environmental and economic benefits.

At the Forefront of Green Financing

In recent years, the green bond market has experienced dramatic growth, with estimates suggesting that the market reached $511.2 billion in annual issuances in 2023 alone. So, what exactly is a green bond? Imagine you want to create a community garden to grow fruits and vegetables, but you don't have enough money to start. You decide to ask your neighbours for help. You say, "If you give me money to start the garden, I'll share the fruits and vegetables with you and return your money with a little extra as a thank you once the garden is thriving." In this scenario, and for the purpose of this article, you are the AfDB, and your neighbours are the investors.

Like in the community garden, AfDB issues green bonds to raise funds from investors to finance projects that benefit the environment, promising to pay them back later with interest. The money raised from the bonds for projects that meet certain sustainability criteria is then loaned to member-state governments and the private sector. Member states and private sector entities that receive the loans are expected to repay the principal amount plus interest over an agreed-upon period. They are also likely to commit to specific reporting criteria to allow the Bank to follow up with the investors.

Many African nations face unique challenges—such as limited energy access, climate change impacts, and food security issues—which make this funding approach vital.
The Lake Turkana Wind Power Project in Kenya is often highlighted as one of the most significant examples of AfDB-funded initiatives in this regard. As one of Africa's largest wind farms, with a total installed capacity of 310 MW, it plays a key role in Kenya's energy landscape by supplying electricity to approximately 1.6 million people. This access is crucial for economic activities, education, and health services. Also, by displacing fossil fuel generation, the project contributes to a significant reduction in greenhouse gas emissions and has created thousands of jobs during construction and ongoing operations.

Beyond Climate Action

Beyond addressing critical environmental challenges, the AfDB's green bonds drive significant economic benefits. To date, over 50 green projects have been financed, generating substantial employment opportunities in renewable energy and related industries while boosting local economies and enhancing livelihoods. For instance, the Last Mile Connectivity Project III in Kenya is expected to provide 140,000 households with electricity and create 54,000 jobs. Similarly, the Redstone 100 MW Concentrated Solar Power (CSP) Project in South Africa created over 2,000 jobs during its construction phase, with about 400 positions filled by local community members. Additionally, the project has established around 100 permanent jobs for its operational phase, contributing to long-term sustainable employment in the region.

Moreover, these investments encourage the adoption of environmentally friendly practices among businesses and communities. They promote sustainable farming techniques, efficient water use, and waste management systems, resulting in long-lasting benefits for both the economy and the environment.

The AfDB's green bonds have also played a crucial role in developing the green finance market across Africa. By showcasing the effectiveness and profitability of green bonds, the Bank has attracted both domestic and international investors. In 2023 alone, it mobilised USD 450 million through co-financing and external climate funds. This momentum is essential for establishing a robust market for green finance across the continent, further supporting Africa's transition to a low-carbon economy.

The Challenges

Despite these successes, the journey is not without challenges. The green bond market in Africa is still nascent, facing issues related to standardisation and lack of comprehensive regulatory frameworks, which can affect its attractiveness to investors.

While the market is growing, it remains much smaller than those in regions like Europe or North America. In 2023, Africa's green bond issuance accounted for less than 1% of global volumes. The market is also concentrated in a small number of countries, with many facing challenges related to institutional capacity, the absence of national frameworks, and limited awareness. These obstacles can hinder the efficient mobilisation of funds for sustainable development projects, including concerns from local communities about the project's effects on their land and livelihoods.

Additionally, they complicate the design, implementation, and monitoring of green initiatives. This means that even once funding is secured, the implementation phase can introduce significant complications. For instance, while the Lake Turkana Wind Power Project is often hailed as one of Africa's largest and most impactful renewable energy initiatives, it has faced numerous hurdles. Among these are concerns from local communities about the project's effects on their land and livelihoods. Such issues highlight the need for greater attention to the social implications of renewable energy projects, especially as they are increasingly deployed at scale to meet global climate goals.

Standardisation and regulation also remain key issues. Green bonds, by nature, are both financial instruments and vehicles for sustainable development. This dual purpose means the use of proceeds must be carefully monitored and reported, ensuring that projects labelled "green" truly meet sustainability goals. While international frameworks exist to guide the issuance of green bonds globally, there is a need for harmonisation across regions, including Africa.

To ensure that the transition to renewable energy is both equitable and sustainable, it is crucial to pay greater attention to community engagement early in the project development phase. This could be achieved through enhanced technical assistance from institutions like the Bank, which can support governments in building robust frameworks for renewable energy projects. Additionally, efforts must be made towards community engagement, ensuring that the needs and concerns of the affected communities are addressed and that they can share in the benefits of such initiatives.

The Road Ahead

Addressing these challenges is crucial for maximising the effectiveness and credibility of green bonds. Continuous engagement with stakeholders to raise awareness and address gaps in development projects will be essential. Additionally, ensuring that projects are rigorously evaluated for their environmental and social impacts will help counter skepticism and promote trust in green finance within the continent and beyond.

AfDB's green bonds—and green bonds in general—are more than just financial instruments; they embody a strategic vision for sustainable development across Africa. Innovative financing solutions such as these not only respond to urgent sustainability needs but also support countries in thriving economically while safeguarding their natural resources for future generations.

CREATING A CULTURE OF SUSTAINABILITY

ACT Foundation's Holistic Approach To Sustainable **Development In Africa**

▶ **OSAYI ALILE,** *Aspire Coronation Trust (ACT) FOUNDATION, Non-Profit Organization*

As the world grapples with the challenges of climate change, poverty, and inequality, the importance of sustainable development has never been more pressing. The concept of sustainable development, as defined by the Brundtland Commission, is to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Africa has recorded progress on many of the 17 Sustainable Development Goals since 2000; however, the current pace of progress has been insufficient to achieve the Goals by 2030. Every day, emerging economies face unique challenges that threaten sustainable development. Billions of citizens continue to live in poverty and are denied a life of dignity; enormous disparities of opportunity, wealth and power; gender inequality and unemployment continue to persist. Also, more frequent and intense natural disasters, violent extremism, terrorism, related humanitarian crises and forced displacement threaten to reverse much of the development progress made in recent decades. This is where sustainable development becomes critical. Imagine organisations tackling poverty in rural communities in Africa by creating sustainable farming models, or social ventures in Nigeria providing

affordable healthcare solutions. These are not just businesses; they are changemakers addressing critical issues while creating jobs and generating income.

Sustainable development is built on three interconnected key pillars: environmental sustainability, social equity, and economic growth. Environmental sustainability involves conserving natural resources, mitigating climate change, and promoting eco-friendly practices. This pillar recognises the intricate relationship between human well-being and the health of the planet. Social equity ensures access to education, healthcare, and economic opportunities for all, regardless of race, gender, or socioeconomic status. Economic growth, on the other hand, fosters innovation, entrepreneurship, and sustainable livelihoods, providing the foundation for prosperous communities.

Aspire Coronation Trust (ACT) Foundation exemplifies the principles of sustainable development in its operations and initiatives. Established to address the pressing needs of African communities, the foundation has made significant strides in promoting sustainability in the areas of health, environment, entrepreneurship, and leadership.

Africa's needs and challenges are so multifaceted in nature that they require strategic, collaborative, and sustainable solutions. At ACT Foundation, our approach is holistic and community-driven. We recognise that the complexities of Africa's challenges demand a multi-pronged strategy.

First, we address local needs through innovation. Africa's needs are unique, and Africans are best positioned to create solutions, leveraging collaborations both locally and internationally. Social enterprises and nonprofits are better positioned to drive sustainable development and improve emerging economies across the African community when the needs of the people are well understood. This is only possible through effective community and stakeholder engagement. We must move beyond simply thinking for the people; we need to involve them in the solution-finding process. And beyond understanding their needs, we must be able to think innovatively to proffer solutions that address these needs now and in the future. Our approach at ACT Foundation prioritises research and consultation to stay abreast of emerging issues and design impactful solutions.

Our second approach is built on collaborations and partnerships. Imagine a world where social enterprises, NGOs, governments, and the private sector collaborate daily to tackle common challenges. Our model at ACT Foundation lies in identifying and collaborating with all key players needed to get the job done. We identify and collaborate with all key players – from private organisations to government agencies – to maximise impact. While we work tirelessly to create change, we are not oblivious to the various other opportunities and benefits of collaborations and partnerships available to us. To us, collaboration goes beyond just combining resources in partnerships. It is about fostering an environment of shared learning and innovation. There are dozens of individuals and organisations that can lead us to the next great idea or skill needed to scale up our impact.

Another important component in our model is capacity building. No social enterprise can embark on any laudable impact project without the necessary skills and resources. Social entrepreneurs must be able to identify the resources needed within the team and must be willing to build capacity. With the right capacity, social entrepreneurs are better positioned to strategically implement impact projects. We must begin to think about training in business management, impact measurement, fundraising strategies, and technological innovations, among others. This will go a long way to aid us navigate challenges and maximise impact.

At ACT Foundation, capacity building is fundamental. We invest in training ourselves, our grantees, and other stakeholders to navigate challenges and maximise impact. We have a culture that ensures we constantly seek knowledge and growth. We are also committed to collaborating with individuals and corporate entities to provide training to social entrepreneurs across the continent of Africa.

Finally, we **leverage advocacy.** Passion is crucial, but so is awareness. How much awareness do you raise about your contributions to sustainable development? As an organisation, ACT Foundation is keen on using various advocacy tools, including the media, social media and other forms of stakeholder engagement, to increase awareness of our focus areas (health, environment, entrepreneurship and leadership), and this has served as an add-on to our efforts in supporting other nonprofits and social enterprises in addressing social issues and driving sustainable development.

Other components of our multi-pronged approach include leveraging technological innovations to drive social impact, embracing transparency and impact reporting, and financial sustainability, among others.

The ACT Foundation's sustainable development initiatives have yielded significant impact, addressing development challenges across the African continent. We have provided grants to over 100 organisations creating meaningful change in health, environment, entrepreneurship and leadership sectors. Our impact spans across 12 African countries, and over 3 million people have been directly impacted.

As the world continues to navigate the challenges of sustainable development, we recommend increased investment in capacity building and sustainable infrastructure, policy reforms supporting social equity and economic growth, as well as collaborative efforts among governments, the private sector, the social sector and civil society organisations. By embracing sustainable development principles, we can ensure a brighter future for generations to come.

Finance and Sustainability

Climate Innovation and Sustainable Financing: Opportunities for African Entrepreneurs

In recent years, Africa has emerged as a vibrant hub for climate innovation and sustainable entrepreneurship. With the dual challenges of climate change and economic inequality, the continent has witnessed an influx of creative financing mechanisms designed to empower businesses and projects addressing these pressing issues. These alternative funding sources are reshaping how African innovators can access capital and scale their impact. These alternative instruments cater to industries often overlooked by traditional financiers, such as eco-agriculture, clean technology, and decentralised renewable energy. As Africa positions itself as a leader in climate innovation, the availability of non-conventional financing options is more critical than ever.

Alternative Financing Facilities You Should Know:

1 Innovating for Climate Resilience Fund:

Administered by the Global Innovation Fund, this initiative supports innovations that help vulnerable populations adapt to climate challenges. Using a flexible approach combining grants, equity, and debt financing, the fund scales solutions with the potential to benefit

2 Africa Climate Change Fund (ACCF):

The Africa Climate Change Fund, established by the African Development Bank (AfDB), offers grants to projects in African countries focusing on climate change adaptation and mitigation. The Fund's strategic alignment with the Paris Agreement and the African Union's Agenda 2063 ensures that supported projects contribute to broader continental goals. By prioritising vulnerable, low-income countries, the ACCF plays a crucial role in sectors including agriculture, renewable energy, and water management.

3 Landscape Resilience Fund (LRF):

This innovative partnership between South Pole and the World Wide Fund for Nature (WWF) takes a unique approach by providing financial and technical support to SMEs operating in vulnerable rural landscapes. The fund's investment in enterprises such as cocoa farming cooperatives and sustainable forestry operations demonstrates how environmental sustainability can align with economic resilience.

4 Green Investment Program for Africa (GIPA):

Designed to bridge the financing gap for green projects, GIPA addresses barriers such as fragmented investments and small project sizes. It equips entrepreneurs with resources to scale up renewable energy initiatives, eco-tourism ventures, and waste-to-energy technologies.

5 Smart Cities Innovation Programme:

Focusing on fintech, smart mobility, and housing, this accelerator empowers African startups with mentorship, funding, and global market access. It seeks to create solutions addressing urbanisation challenges unique to the African continent.

6 Clean Technology Fund (CTF):

As part ort of the Climate Investment Funds, the Climate Technology Fund finances the deployment of transformative low-carbon technologies. The CTF invests in renewable energy, sustainable transport, energy-efficient buildings,

7 African Renewable Energy Fund (AREF):

The AREF supports early-stage renewable energy companies across sub-Saharan Africa, offering investments of up to $10 million. The fund focuses on companies building innovative and scalable renewable energy solutions. It predominantly invests in companies building solutions in the off-grid energy and distributed solar sectors.

8 The Green Climate Fund (GCF) – Africa:

The Green Climate Fund is a global fund that supports climate-resilient projects in developing countries. The fund provides grants, loans, and equity investments to projects focused on reducing greenhouse gas emissions, increasing renewable energy capacity, and improving climate resilience. GCF finances a range of projects, from national programs to local initiatives, to help communities and businesses mitigate the effects of climate change. For more information, explore.

The impact of these alternative financing mechanisms extends beyond individual projects. For example, Sun King's success with solar lamp distribution demonstrates how targeted funding can create widespread societal benefits. As climate change presents challenges and opportunities, these alternative financing mechanisms are expected to play an increasingly important role in Africa's sustainable development. These mechanisms are crucial in bridging the gap between traditional financing and the unique needs of climate-focused ventures.

Data & Research Insights

Sustainable Financing and Innovation in the Agricultural Sector in SSA

▶ **ROFIAT HASSAN & FAITH OSAMAYE,**
Researchers at The AR Initiative

The Economic Contribution of Agriculture

Agriculture plays a crucial role in Africa's economies and globally, particularly in meeting future demands for food and fibre. In Sub-Saharan Africa (SSA), agriculture contributes about 17% of the region's GDP (Figure 1), but this varies by country. In lower-income nations like Sierra Leone, agriculture accounts for over 60% of GDP, while in more industrialised countries such as South Africa and Botswana, it drops to less than 3% (Figure 2) as labour shifts to other sectors . Despite this transition, agriculture remains the backbone of employment in SSA, engaging 52% of the total workforce in 2022 (Figure 3), primarily smallholder farmers who manage about 80% of agricultural operations . In countries like Burundi and Burkina Faso, agriculture constitutes 85% and 74.1% of employment, respectively. On the other hand, Mauritius has the lowest agricultural workforce proportion, with only 5.15% of its population employed in the sector (Figure 2) .

Figure 1

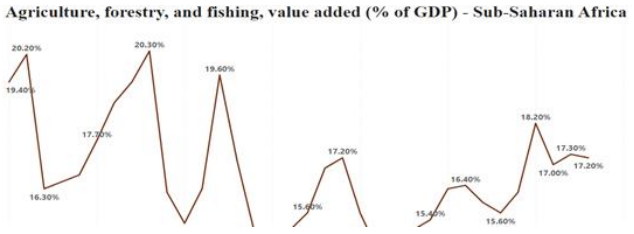


Figure 2

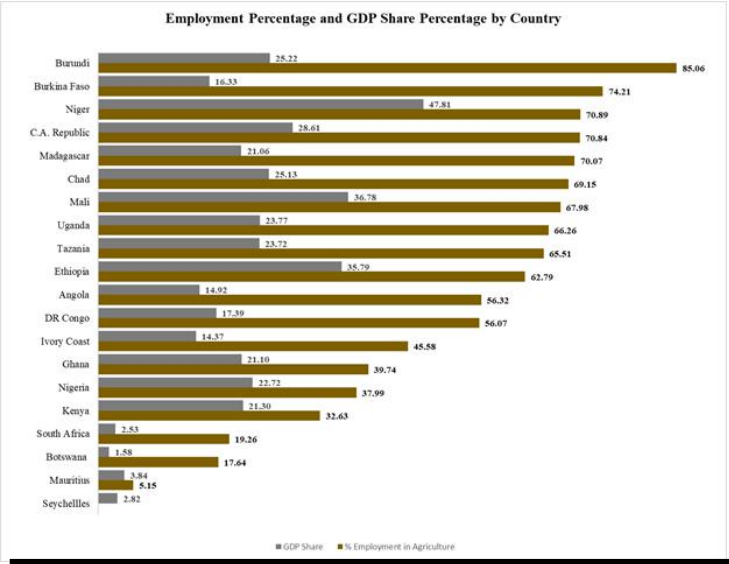
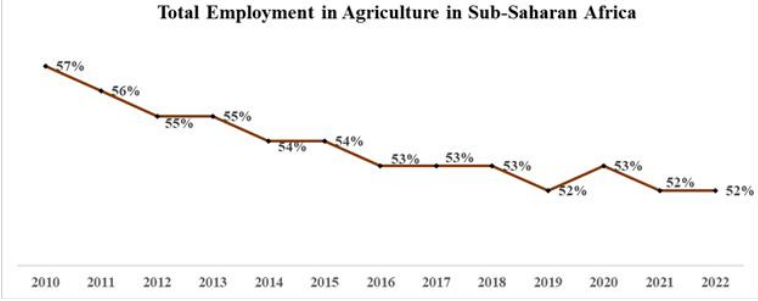
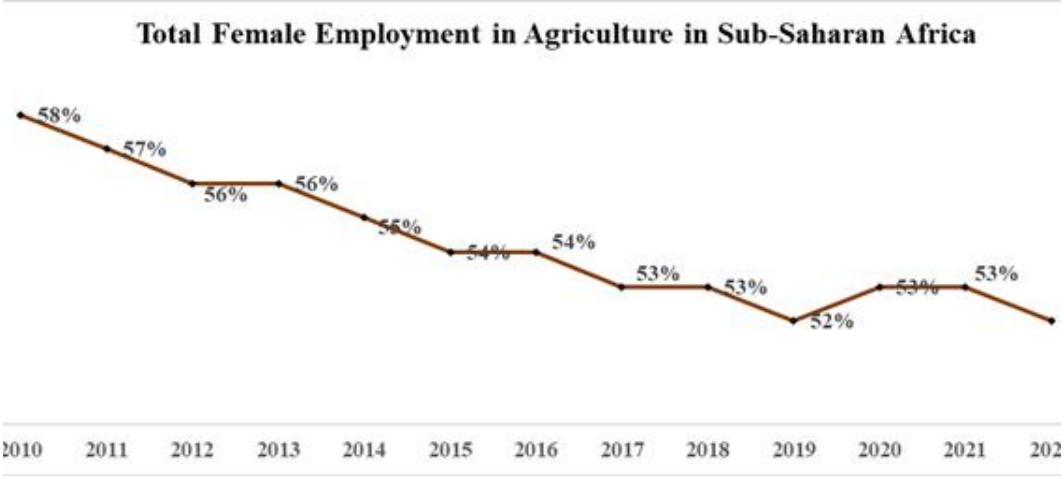


Figure 3



There has been a gradual decline in employment in agriculture due to urbanization, as people migrate to urban areas seeking job opportunities in other sectors. Despite this, youth employment in agriculture is notably high, with nearly 60% of young people working in the sector, reflecting Africa's youthful population ; 70% of whom are under 30 . Women also play a significant role, making up 52% (Figure 4) of the agricultural workforce and producing 60% to 80% of the continent's food .

Figure 4



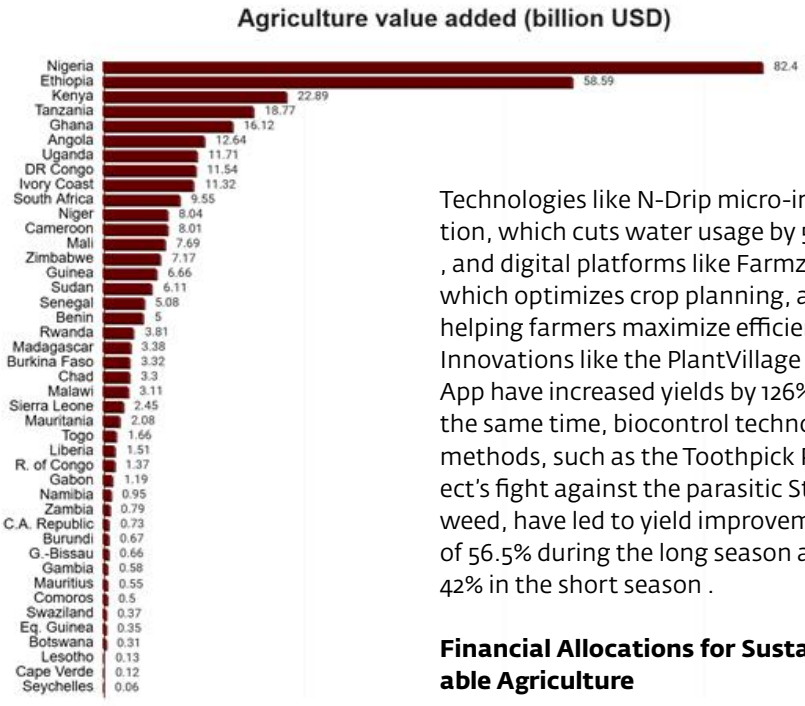
Sub-Saharan Africa has experienced growth in agricultural value-added, with Nigeria leading the region in 2021 at $82.45 billion, the 5th highest globally, while the Seychelles recorded the lowest at $0.06 billion (Figure 5). Despite agriculture's importance, the sector faces numerous challenges, including limited financial resources, inadequate access to information, and insufficient adoption of climate-smart practices.

Sustainable Innovative Solutions and Climate-Smart Agriculture

Agricultural practices in SSA rely on subsistence farming practices, which stifle innovation and growth. Traditional farming methods, such as slash-and-burn, contribute to environmental degradation, including 70% of deforestation in Africa, soil erosion, and biodiversity loss , . Land degradation is a pervasive issue, with 46% of Africa's land affected, costing $9.3 billion annually . In Senegal, for example, land degradation affects 64% of arable land due to erosion and salinisation . Sahel experiences a 3% per annum decline in agricultural production due to land degradation . Poor management of irrigation and fertilisation also accelerates soil pollution, salinisation, and acidification. In Malawi and Zambia, chemical land degradation has led to a 15% loss in arable land in the past 10 years.

28% of farmers in rural Africa cultivate land in continuous degradation. If these trends are maintained, more than half of the cultivated agricultural area in Africa will be lost by 2050 . Sustainable agricultural innovations are essential to combat these challenges. The introduction of sustainable agricultural innovation and climate-smart agriculture in Africa is essential. New innovations are offering essential tools to adapt to climate change and improve productivity. These approaches include techniques such as agroecology, precision agriculture, crop diversification, and the use of improved seed varieties.

Figure 5

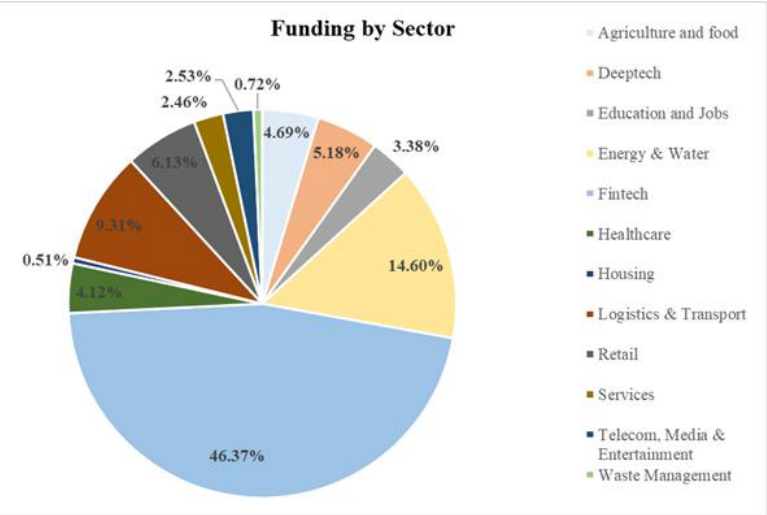


Technologies like N-Drip micro-irrigation, which cuts water usage by 50% , and digital platforms like Farmz2U, which optimizes crop planning, are helping farmers maximize efficiency . Innovations like the PlantVillage Nuru App have increased yields by 126% . At the same time, biocontrol technology methods, such as the Toothpick Project's fight against the parasitic Striga weed, have led to yield improvements of 56.5% during the long season and 42% in the short season .

Financial Allocations for Sustainable Agriculture

Significant financial investment is critical to agricultural development in Sub-Saharan Africa, yet the sector remains underfunded. In the past four years, only 4.69% of funding was directed towards agriculture and food, while fintech received a total of 46.37% (Figure 6).

Figure 6



The financing gap is severe, with estimates suggesting an annual shortfall of $27 billion to $65 billion in agricultural financing, according to African Development Bank . The Commercial Agriculture for Smallholders and Agribusiness (CASA) program reported a gap of over $100 billion, as banks, impact investors and other financial intermediaries currently provide just $54 billion out of the $160 billion demand from the agricultural sector . Commercial bank lending to agriculture is minimal, varying across countries, from 3% in Sierra Leone, 4% in Ghana and Kenya, 6% in Uganda, 8% in Mozambique, and 12% in Tanzania (Figure 7). As a result, smallholder farmers and Agri-SMEs face significant challenges in accessing affordable credit.

While traditional banking struggles to meet the needs of the agricultural sector, private investments in agrifood tech have grown significantly in Africa. In 2022, $636 million was invested in Agritech, marking a significant increase from $192 million in 2020 (Figure 8). Between 2010 and 2020, East Africa led in agriculture-related financing deals, representing 44% of all deals in SSA, followed by Southern Africa at 28% and West Africa at 18%. Within these regions, Nigeria accounted for 75% of West Africa's deals, Kenya for 60% of East Africa's, and South Africa for 54% of Southern Africa's (Figure 9).

Figure 7

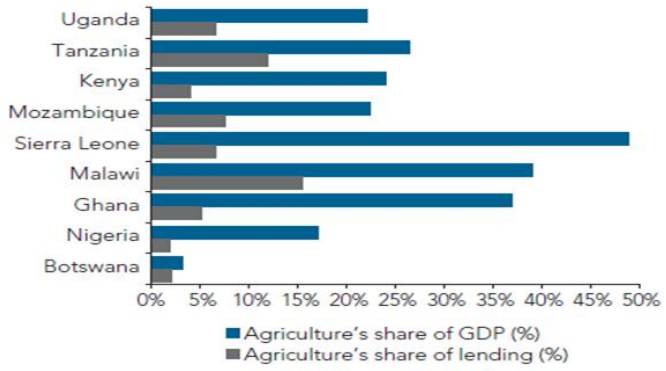


Figure 8

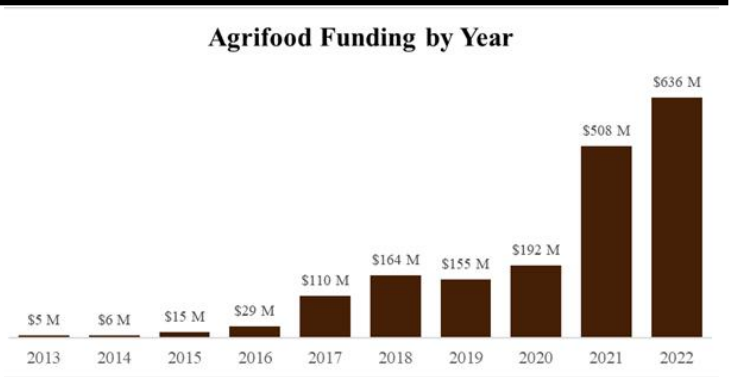
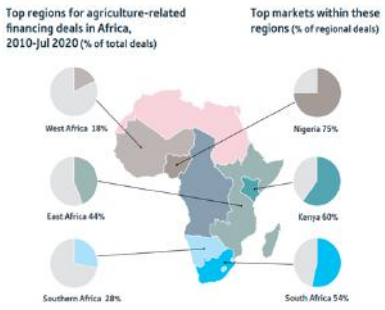


Figure 9



International financial institutions play a pivotal role in promoting agricultural resilience and climate-smart innovations across Africa. The International Finance Corporation (IFC) channels approximately USD 32.8 billion to boost agricultural development on the continent. The World Bank's $621 million Food Systems Resilience Program (FSRP) aims to bolster food system resilience in countries like Kenya, Malawi, and Somalia through climate-smart technologies .

The African Development Bank (AfDB) has also increased its focus on agriculture as part of its High 5 strategic priorities. With an average annual investment of US$612 million in agriculture and agribusiness from 2011 to 2015, the Bank plans to raise this to US$2.4 billion per year . Achieving this level of mobilisation will position AfDB as the largest catalytic investor in African agriculture, helping drive significant transformation in the sector.

African government funding for agriculture has shown a positive trend in recent years, with budgetary allocations rising from USD 6.4 billion in 2000 to USD 16.2 billion in 2018. The proportion of national budgets dedicated to agriculture has also slightly increased, moving from 3.9% in 2000 to 4.1% in 2021 . While government support is increasing, it is not yet enough. Only one-fifth of African countries met the Comprehensive Africa Agriculture Development Programme (CAADP) tar-

get of allocating 10% of their national budgets to agriculture . While nations like Niger, Burkina Faso, Ethiopia, and Malawi have reached this benchmark, others, such as Nigeria, Cameroon, and the Democratic Republic of the Congo, continue to fall short, with some investing less than 5% in the sector .

Several challenges remain in implementing sustainable financing and innovation in SSA. Agriculture is estimated to hold a USD 1 trillion investment opportunity by 2030 but receives very little bank credit . Access to credit remains a significant barrier, with only 4-5% of bank loans allocated to agriculture in many countries, far below the needs of the sector. High interest rates, collateral requirements, and a lack of financial literacy further limit smallholder farmers' ability to access much-needed capital.

Despite the challenges, success stories like that of Nyamurinda's, a Rwandan coffee trader, illustrate the transformative power of sustainable financing. With a $100,000 credit line through the Aceli initiative, Nyamurinda expanded operations, boosting sales by 60% and supporting over 1,400 farmers, most of whom are women, with essential inputs, seedlings, and training . These stories highlight the immense potential of small investments in the agricultural sector and the need for scalable financing solutions to empower smallholders.

The Potential of Sustainable Agriculture in Africa

According to AfDB, Africa's food and agriculture market could grow from $280 billion in 2023 to $1 trillion by 2030 , but realizing this will require significant investment. According to McKinsey, Sub-Saharan Africa will need eight times more fertilizer, six times more improved seed, at least $8 billion of investment in basic storage and as much as $65 billion in irrigation to fulfil its agricultural promise . Much investment will also be needed in basic infrastructure, such as roads, ports, and electricity, plus improvements in policies and regional trade flows.

Governments, financial institutions, and private investors must step up to bridge the financing gap. With increased financial investment and support, agriculture in SSA can boost food security, foster economic growth, and become a key driver of long-term prosperity for the continent. Transforming agriculture in Sub-Saharan Africa is not simply about helping Africa; it is essential for ensuring global food security.

Illuminating Africa:

A Conversation with Moon Innovations' CEO

► **IFUNANYA ONUIGBO,**
Business Operations Associate, The AR Initiative

In the bustling tech ecosystem of Nigeria, one company is reimagining how Africa approaches sustainable energy, internet connectivity, and security. We sat down with Michael Osumune, founder and CEO of Moon Innovations, to discuss how his company is tackling some of the continent's most pressing infrastructure challenges.

Bridging the Infrastructure Gap

Your company has created some buzz in Nigeria's tech scene. What inspired you to start Moon Innovations?

"The idea was to create not just a product but a solution to Nigeria and Africa's fundamental problems around electricity, internet, and security," Osumune explains, "Digital transformation cannot succeed without the basic infrastructure, especially in Africa. Until this basic foundation is solved, we cannot say digital transformation can succeed."

Founded in August 2022, Moon Innovations has pioneered the Solar Smart Inverter System (SSIS), an innovative solution that integrates artificial intelligence, Internet of Things, and solar energy. But getting there wasn't easy.

What were the main challenges in developing such an integrated solution?

"One of our biggest risks was the decision to integrate three critical technologies—solar energy, internet connectivity, and AI-powered security—into a single solution," Osumune reflects. "Particularly in the Nigerian and broader African market, where infrastructure challenges are prevalent, and high-tech solutions are often perceived as too costly or complex."

Inside the Innovation: How SSIS Works

Can you walk us through how your system actually operates?

Osumune delves into the technical details excitedly. At its core, SSIS is built around an edge computing device that processes data in real-time, ensuring smooth AI and IoT operations while minimising reliance on external networks. This device facilitates continuous monitoring of energy generation and consumption, providing valuable insights that help users manage and optimise their energy use sustainably. This is crucial because it allows the system to operate efficiently even in areas with limited network connectivity. The system's architecture is fascinating in its simplicity and effectiveness. Solar panels harvest energy, which is then managed by an AI-driven system that optimises power distribution. However, what makes SSIS revolutionary is its integrated approach.

What makes this system particularly innovative for the African market?

"Traditional solar solutions solve only one problem—power," Osumune explains. "But we've integrated three critical components into a seamless system. The edge computing device not only manages power but also processes security camera feeds using AI algorithms that can detect potential intruders and trigger automated responses." The system's mobile app puts control literally in users' hands, allowing them to monitor energy generation, adjust settings, and receive security alerts from anywhere. "What's particularly exciting," Osumune adds, "is that we build most components in-house, giving us complete control over quality and allowing us to adapt quickly to user feedback."

For more information about **Moon Innovations** and their Solar Smart Inverter System, visit their website

www.mooninnovations.io/

MOON INNOVATIONS

Why Watch Moon Innovations?

What makes SSIS an emerging solution to watch?

Osumune outlines three key factors:

1. **Market-Driven Innovation:** "Our solution wasn't developed in isolation—it's the result of extensive field research across multiple African countries. We understand the unique challenges of our market."
2. **Scalable Impact:** "The system is available in three variants (1.5kVA, 3.5kVA, and 5kVA), making it accessible to both residential and commercial users. Each installation creates a node of sustainable, connected, and secure infrastructure."
3. **Future-Ready Platform:** "SSIS isn't just a product—it's a platform for future innovation. The edge computing capabilities allow us to add new features and applications through software updates, making each installation more valuable over time."

The Power of Research-Driven Innovation

The journey to creating SSIS wasn't just about technology—it was about understanding the market deeply. The company invested over two years in extensive research, surveying more than 1,000 individuals, businesses, and communities across multiple African countries, including Burkina Faso, Cameroon, and Zambia.

How did this research influence your product development?

"Every feature in our system responds to a specific need we identified in our research," Osumune explains. "We discovered that people didn't just need power—they needed reliable internet connectivity and enhanced security. Our system provides all three in one integrated solution."

Mr Michael Osumune, *Founder & CEO Moon Innovations*

On a continent where digital and energy infrastructure coverage, access, and quality are still a challenge, Moon Innovations presents a product with the potential to increase access to reliable energy for millions of Africans.

What makes Moon Innovations different from other renewable energy companies?

"While many competitors focus solely on electricity provision, our system delivers added value through satellite internet connectivity and AI-driven security surveillance," Osumune states. "We're not just providing power—we're creating a comprehensive infrastructure platform that supports homes and businesses in staying connected, safe, and energy-independent."

In the 6 months since its launch, Moon Innovations has installed 13 units, with 5 more in production and 30 on the waitlist.

vHow did you overcome initial funding constraints and regulatory hurdles?

"Bootstrapping was essential early on," Osumune reveals. "We focused on developing a solid, adaptable product that could scale over time. Support from organisations like the Bill and Melinda Gates Foundation through CCHub provided funding and validation for our work. Building the right team was crucial—we invested in training ourselves, creating a culture of resilience and adaptability."

Where do you see Moon Innovations in the next 5-10 years?

"We're evolving from a renewable energy provider into a comprehensive technology leader," Osumune shares enthusiastically. "While our current focus is on delivering solar electricity, satellite broadband internet, and security, we aim to expand our portfolio by incorporating advanced edge-based artificial intelligence solutions to address critical needs in security, healthcare, retail, and agriculture."

The company's impact is already visible through projects like equipping the Obawole Primary Health Center in Lagos with solar-based electricity and their recognition with the Innovation Leadership Award from NIGCOMSAT during Nigeria Satellite Week.

The Road Ahead

As our conversation draws to a close, Osumune emphasises that Moon Innovations is actively seeking collaborations with institutions committed to accelerating digital transformation and sustainable energy solutions in Nigeria.

"Our vision extends beyond providing products—we're building the foundation for Africa's sustainable future," he concludes. "By addressing the energy challenges of availability, affordability, and reliability while improving digital access, we're creating the infrastructure needed for true digital transformation in Africa." ■

LEAP Africa hosts 11th edition of the social innovators programme and awards at the 2024 West Africa deal summit

L - R: Mago Hasfa - Author/Founder, Ready to Learn Foundation, Uganda; Asiimire Justine - Founder, Power Wheels Electricals, Uganda; Kehinde Ayeni - Executive Director, LEAP Africa; Akomolafe Ayomide - Head of Media and Publicity, Natal Care, Nigeria; and Adaeze Akpagbula, Co-Founder, Farmspeak Technology Limited, Nigeria at the 11th Edition of the Social Innovators Programme and Awards Ceremony in Lagos, Nigeria.

Lagos, Nigeria – 13th November 2024 – LEAP Africa successfully hosted the 11th edition of its Social Innovators Programme and Awards (SIPA) at the prestigious West Africa Deal Summit, held at the Civic Centre, Victoria Island, Lagos. This year's event, themed "Actions to Deepen Catalytic Capital in West Africa," attracted thought leaders, impact investors, and social innovators from across the region, all focused on advancing catalytic solutions to critical social challenges in West Africa.

The Social Innovators Programme, a LEAP Africa initiative, celebrates young changemakers by equipping them with essential skills and resources to establish sustainable social enterprises. 20 social innovators
from across Africa were welcomed into the programme, marking another milestone in LEAP Africa's commitment to fostering impactful, long-term social change. This transformative journey culminates in an annual conference and awards ceremony that honours participants' achievements. A pivotal point at the conference this year was the breakfast meeting with Mrs Ibukun Awosika, Chairperson of the Nigerian National Advisory Board for Impact Investing, where she addressed participants' questions, emphasising the critical importance of embedding social equity and local insights into their enterprises. "To create lasting impact, the best business model must directly solve a real problem and offer an economically viable solution," she shared, emphasising that meaningful change emerges when ventures are not only profitable but deeply relevant to the communities they serve. She further encouraged participants to advocate strategically, saying, "In advocating, fight intelligently and with purpose. Be clear about the change you seek and approach it with both insight and resolve."

Mrs. Clare Omatseye, Board Chair of LEAP Africa, highlighted the importance of showcasing Africa's pioneering social innovators, who are making transformative impact across the continent. "We are incredibly proud to showcase Africa's trailblazing social innovators who are transforming communities across the continent. By empowering these leaders and strengthening connections with impact-driven investors, we are catalysing a future of sustainable, inclusive growth for Africa," she shared.

The sessions offered deep insights into effective funding strategies, opportunities for scaling social ventures, and the vital role of collaborative action in addressing pressing issues. Kehinde Ayeni, Executive Director of LEAP Africa, commended the forward-looking partnership between LEAP Africa and the Impact Investors Foundation, which enhanced SIPA's impact this year, saying, "Our partnership with the Impact Investors Foundation has amplified the impact of SIPA 2024, spotlighting the strength of collaborative efforts in advancing social innovation. Together, we are not only celebrating the achievements of Africa's young social innovators but also channelling resources and networks that drive sustainable, large-scale impact. This collaboration attests to the transformative potential of organisations uniting for a common cause."

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The event included an award ceremony celebrating the achievements of outstanding social innovators and showcasing diverse approaches to leveraging capital for social good. Outstanding Fellow Awards were given to Asiimire Justine and Adaeze Akpagbula for their commendable solutions to localised challenges. The Innocent Chukwuma Award for Youth and Gender Empowerment in South East Nigeria was received by Uche Udekwe for his work through Natal Care, and The Seyi Bickersteth Award for Financial Accountability was awarded to Mago Hasfa for upholding financial accountability, transparency and sustainability in her social enterprise.

One of the award winners, Magos Hasfa, expressed her gratitude to LEAP Africa for the invaluable platform provided through the Social Innovators Programme. "I am immensely grateful to LEAP Africa for giving us this incredible opportunity to pursue our dreams and amplify our impact," she shared. "This platform has not only equipped us with essential skills but has connected us with like-minded individuals and mentors who are committed to transforming communities. LEAP Africa has empowered us to turn our visions into tangible, lasting change." LEAP Africa remains committed to nurturing and supporting social entrepreneurship across Africa, fostering impactful partnerships that drive sustainable change.

About LEAP Africa

LEAP Africa is a youth-focused leadership development organisation committed to raising leaders who will transform Africa through interventions for young people that bridge the gap in five areas: Education, Entrepreneurship, Employability, Active Citizenship and Health and Wellbeing (3Es+AH). As a mission-driven organisation, we recognise that youth leadership and inclusion are critical to nation-building and wealth creation.

Our cutting-edge programmatic thrusts inspire and empower young people, changing their mindset to lead ethically and motivating them to deliver positive change in their communities while also supporting social entrepreneurs to build systems and structures that are crucial for business sustainability, thereby contributing to individual, social and national development.

Through these areas, we drive upward social mobility. Our core and special programmes aim to tackle problems across these five programmatic focus areas; each programme aims to solve one or more of these challenges at a time. LEAP Africa actively contributes to the body of knowledge by leveraging our strategic direction of ecosystem building, thought leadership and advocacy.

Kindly visit **www.leapafrica.org** for more information.

Empowering African businesses with sustainability intelligence to build resilient and impactful businesses.

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